2022

# SELF ASSESSMENT REPORT (SAR)

**FOR FIRST TIME ACCREDITATION OF UNDERGRADUATE ENGINEERING PROGRAM (TIER-II)**

## Submitted to

NATIONAL BOARD OF ACCREDITATION

NEW DELHI

## Submitted by


**CIVIL ENGINEERING DEPARTMENT**

JAWAHARLAL NEHRU GOVERNMENT ENGINEERING COLLEGE,

SUNDERNAGAR, MANDI

HIMACHAL PRADESH 175018

*(Affiliated to HPTU Hamirpur)*

# SAR CONTENTS

## PART A: Institutional Information

1. **Name and Address of the Institution:** Jawaharlal Nehru Government Engineering College Sundernagar (H.P.)
2. **Name and Address of the Affiliating University:** Himachal Pradesh Technical University, Daruhi, Hamirpur (H.P.)- 177 001, Himachal Pradesh 177001.
3. **Year of establishment of the Institution:** 2006
4. **Type of the Institution:**

| | |
|---|---|
| University | ☐ |
| Deemed University | ☐ |
| Government Aided | ☐ |
| Autonomous | ☐ |
| Affiliated | ✓ |

5. **Ownership Status:**

| | |
|---|---|
| Central Government | ☐ |
| State Government | ✓ |
| Government Aided | ☐ |
| Self-financing | ☐ |
| Trust | ☐ |
| Society | ☐ |
| Section 25 Company | ☐ |
| Any Other (Please specify) | ☐ |

**Provide Details:**

Jawaharlal Nehru Government Engineering College, Sundernagar District Mandi Himachal Pradesh is an AICTE approved, State Government funded engineering college. It is located at Sundernagar (known as heart of Himachal Pradesh) District Mandi Himachal Pradesh and is affiliated to Himachal Pradesh Technical University, Hamirpur. Its geographical coordinates are 31° 32' 0" North, 76° 53' 0" East The city has an average elevation of 900 metres. JNGEC is the first Govt. Engineering college which is established by Govt of Himachal Pradesh. The college is located on the top of the hill. It has green landscape, peaceful atmosphere, excellent weather and ambience ideally suited for growth of the sound, soul & mind.

The institute offers 4-year Bachelor of Technology courses in disciplines viz. Mechanical Engineering, Textile engineering, Electronics & Communication Engineering, Civil Engineering and Computer Science Engineering (Artificial Intelligence & Machine Learning). The Institute also offers 2 year M.Tech course in Construction Engineering and Management under Dept. of Civil Engineering .

**6. Other Academic Institutions of the Trust/Society/Company etc., if any:**

| Name of the Institutions (s) | Year of Establishment | Programs of Study | Location |
|---|---|---|---|
| Nil | Nil | Nil | Nil |

***Table A.6***

**7. Details of all the programs being offered by the institution under consideration:**

| S. No. | Program Name | Name of the Department | Year of Start | Intake | Increase in intake if any | Year of increase | AICTE Approval | Accreditation Status* |
|---|---|---|---|---|---|---|---|---|
| 1. | B. Tech Mechanical Engineering | Mechanical Engineering | 2006 | 60 | Nil | NA | Yes | Applying first time |
| 2. | B. Tech Textile Engineering | Textile Engineering | 2006 | 60 | Nil | NA | Yes | Applying first time |
| 3. | B. Tech Electronics & Communication Engineering | Electronics & Communication Engineering | 2010 | 60 | Nil | NA | Yes | Applying first time |
| 4. | B. Tech Civil Engineering | Civil Engineering | 2010 | 60 | Nil | NA | Yes | Applying first time |
| 5. | B. Tech Artificial Intelligence & Machine Learning | Computer Science Engineering | 2022 | 60 | Nil | NA | Yes | Not eligible for accreditation |
| 6. | M.Tech Construction Engineering and Management | Civil Engineering | 2022 | 15 | Nil | NA | Yes | Not eligible for accreditation |

***Table A.7***

* ***Write applicable one:***

- Applying first time
- Granted provisional accreditation for two /three years for the period (specify period)
- Granted accreditation for 5 /6 years for the period (specify period)
- Not accredited (specify visit dates, year)
- Withdrawn (specify visit dates, year)
- Not eligible for accreditation
- Eligible but not applied

**8. Programs to be considered for Accreditation vide this application:**

| S. No. | Program Name |
|---|---|
| 1. | B. Tech Mechanical Engineering |
| 2. | B. Tech Textile Engineering |
| 3. | B. Tech Electronics & Communication Engineering |
| 4. | B. Tech Civil Engineering |

***Table A.8***

**9. Total number of employees in the institution**:

**A. Regular* Employees (Faculty and Staff):**

| Items | | CAY (2021-22) | | CAY*m1* (2020-21) | | CAY*m2* (2019-20) | |
|---|---|---|---|---|---|---|---|
| | | **Min** | **Max** | **Min** | **Min** | **Max** | **Min** |
| Faculty in Engineering | **M** | 22 | 23 | 21 | 22 | 23 | 21 |
| | **F** | 12 | 12 | 9 | 12 | 12 | 9 |
| Faculty in Math's, Science & Humanities | **M** | 3 | 5 | 3 | 3 | 5 | 3 |
| | **F** | 5 | 5 | 2 | 5 | 5 | 2 |
| Non-Teaching staff | **M** | 28 | 28 | 28 | 28 | 28 | 28 |
| | **F** | 7 | 7 | 8 | 7 | 7 | 8 |

***Table A.9a***

** **Includes regular/contract appointments from HPPSC/HPSSC/Department of Technical Education, Vocational & Industrial Training, Himachal Pradesh***

**B. Contractual Staff Employees (Faculty and Staff): (Not covered in Table A)**

| Items | | CAY (2021-22) | | CAY*m1* (2020-21) | | CAY*m2* (2019-20) | |
|---|---|---|---|---|---|---|---|
| | | **Min** | **Max** | **Min** | **Min** | **Max** | **Min** |
| Faculty in Engineering | **M** | 4 | 4 | 3 | 3 | 7 | 7 |
| | **F** | - | - | - | - | - | - |
| Faculty in Math's, Science & Humanities | **M** | - | - | 2 | 2 | 2 | 2 |
| | **F** | - | - | 1 | 1 | 1 | 1 |
| Non-Teaching staff | **M** | 13 | 13 | 14 | 14 | 14 | 15 |
| | **F** | 10 | 10 | 10 | 10 | 11 | 11 |

***Table A.9b***

**10. Total number of Engineering Students:**

| Item | CAY (2021-22) | CAY*m1* (2020-21) | CAY*m2* (2019-20) |
|---|---|---|---|
| Total no. of boys | 675 | 686 | 707 |
| Total no. of girls | 204 | 190 | 201 |
| Total no. of students | 879 | 876 | 908 |
| Supernumerary Seats: student over and above the sanctioned intake (Fee Waiver/AICTE/LE etc) | | | |

***Table A.10***

**11. Vision of the Institute:**

To be a premier institution imparting value-based education enabling innovation in frontier areas of technology that propels development of society at national and global arena.

**12. Mission of the Institution:**

- To create an environment that enables creativity, research and innovation in engineering and technology.
- To impart value-based education that created leaders in engineering for upliftment of society at large.
- To strive for continuous improvement in imparting technical education.
- To have a liaison with lead institutions and industries.

**13. Contact Information of the Head of the Institution and NBA coordinator:**

**i. Head of the Institution**

Name: Prof. (Dr.) S.P. Guleria
Designation: Director-cum-Principal
Mobile No.: +91 9418062974
Email id: jngechp@yahoo.co.in, spguleria@yahoo.com

**ii. NBA Coordinator, if designated**

Name: Prof. (Dr.) Rajeev Khanduja
Designation: Professor
Mobile No.: +91 7015610091
Email id: rajiv_khanduja@rediffmail.com

## PART B: Criteria Summary

**Name of the Program: - B.Tech Civil Engineering**

| Criteria No. | Criteria | Mark/Weightage |
|---|---|---|
| | **Program Level Criteria** | |
| **1.** | Vision, Mission and Program Educational objectives | 60 |
| **2.** | Program Curriculum and Teaching –Learning Processes | 120 |
| **3.** | Course Outcomes and Program Outcomes | 120 |
| **4.** | Students' Performances | 150 |
| **5.** | Faculty information and Contributions | 200 |
| **6.** | Facilities and Technical Support | 80 |
| **7.** | Continuous Improvement | 50 |
| | **Institute Level Criteria** | |
| **8.** | First Year Academics | 50 |
| **9.** | Student Support System | 50 |
| **10.** | Governance, Institutional Support and Financial Resources | 120 |
| | **Total** | **1000** |

## 1. VISION, MISSION AND PROGRAM EDUCATIONAL OBJECTIVES (60)

### 1.1. State the Vision and Mission of the Department and Institute (5)

**Vision of the Institution**:

"To be a premier institution imparting value-based education enabling innovation in frontier areas of technology that propels development of society at national and global arena"

**Mission of the Institution:**

**M1** To create an environment that enables creativity, research and innovation in engineering and technology.

**M2** To impart value-based education that created leaders in engineering for upliftment of society at large.

**M3** To strive for continues improvement in imparting technical education.

**M4** To have a liaison with lead institutions and industries.

**Vision of the Department of Civil Engineering**:

To become a center of excellence, providing quality education & research for civil engineers with ethical standings for socio-economic and sustainable development of the nation.

**Mission of the Department of Civil Engineering**:

**M1** To impart knowledge with innovation through outcome-based education so as to produce globally competitive Civil Engineers.

**M2** To promote intellectual, social, ethical development of civil engineers for economic and social development

**Consistency of the Department vision with Institute vision**

**The Consistency between Institute vision and department vision is as follows:**

| Institute Vision | Department Vision |
|---|---|
| To be a premier institution | To become a center of excellence |
| value-based education enabling innovation in frontier areas of technology | providing quality education & research for civil engineers with ethical standings |
| development of society at national and global arena | socio-economic and sustainable development of the nation |

The consistency between Institute mission and Department mission is given in Table:

| Institute Mission | Department Mission | | | |
|---|---|---|---|---|
| | To create an environment that enables creativity, research and innovation in engineering and technology. | To impart value-based education that created leaders in engineering for upliftment of society at large. | To strive for continues improvement in imparting technical education. | To have a liaison with lead institutions and industries. |
| To impart knowledge with innovation through outcome-based education so as to produce globally competitive Civil Engineers. | 3 | 2 | 3 | 2 |
| To promote intellectual, social, ethical development of civil engineers for economic and social development | 2 | 3 | 2 | 3 |
| 1: Slightly (Low), 2: Moderate (Medium), 3: Substantial (High), 4: No correlation (-) | | | | |

***Table B.1.2***

**1.2. State the Program Educational Objectives (PEOs) (5)**

The graduate of the Program will be able to:

**PEO 1** Acquire strong knowledge of concept and practices in Civil Engg. to be successful in professional career and higher education.

**PEO 2** Enhance knowledge with analytical skills to promote innovation, research & development for facilitating lifelong learning.

**PEO 3** Demonstrate professional ethics, effective team-work spirit, and entrepreneurship skills.

**1.3. Indicate where the Vision, Mission and PEOs are published and disseminated among stakeholders (10)**

The following stakeholders participating in defining Vision, Mission and establishing of PEOs.

**Internal:** Faculty, Students, staff

**External:** Alumni, Industry/ Employer, Parents, faculty from IIT Mandi

The Vision, Mission & PEOs are published and disseminated among various internal stakeholders and external stakeholders through various modes and occasions as mentioned under:

**Publishing modes**

| | Level | Mode of Publishing | Internal stakeholders | External stake holders |
|---|---|---|---|---|
| Vision Mission PEOs | Institute Level | Institute's Website: http://www.jngec.ac.in/ | ✓ | ✓ |
| | | Administrative notice board | ✓ | ✓ |
| | | Corridors of Institute | ✓ | ✓ |
| | | Institute Library | ✓ | ✓ |
| | | Training and placement notice board | ✓ | ✓ |
| | Department Level | Institute's Website: http://www.jngec.ac.in/ (⎆Departments ⎆ Civil Engineering) | ✓ | ✓ |
| | | Department notice board | ✓ | ✓ |
| | | Course files of each course | ✓ | ✓ |
| | | Class rooms & Corridors of department | ✓ | ✓ |
| | | Lab Manual | ✓ | |
| | | HOD and Faculty's Rooms | ✓ | |

***Table B.1.3***

Vision, Mission of the Institute and Department PEOs of department are disseminated to all external stakeholders through meetings, alumni survey forms, Department broacher, during industrial visits, placement drives and are shared with representatives of industry who come to deliver expert lecture and technical talk.

**1.4. State the process for defining the Vision and Mission of the Department, and PEOs of the program (25)**

The process for defining Vision and Mission of the department was discussed in the department level and it was established through a consultative process involving the stakeholders of the department,

In establishing the vision and mission of the department, the following steps were followed:

Step 1: Vision and Mission of the Institution are taken as basis

Step 2: Views are taken from stakeholders of the department such as students, faculty members, parents and alumni.

Step 3: The views about the vision and mission of the department are formulated by the team of faculty members of the department.

Step 4: The vision and mission are analyzed and reviewed to check the consistency with the vision and mission of the institute.

Step 5: The vision missions are vetted by the committee formed by department with eminent professor from IIT Mandi.

Step 6: Finally, the Board of Governors approve the vision and mission of the department.

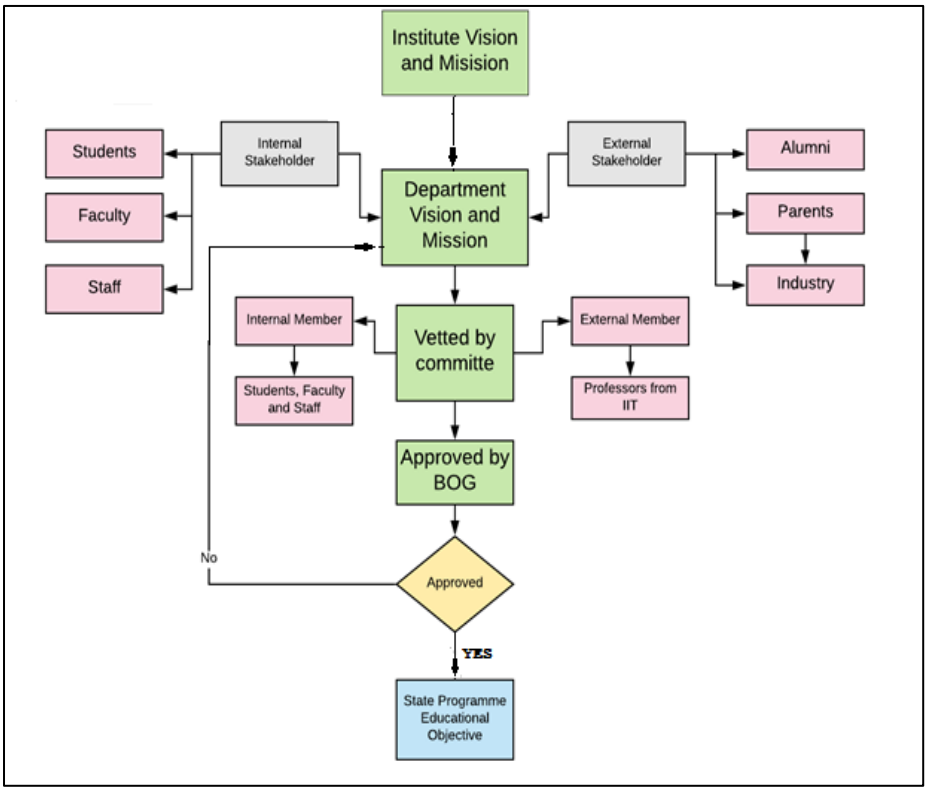



***Fig. B.1.4a Vision Mission Process***

**Process of establishing PEOs**

The Program Educational Objectives are established through a consultation process involving the committee members i.e., students, alumni and faculty members. The PEOs are established through the following steps:

**Step 1:** Vision and Mission of the department are taken as basis to interact with various stake holders. Further following dimensions of PEOs is taken into consideration i.e.

1) PEO 1: Career/Higher studies
2) PEO 2: Competences/Knowledge
3) PEO 3: Society / Ethics

**Step 2:** Various committee members discussed the key constituents and collected and submitted the views to the deptt. NBA coordinator.

**Step 3:** The Committees summarized the collected views and express its opinion on the views and forwarded the same to the Head of the Department.

**Step 4:** The Department Head deliberated on the views expressed by the Committee and formulated the accepted views based on which PEOs were established.

**Step 5:** Finalized PEOs are established and disseminated to various stakeholders, reviewed and revised for changes if any.

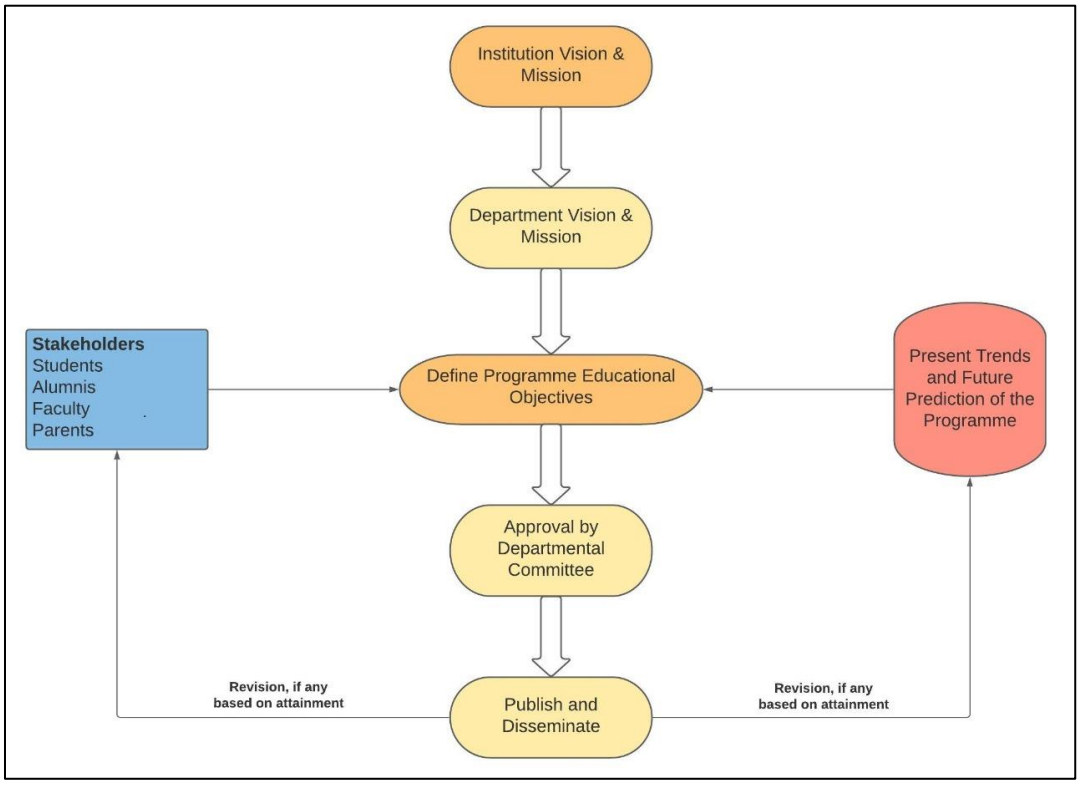



***Fig. B.1.4b PEOs Process***

**1.5. Establish consistency of PEOs with Mission of the Department (15)**

**Justification and rationale of the mapping**

| Mission / PEO Statements | M1 | M2 | Justification |
|---|---|---|---|
| PEO1: Acquire strong knowledge of concept and practices in Civil Engg. so as to be successful in professional career and in higher education. | 3 | 2 | The graduates must possess the strong domain of Knowledge in Civil Engg. So that would help them to pursue career/higher education or to become entrepreneur.<br>The department invites prominent experts from industry and institutes to conduct workshops, seminar and technical talks for the students to provide the importance of higher education in career growth and lead them to engage in continuous learning in their profession. |
| PEO2: Enhance knowledge with analytical skills to promote innovation, research & development for facilitating lifelong learning. | 3 | 2 | The graduates would develop the attitude of life-long learning related to the professional through innovation and research.<br>Department introduces Project Based Learning for the students to get adequate exposure of the research-based activities so that they analyze the<br>real world problems of the society and produce innovative solutions. |
| PEO3: Demonstrate professional ethics, effective team-work spirit and entrepreneurship skills. | 2 | 3 | The graduates must have proper ethical values towards society, environment and profession.<br>The graduates should be effective Communicators to disseminate the information and believe in team-working. Further, the graduates should possess the problem-solving skill and entrepreneurship ability. By acquiring these proficiencies, the students will be able to create and disseminate knowledge wherever he/she works. |

***Table B.1.5***

*1: Slight (Low) 2: Moderate (Medium) 3: Substantial (High)*

**Consistency of Co-relation parameters of above Matrix**

***M1: To impart knowledge with innovation through outcome-based education so as to produce globally competitive Civil Engineers.***

**PEO 1: Substantial**

- ✓ Basic & Engineering Science Courses in Curriculum
- ✓ Expert Lecture
- ✓ Seminar
- ✓ Project work
- ✓ Innovations in teaching learning
- ✓ ACC Knowledge Centre

**PEO 2: Moderate**

- ✓ Industrial Training/ Visits
- ✓ Publications
- ✓ Lab work
- ✓ Participation of technical events

***M2: To promote intellectual, social, ethical development of civil engineers for economic and social development***

**PEO 2: Moderate**

- ✓ Open elective and Mandatory courses based on Human values and ethics
- ✓ Participation of co-curricular activities

**PEO 3: Substantial**

- ✓ Industrial Project
- ✓ Participation in Hackathons, start-up, NSS, NCC Unnat Bharat
- ✓ Civil Engg. Society
- ✓ Industrial Training

## 2. PROGRAM CURRICULUM AND TEACHING - LEARNING PROCESSES (120)

### 2.1 Program Curriculum (20)

**2.1.1 State the process used to identify extent of compliance of the University curriculum for attaining the Program Outcomes and Program Specific Outcomes as mentioned in Annexure I. Also mention the identified curricular gaps, if any (10)**

This college is affiliated by Himachal Pradesh Technical University (HIMTU) Hamirpur, H.P. Civil Engineering department curriculum is also designed and recommended by the respective academic council of university. Referring university curriculum all the courses are mapped with twelve POs and PSOs and gaps are identified. So that at the end of the Program, graduates will be able to achieve the Program outcomes.

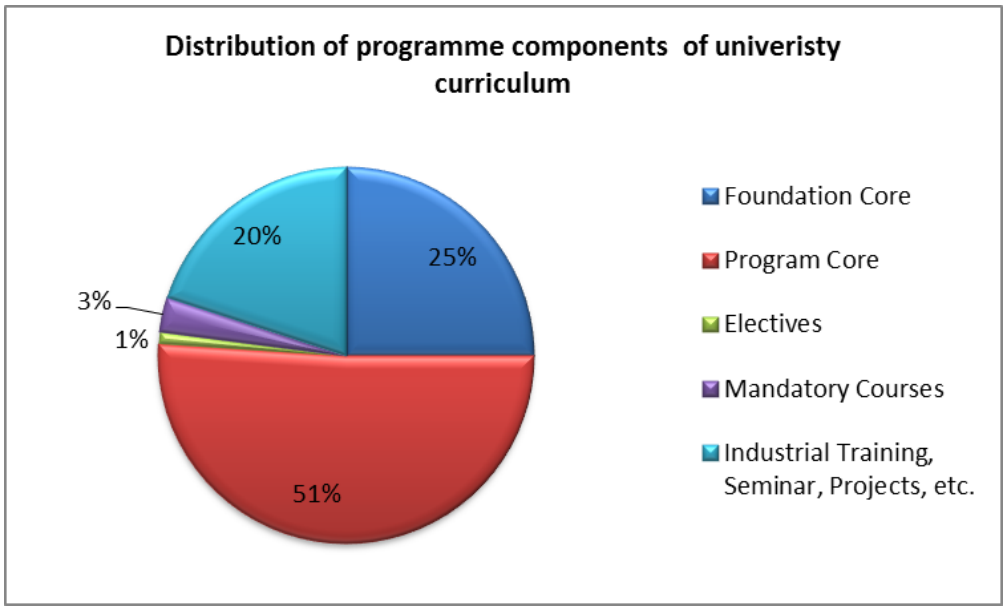
**Structure of University Curriculum**

The complete Program consists of following categories of courses distributed over eight semesters (6 semesters for lateral entry students):

1) A general core program comprising Languages/Communication Skills, Humanities, Basic Sciences, Engineering sciences.
2) An engineering core program introducing the student to the foundations of engineering in his/her branch.
3) An elective program enabling the student to take up a group of courses from a pool which may be very specific or specialized or advanced or supportive to the discipline/subject of study or which provides an extended opportunity or exposure to explore diverse interests and nurture one's talent, proficiency/skills in a broader perspective.
4) Additional courses such as, Seminar, Industrial training, project, etc. prescribed by the department depending upon the specific requirement of the program.
5) In addition, a student shall be required to complete NCC/NSS/General Proficiency or other program compulsorily as may be approved by the Academic Council or recommended by Advisory Committee constituted for the purpose by the University/ College. These are normally conducted during evenings of week days or Sunday and are designed for character building and to sensitize the students towards social/national issues.
6) The B.Tech Program for Civil Engg is designed to have a minimum 180 and maximum 190 credits for direct entry to first year and for later entry, minimum 132 and Max. 142 credits under different categories of courses as follows:

| Sr. No | Program Components | Category | Minimum Credits for | | PO Mapping | PSO Mapping |
|---|---|---|---|---|---|---|
| | | | B.Tech | B.Tech (LE) | | |
| 1 | Foundation Core | Communication Skills, Basic Sciences and Math, Engineering Sciences, Management, Humanities & Social Science, Technical Arts, etc. | 45 | 12 | PO1, PO2, PO3, PO4, PO5, PO6, PO7, PO11, PO 12. | |
| 2 | Program Core | Departmental Core | 92 | 92 | PO1, PO2, PO3, PO4, PO5, PO6, PO7, PO8, PO9,PO10 PO11, PO12. | PSO1, PSO2, PSO3 |
| 3 | Electives | Open Electives from other departments | 2 | 2 | PO1, PO2, PO3, PO4, PO5, PO7 | |
| 4 | Mandatory Courses | Program Electives | 6 | 6 | PO2 | |
| 5 | Training, Project etc. | Industrial Training, Seminar, Projects, etc. | 35 | 20 | PO1, PO2, PO3, PO4, PO5 | |
| | | | **180** | **132** | PO1, PO2, PO3, PO4, PO5, PO6, PO7, PO8, PO9, PO10, PO11, PO 12. | PSO1, PSO2, PSO3 |

***Table B.2.1.1a***



The gaps are identified by concerned course advisor along with the data collected from Internet and other universities which are located in and around Himachal Pradesh. If some components, to attain CO's/ PO's, are not included in the curriculum provided by the affiliated university then the department makes additional efforts to impart such knowledge by covering aspects through syllabus beyond contents.

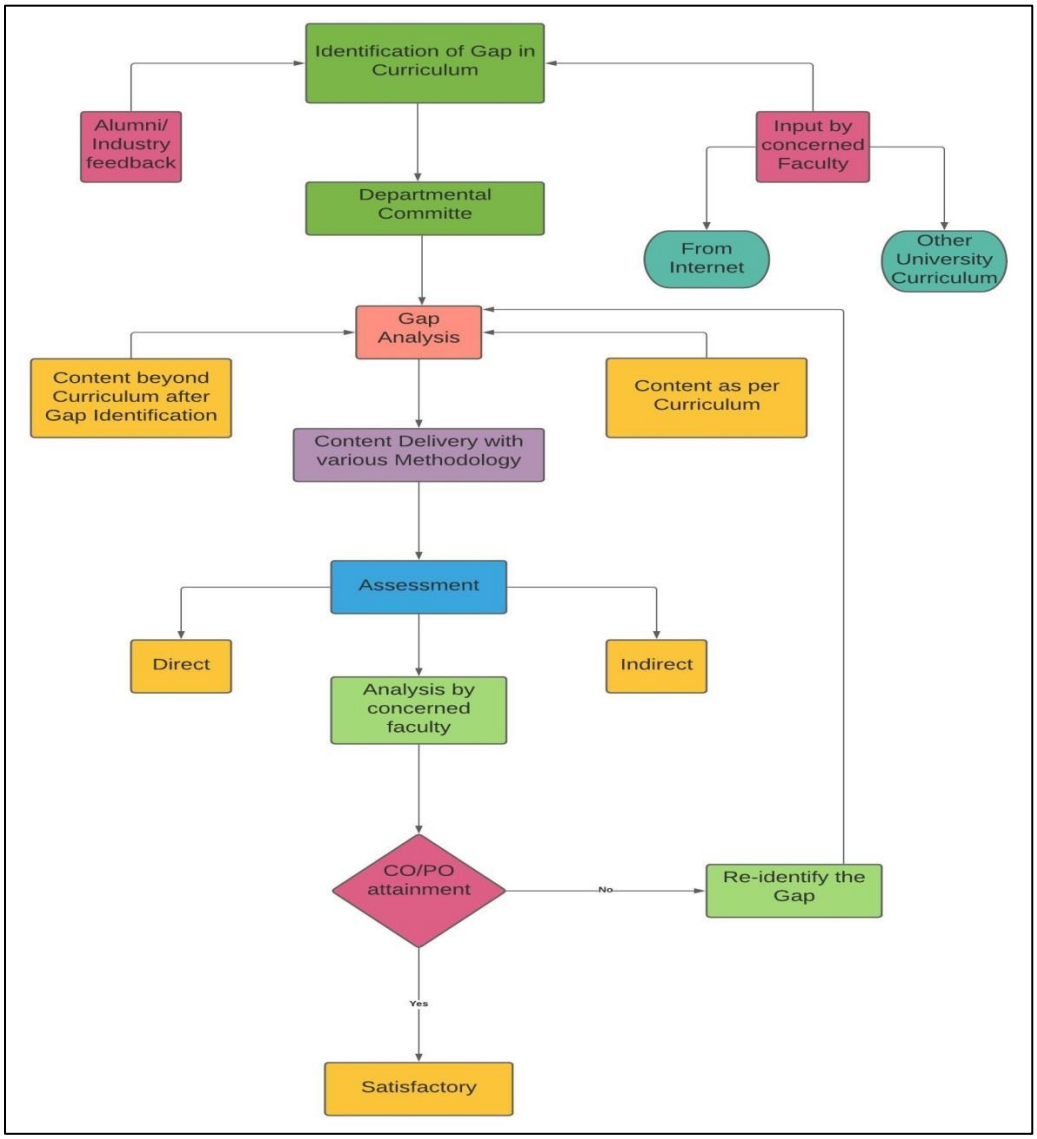



***Fig. B.2.1.1 Gap Identification***

The identified curricular Gaps are listed below:

| Sr. NO | Gap Description |
|---|---|
| 1 | Content beyond syllabus in Theory and Practical classes |
| 2 | Research and industrial exposure |
| 3 | Latest advancement and technologies |

***Table B.2.1.1b***

**2.1.2. State the delivery details of the content beyond the syllabus for the attainment of POs and PSOs (10)**

**INITIATIVES TAKEN TO ADDRESS CURRICULAR GAPS**

The department follows different ways to cover the content beyond the syllabus for attainment of POs and PSOs. The department follows some measures to bridge the identified curricular gaps. The faculty teaching subjects to B.Tech CE students give suggestions for improvement of the curriculum/ syllabus.

A few of the ways to bridge the gaps are mentioned as below:

**Theory/practical/ Projects/ Seminar:** Course Advisor decides to work on the required content beyond the syllabus and deliver the students in mode of lecture, practical, project work and seminar. A few examples are as listed below:

| S.No | Subject code | Gap identified | Relevance to PO |
|---|---|---|---|
| 1 | CE 505 | Some of the topic like selection of water sources, different disinfection methods other than mentioned in curriculum (ozone treatment), different population forecasting methods other than mentioned in curriculum, health impacts of different impurities in water should be added to the course. Those topics are discussed in the class. | PO2,PO4, PO5, PO6, PO7 |
| 2 | CE 604 | Topics like hydrological data & related organizations, catchment area, snowfall measurement, raingauge network & optimum numbers, infiltration measurement by instruments are shared with students in the class. | PO2, PO4, PO5 |
| 3 | CE 708 | Topics like Processing techniques other than mentioned in curriculum (bio gasification), estimation of landfill gas, landfill cover, surface water drainage, SWM rules 2016 are discussed in the class. | PO2, PO4, PO7, PO8 |

***Table B.2.1.2a***

**Expert Lectures/ sessions**: Experts from industry and academia are invited to deliver lectures on the latest trends in civil engg to have more exposure to real industry and research problems and situations.

**2021-2022**

| S.No. | Expert Lectures | Resource person | Date | Relevance to POs,PSOs |
|---|---|---|---|---|
| 1 | 4D Project management using Bentley Synchro4D software | Mr. Gaurav Kumar Chawla, CEO, GKC Consultants OPC Pvt. Ltd. | 10/11/2021 | PO2, PO4, PO5, PO6, PO7, PO11, PSO1, PSO2, PSO3 |
| 2 | Sustainable Construction and Infrastructure Engineering | Dr. Vinayak Kaushal, Assistant Professor of Instruction, University of Texas, Arlington, USA | 10/12/2021 | PO2, PO3, PO4, PO5, PSO1, PSO2, PSO3 |

| | | | | |
|---|---|---|---|---|
| 3 | Specifications and tender | Ms. Prerna Gautam, Junior Engineer, HPPWD Sundernagar | 18/12/2021 | PO6, PO8, PO9, PO11, PO 12, PSO1, PSO2, PSO3 |
| 4 | Construction and Infrastructure Engineering and Management | Dr. Mohammad Najafi, Associate Professor Dept. of Civil Engineering, at the University of Texas at Arlington, USA. | 18/12/2021 | PO3, PO5, PO6, PO7, PO9, PO11, PO12, PSO1, PSO2, PSO3 |
| 5 | New Technology & Instruments used in Survey | Mr. Mayank rana, AIMIL Ltd., Chandigarh | 6/4/2022 | PO4, PO5, PO6, PSO1, PSO2, PSO3 |
| 6 | Processing of natural fibres in Reinforced Composites | Dr. Pawan Kumar Rakesh Assistant Professor and Associate Dean (Research & Consultancy), NIT Uttarakhand | 12/4/2022 | PO2, PO3, PO4, PO5, PO7, PSO1, PSO2, PSO3 |
| 7 | Mathematical Modelling of Biological Transportation Phenomenon | Dr. Dharmendra Tripathi, Assistant Professor and Associate Dean (Faculty welfare and student welfare), NIT Uttarakhand | 12/4/2022 | PO1, PO2, PO3, PO4, PO5, PSO1, PSO2, PSO3 |

***Table B.2.1.2b***

**2020-2021**

| S.No. | Expert Lectures | Resource person | Date | Relevance to POs |
|---|---|---|---|---|
| 1 | Webinar on Durability of Concrete | Mr. Vikrant Malhotra, GM Technical, JK Cement | 29/08/2020 | PO3, PO5, PO6, PO7 |
| 2 | Energy Sustainability and the Green Campus Initiative | Dr. Ashish K Sharma, Energy Analyst, IMF | 14/10/2020 | PO3, PO5, PO6, PO7 |
| 3 | Emerging Construction systems | Prof. Naveen Kwatra, Professor, Department of Civil Engineering, Thapar University Patiala | 20/10/2020 | PO3, PO5, PO6, PO11 |
| 4 | Bentley's Student Server | Mr. Rominder Singh Bedi, Business Manager Innovative Systel and Mr. Lalit Negi, Implementation Engineer, Bentley Systems | 23/10/2020 | PO2, PO4, PO5 |
| 5 | Rohtang Tunnel Project | Rajesh Arora, Project manager Rohtan Tunnel/ Banihal Quazigund Tunnel | 17/05/2021 | PO3, PO4, PO5, PO6, PO8, PO9, PO11 |
| 6 | Bye laws and regulations in building planning | Er. Pradeep Thakur, Town Planner | 30/05/2021 | PO3, PO6, PO11 |
| 7 | Use of trenchless technologies for underground pipeline renewal | Dr. Vinayak Kaushal,Asst Prof., University of Texas | 08/06/2021 | PO3, PO4, PO5, PO6, PO7 |

***Table B.2.1.2c***

**2019-2020**

| S.No. | Expert Lectures | Resource person | Date | Relevance to POs |
|---|---|---|---|---|
| 1 | Emerging Research Areas in the field of Civil Engineering | Dr. Rajneesh Sharma, Assistant Professor (CE), School of Engineering, IIT Mandi, Kamand | 31/08/2019 | PO2, PO4, PO5, PO6, PO7, PO11 |
| 2 | Webinar on Landslide Monitoring by using sensor & wireless Technique | Dr. Uday Kala, Assistant Professor, School of Engg., IIT Mandi | 18/06/2020 | PO2, PO3, PO4, PO5 |

***Table B.2.1.2d***

**Industrial Training:** Internship in the industries of repute is organized to keep the students abreast with applications of Civil Engg.

**Industrial Visits:** The department plans some industrial visits for the students to visualize and cover the practical concept of theoretical courses.

| S.No. | Industrial Visits | Class | Date | Relevance to POs |
|---|---|---|---|---|
| 1 | Atal Tunnel, Manali and Larji Hydro Power Project | B.Tech CE 4th Year (Batch 18-22) | 25/11/2021 to 26/11/2021 | PO3, PO5, PO6, PO7 |
| 2 | NTPC Koldam Project | B.Tech CE 3rd Year (Batch 19-23) | 17/12/2021 | PO3, PO5, PO6, PO7 |
| 3 | NTPC Koldam Project | B.Tech CE 2nd Year (Batch 20-24) | 19/05/2022 | PO3, PO5, PO6, PO7 |
| 4 | Atal Tunnel, Manali and Baralacha | B.Tech CE 3rd Year (Batch 19-23) | 17/06/2022 to 19/06/2022 | PO3, PO5, PO6, PO7 |

***Table B.2.1.2e***

| S.No. | Industrial Visits | Class | Date | Relevance to POs |
|---|---|---|---|---|
| 1 | Atal Tunnel, Manali | B.Tech CE 4th Year (Batch 17-21) | 22/10/2020 | PO3, PO5, PO6, PO7 |

***Table B.2.1.2f***

**Soft skill/ Employability training:** The department emphasizes on personality development through soft skills training programs to improve the employability of students.

| S.No. | Employability/ GATE Coaching | Resource person | Date | Relevance to POs |
|---|---|---|---|---|
| 1 | Employability Skills Coaching | CL Educate Ltd. New Delhi | Jan- March 2020 | PO2, PO4, PO5, PO6, PO7, PO11 |
| 2 | GATE preparation coaching | GATE Academy Pvt. Ltd. | Nov – Jan 2020 | PO2, PO3, PO4, PO5 |
| 3 | Employability Skills Coaching | KOAK Education Ltd. | Aug - Sep 2019 | PO2, PO3, PO4, PO5 |

***Table B.2.1.2g***

**Learning Softwares/ Modern tools Usage beyond syllabus:**

Spoken Tutorial Program in Collaboration with IIT Mumbai:

Institute has online subscription of spoken tutorial IIT Bombay where student can learn various Free and Open-Source Software certificate courses. Also, they can access their performance after performing end of course online test. Each department has a faculty coordinator and student coordinator from each class who choose and enroll the students in the curse of their choice. JNGEC has also received award for outstanding contribution in organising training and spreading awareness on FLOSS/MOOCs from north region.

The details of Spoken Tutorial courses by students 1st August 2021 to 1st July 2022.

| **Total number of Workshops/Trainings at Institute level** | | | **42** |
|---|---|---|---|
| **Total Participants (2022)** | | | **1330** |
| **Total Participants (2021)** | | | **837** |
| **Courses by B.Tech CE Students** | **No. of Students appeared for Test** | **No. of Students who cleared the test** | **Relevance to POs, PSOs** |
| **2021** | | | |
| QGIS | 63 | 53 | PO5, PO12, PSO2, PSO3 |
| QCAD | 87 | 74 | PO5, PO12, PSO2, PSO3 |
| **2022** | | | |
| QGIS | 80 | 64 | PO5, PO12, PSO2, PSO3 |
| QCAD | 9 | 6 | PO5, PO12, PSO2, PSO3 |

***Table B.2.1.2h***

**Attending training programs/ courses outside Institutes:**

Students are motivated to participate in different training programs/ courses being offered online or being conducted by some other Institutes e.g. CBRI Roorkee, IIT Mandi, NITTTRs etc.

**2.2. Teaching - learning processes (100)**

**2.2.1. Describe Processes followed to improve quality of Teaching & Learning (25)**

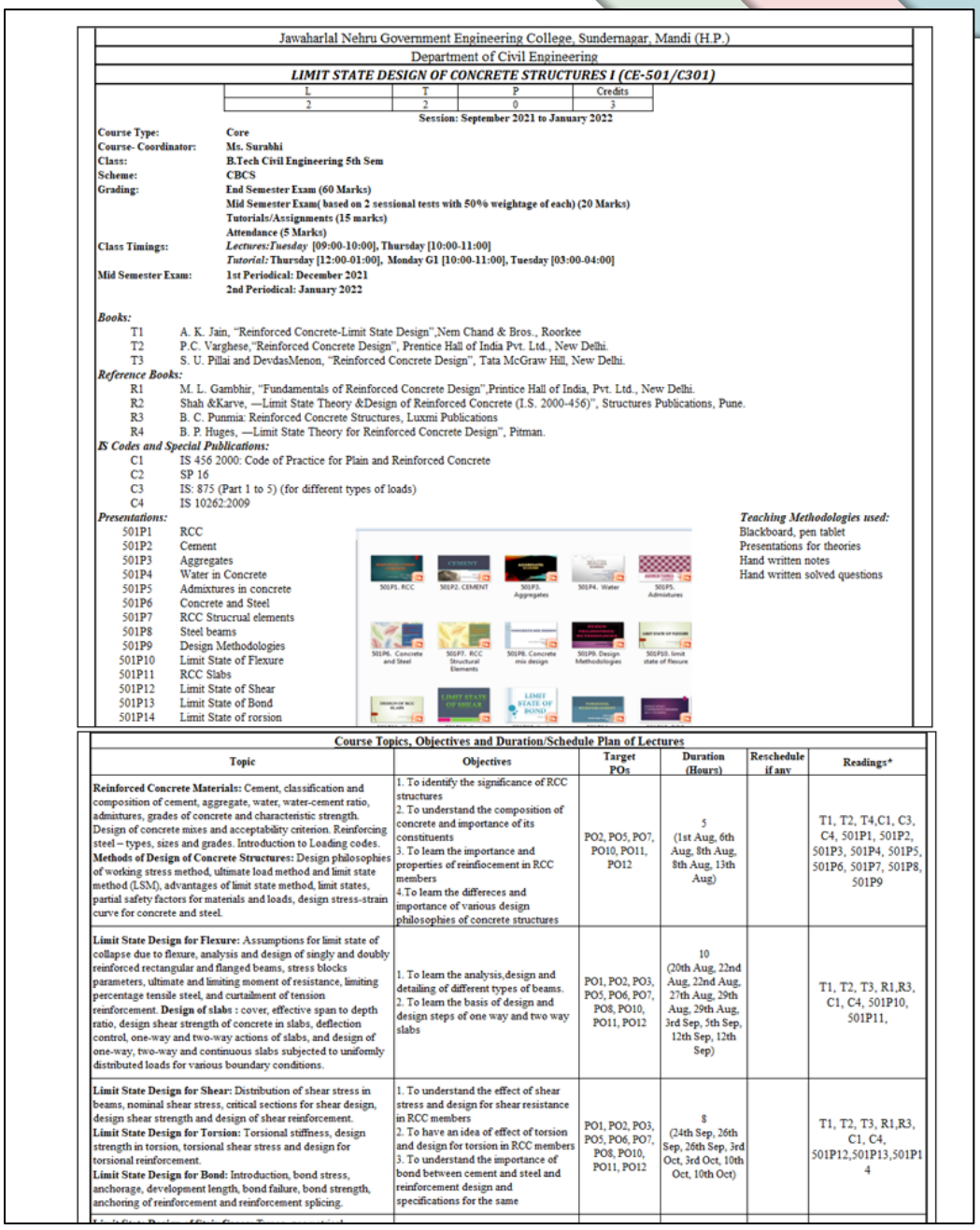
**a) Compliance to Academic calendar:**

HPTU circulates academic calendar of each session. All the academic activities are carried out as per the university academic calendar. The Department also prepares its own calendar aligned with the University academic calendar for planning and carrying out different academic activities throughout the semester.

**b) Maintenance of Course files:**

Lesson plan with course objectives and course outcomes are prepared by concerned faculty of the subject using standard formats defined by the department before the commencement of every

semester. The format was duly approved by the Head of the Department. The prepared lesson plan along with course outcomes are being delivered to the students on the very 1st lecture of the concerned subject during commencement of new semester.



Jawaharlal Nehru Government Engineering College, Sundernagar, Mandi (H.P.)

Department of Civil Engineering

***LIMIT STATE DESIGN OF CONCRETE STRUCTURES I (CE-501/C301)***

| L | T | P | Credits |
|---|---|---|---|
| 2 | 2 | 0 | 3 |

**Session: September 2021 to January 2022**

**Course Type:** Core
**Course- Coordinator:** Ms. Surabhi
**Class:** B.Tech Civil Engineering 5th Sem
**Scheme:** CBCS
**Grading:** End Semester Exam (60 Marks)
Mid Semester Exam( based on 2 sessional tests with 50% weightage of each) (20 Marks)
Tutorials/Assignments (15 marks)
Attendance (5 Marks)
**Class Timings:** *Lectures:Tuesday* [09:00-10:00], Thursday [10:00-11:00]
*Tutorial:* Thursday [12:00-01:00], Monday G1 [10:00-11:00], Tuesday [03:00-04:00]
**Mid Semester Exam:** 1st Periodical: December 2021
2nd Periodical: January 2022

***Books:***
T1 A. K. Jain, "Reinforced Concrete-Limit State Design",Nem Chand & Bros., Roorkee
T2 P.C. Varghese,"Reinforced Concrete Design", Prentice Hall of India Pvt. Ltd., New Delhi.
T3 S. U. Pillai and DevdasMenon, "Reinforced Concrete Design", Tata McGraw Hill, New Delhi.

***Reference Books:***
R1 M. L. Gambhir, "Fundamentals of Reinforced Concrete Design",Printice Hall of India, Pvt. Ltd., New Delhi.
R2 Shah &Karve, —Limit State Theory &Design of Reinforced Concrete (I.S. 2000-456)", Structures Publications, Pune.
R3 B. C. Punmia: Reinforced Concrete Structures, Luxmi Publications
R4 B. P. Huges, —Limit State Theory for Reinforced Concrete Design", Pitman.

***IS Codes and Special Publications:***
C1 IS 456 2000: Code of Practice for Plain and Reinforced Concrete
C2 SP 16
C3 IS: 875 (Part 1 to 5) (for different types of loads)
C4 IS 10262:2009

***Presentations:***
501P1 RCC
501P2 Cement
501P3 Aggregates
501P4 Water in Concrete
501P5 Admixtures in concrete
501P6 Concrete and Steel
501P7 RCC Strucrual elements
501P8 Steel beams
501P9 Design Methodologies
501P10 Limit State of Flexure
501P11 RCC Slabs
501P12 Limit State of Shear
501P13 Limit State of Bond
501P14 Limit State of rorsion

***Teaching Methodologies used:***
Blackboard, pen tablet
Presentations for theories
Hand written notes
Hand written solved questions

**Course Topics, Objectives and Duration/Schedule Plan of Lectures**

| Topic | Objectives | Target POs | Duration (Hours) | Reschedule if any | Readings* |
|---|---|---|---|---|---|
| **Reinforced Concrete Materials:** Cement, classification and composition of cement, aggregate, water, water-cement ratio, admixtures, grades of concrete and characteristic strength. Design of concrete mixes and acceptability criterion. Reinforcing steel – types, sizes and grades. Introduction to Loading codes. **Methods of Design of Concrete Structures:** Design philosophies of working stress method, ultimate load method and limit state method (LSM), advantages of limit state method, limit states, partial safety factors for materials and loads, design stress-strain curve for concrete and steel. | 1. To identify the significance of RCC structures<br>2. To understand the composition of concrete and importance of its constituents<br>3. To learn the importance and properties of reinfiocement in RCC members<br>4.To learn the differeces and importance of various design philosophies of concrete structures | PO2, PO5, PO7, PO10, PO11, PO12 | 5 (1st Aug, 6th Aug, 8th Aug, 8th Aug, 13th Aug) | | T1, T2, T4,C1, C3, C4, 501P1, 501P2, 501P3, 501P4, 501P5, 501P6, 501P7, 501P8, 501P9 |
| **Limit State Design for Flexure:** Assumptions for limit state of collapse due to flexure, analysis and design of singly and doubly reinforced rectangular and flanged beams, stress blocks parameters, ultimate and limiting moment of resistance, limiting percentage tensile steel, and curtailment of tension reinforcement. **Design of slabs :** cover, effective span to depth ratio, design shear strength of concrete in slabs, deflection control, one-way and two-way actions of slabs, and design of one-way, two-way and continuous slabs subjected to uniformly distributed loads for various boundary conditions. | 1. To learn the analysis,design and detailing of different types of beams.<br>2. To learn the basis of design and design steps of one way and two way slabs | PO1, PO2, PO3, PO5, PO6, PO7, PO8, PO10, PO11, PO12 | 10 (20th Aug, 22nd Aug, 22nd Aug, 27th Aug, 29th Aug, 29th Aug, 3rd Sep, 5th Sep, 12th Sep, 12th Sep) | | T1, T2, T3, R1,R3, C1, C4, 501P10, 501P11, |
| **Limit State Design for Shear:** Distribution of shear stress in beams, nominal shear stress, critical sections for shear design, design shear strength and design of shear reinforcement. **Limit State Design for Torsion:** Torsional stiffness, design strength in torsion, torsional shear stress and design for torsional reinforcement. **Limit State Design for Bond:** Introduction, bond stress, anchorage, development length, bond failure, bond strength, anchoring of reinforcement and reinforcement splicing. | 1. To understand the effect of shear stress and design for shear resistance in RCC members<br>2. To have an idea of effect of torsion and design for torsion in RCC members<br>3. To understand the importance of bond between cement and steel and reinforcement design and specifications for the same | PO1, PO2, PO3, PO5, PO6, PO7, PO8, PO10, PO11, PO12 | 8 (24th Sep, 26th Sep, 26th Sep, 3rd Oct, 3rd Oct, 10th Oct, 10th Oct) | | T1, T2, T3, R1,R3, C1, C4, 501P12,501P13,501P14 |

***Fig. B.2.2.1a Sample Lesson Plan***

For each course, a course file is prepared by the concerned faculty as per the scheme of university curriculum. The contents of course file are given as under: -

1) Teaching Plan
2) Lesson Plan with Course outcomes

3) Academic Calendar
4) Syllabus
5) Time Table
6) Lecture Notes (handouts, drawings, slides, etc)
7) Assignments
8) Mid-Semester/Final Exam/Previous year Question Paper with solution
    i. Sessional Marks/Assignment Marks
    ii. CO-PO Attainment
        a) Full record of all results for all Attainment (print from Excel or similar, or submit all exam scripts if you have them)
        b) Sample of best student answer sheet, Assignment (photocopy, or printed scan)
        c) Sample of average student answer sheet, Assignment (photocopy, or printed scan)
        d) Sample of worst student answer sheet, Assignment (photocopy, or printed scan)
9) Observations with Action Plan
10) Attendance (Register)

HOD monitors the maintenance of course files and class deliveries.

**c) Use of various instructional methods and pedagogical initiatives:**

- ***Lecture method and Interactive learning:***

The faculty deliver lectures through a variety of methods like through chalk and board method, presentations, case studies, discussions etc. Students are being encouraged by the faculty members to actively involved in the lecture session by asking questions and doubts.

- ***Project-based learning*:**

Efforts are made to a lot the projects by taking real time problems/society related issues, so that students contribute or disseminate knowledge in society.

During the Seminar class in 6th semester and project work in 8th semester, many real time seminars/projects are given to the student. Some faculty also give practical / survey based / real time problem in their respective courses also.

- **Online study material/ lecture videos**

The faculty prepare study material/ handouts for students and share with students through google classroom. Some faculty also have prepared video lectures of theory as well as laboratory courses.

| S.No | Video Lecture Details | YouTube link | Prepared by |
|---|---|---|---|
| **1** | Design of Concrete Structures II: Design of Retaining Walls: Cantilever & Counterfort, Design of Water Tanks: Tanks Resting on ground, Underground Tanks, Overhead Tanks | https://www.youtube.com/playlist?list=PLeK6M_5sqx_HrO93qK4pNOM8ZJO9UDk_R | Ms. Surabhi, AP, CE |

| | | | |
|---|---|---|---|
| **2** | Structural Analysis:<br>Shear force and bending moment diagram, Moment Area Method | https://www.youtube.com/playlist?list=PLeK6M_5sqx_FGoens3zfYLSQreQvdAj3U | Ms. Surabhi, AP, CE |
| **3** | WaterGEMS:<br>Practice lessons & Practice problem on WaterGEMS | https://www.youtube.com/playlist?list=PLeK6M_5sqx_EbA3UVfMkenjF3x-ntzxin | Ms. Surabhi, AP, CE |
| **4** | Concrete permeability test in laboratory | https://www.youtube.com/watch?v=vWs1BkTnscg&t=8s | Ms. Surabhi, AP, CE and B.Tech CE 4th year students |
| **5** | Environmental Engg. | https://www.youtube.com/playlist?list=PLAUW5OkndBQDF_FSWpQvEbx0lu3Kw56Q6 | Ms. Bedatrayee Saha, AP, CE |
| **6** | Municipal Solid Waste Management | https://www.youtube.com/playlist?list=PLAUW5OkndBQAKw4C5p3Xw8-vttm7JaAJF | Ms. Bedatrayee Saha, AP, CE |
| **7** | Surveying Lab | https://www.youtube.com/playlist?list=PLQ_a2QZ0u1VvH6VYHSUcO-rbsHrwaf9Bw | Mr. Kapil Dev, AP, CE, Mr. Prashant, AP, CE and Ms. Cheena , Lab Technician |
| **8** | Environmental Engg Lab<br>Fluoride, hardness, TDS, pH , Iron , Turbidity chloride concentration tests on water sample | https://www.youtube.com/playlist?list=PLQ_a2QZ0u1VuB2Ig0VEsTr9nmCBso10ut | Mr. Prashant, AP CE, Ms. Cheena Chadda, Lab Technician |
| **9** | Material Testing Lab | https://www.youtube.com/playlist?list=PLQ_a2QZ0u1Vtv0bD_i0akZpuebY-kRJPb | Ms. Cheena Chadda, Lab Technician |
| **10** | Geotechnical Engineering Lab | https://www.youtube.com/watch?v=0PAYgIZHaBk&list=PLQ_a2QZ0u1VuiiJLni9JvOYfJI-YMYCs2 | Ms. Cheena Chadda, Lab Technician |

***Table B.2.2.1a Details of online video lectures by faculty and staff***

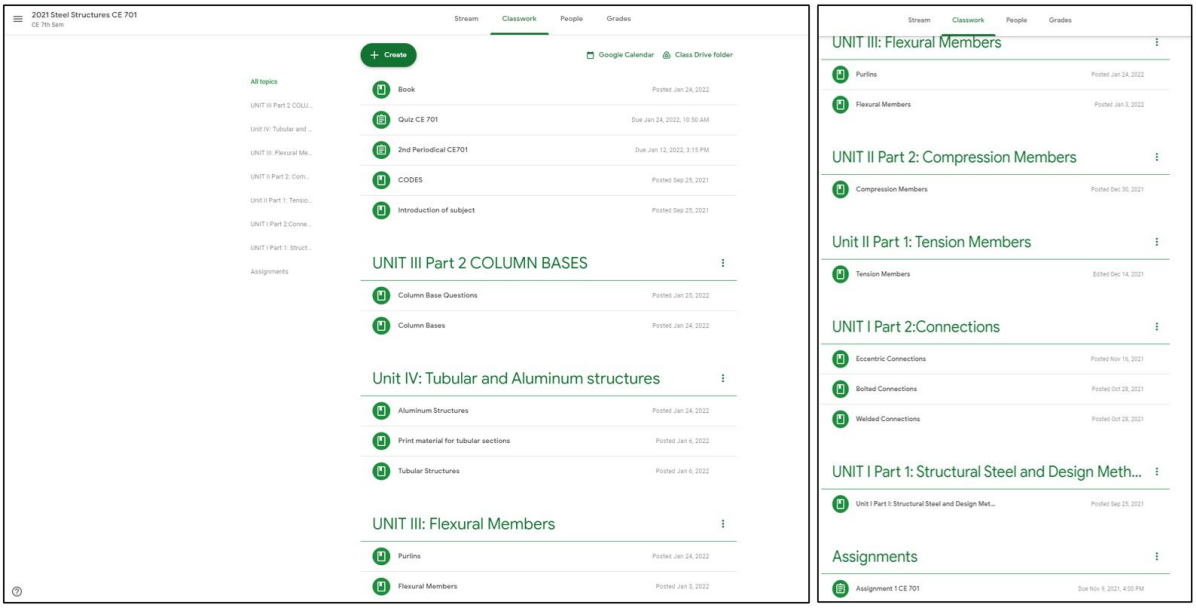



***Fig. B.2.2.1b Sample Google Classroom***

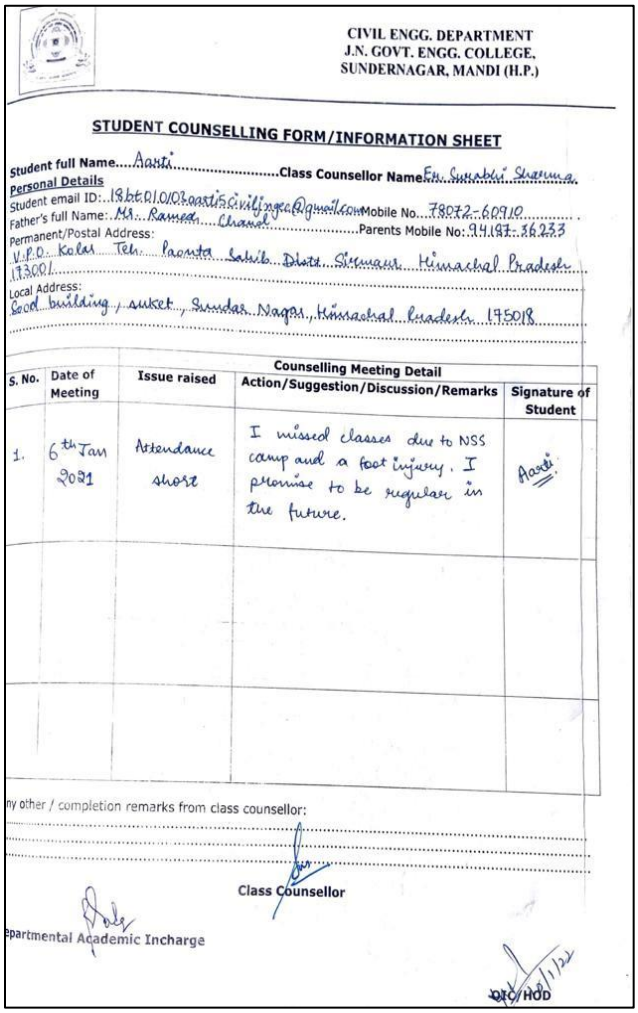
**d) Methodologies to support weak students and encourage bright students:**

- ***Guidelines to identify and support weak students***

The faculty Counsellors/In charges regularly conduct meetings to monitor the progress of their mentees. Under the HOD direction, the faculty counsellors, academic and attendance coordinator monitor the progress of students and identify the students who have scored less than 40% marks in three or more subjects in internal periodical examinations and are having monthly attendance less than 75%. Such students are considered as **academically weak students** and parents/guardians are informed through letters and SMS of their wards. Students are counselled through meeting with HOD, Class Incharge and Academic coordinator of Dept.

| S.No | Criteria of identification | Action Taken |
|---|---|---|
| 1 | Students who fail to attain 40% internal assessment | Improvement classes are being conducted during the semester as per university guidelines |
| 2 | Students who fail to attain 75% criteria of attendance | |

***Table B.2.2.1b***



CIVIL ENGG. DEPARTMENT
J.N. GOVT. ENGG. COLLEGE,
SUNDERNAGAR, MANDI (H.P.)

**STUDENT COUNSELLING FORM/INFORMATION SHEET**

Student full Name: Aarti Class Counsellor Name: Er. Surabhi Sharma

Personal Details

Student email ID: 18btrlo10aartis.civil.jngec@gmail.com Mobile No. 78072-60910

Father's full Name: Mr. Ramesh Chand Parents Mobile No: 94197-36233

Permanent/Postal Address: V.P.O. Kolar Teh. Paonta Sahib Distt. Sirmaur Himachal Pradesh 173001

Local Address: Good building, suket, Sundar Nagar, Himachal Pradesh 175018

Counselling Meeting Detail

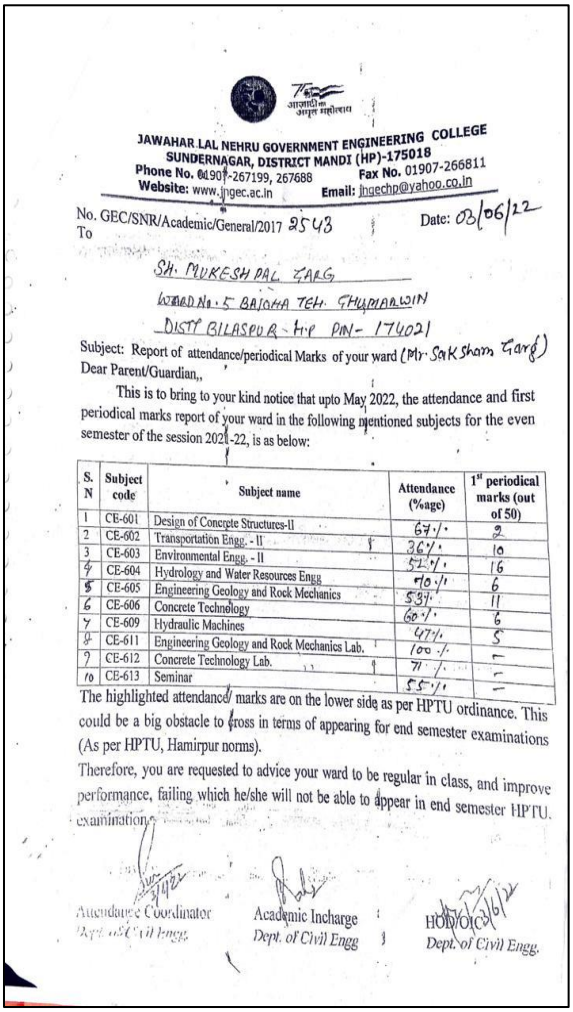
| S. No. | Date of Meeting | Issue raised | Action/Suggestion/Discussion/Remarks | Signature of Student |
|---|---|---|---|---|
| 1. | 6th Jan 2021 | Attendance short | I missed classes due to NSS camp and a foot injury. I promise to be regular in the future. | Aarti |

ny other / completion remarks from class counsellor:

Class Counsellor

Departmental Academic Incharge

DEC/HOD



JAWAHAR LAL NEHRU GOVERNMENT ENGINEERING COLLEGE
SUNDERNAGAR, DISTRICT MANDI (HP)-175018
Phone No. 01907-267199, 267688 Fax No. 01907-266811
Website: www.jngec.ac.in Email: jngechp@yahoo.co.in

No. GEC/SNR/Academic/General/2017 2543 Date: 08/06/22

To
SH. MUKESH PAL GARG
WARD No. 5 BAGHA TEH. THUNAG WIN
DISTT BILASPUR - H.P PIN- 174021

Subject: Report of attendance/periodical Marks of your ward (Mr. Sakshom Garg)

Dear Parent/Guardian,,

This is to bring to your kind notice that upto May 2022, the attendance and first periodical marks report of your ward in the following mentioned subjects for the even semester of the session 2021-22, is as below:

| S. N | Subject code | Subject name | Attendance (%age) | 1st periodical marks (out of 50) |
|---|---|---|---|---|
| 1 | CE-601 | Design of Concrete Structures-II | 67% | 2 |
| 2 | CE-602 | Transportation Engg. - II | 36% | 10 |
| 3 | CE-603 | Environmental Engg. - II | 52% | 16 |
| 4 | CE-604 | Hydrology and Water Resources Engg | 70% | 6 |
| 5 | CE-605 | Engineering Geology and Rock Mechanics | 53% | 11 |
| 6 | CE-606 | Concrete Technology | 60% | 6 |
| 7 | CE-609 | Hydraulic Machines | 47% | 5 |
| 8 | CE-611 | Engineering Geology and Rock Mechanics Lab. | 100% | - |
| 9 | CE-612 | Concrete Technology Lab. | 71% | - |
| 10 | CE-613 | Seminar | 55% | - |

The highlighted attendance/ marks are on the lower side as per HPTU ordinance. This could be a big obstacle to cross in terms of appearing for end semester examinations (As per HPTU, Hamirpur norms).

Therefore, you are requested to advice your ward to be regular in class, and improve performance, failing which he/she will not be able to appear in end semester HPTU. examination.

Attendance Coordinator Dept. of Civil Engg.

Academic Incharge Dept. of Civil Engg

HOD/OIC Dept. of Civil Engg.

***Table B.2.2.1c (Counseling sheet, information of weak students to wards)***

- ***Guidelines to encourage Bright students***

Bright students are identified from their participation in classroom discussion, performance in sessional examination and end semester university examination. The Impact is seen in college events and placement and end semester result.

| S.No | Criteria of identification | Action Taken |
|---|---|---|
| 1 | Top two students of each class according to CGPA | Awarded with mementos during annual day function |
| 2 | Students securing ranks at university level. | Awarded with different medals by the university |

***Table B.2.2.1c Bright students identification***

**e) Quality of classroom teaching:**

*Civil Engineering Program* follows the curriculum prescribed by the Himachal Pradesh Technical University (HPTU) Hamirpur (HP)

1) Whole curriculum of Program is divided into 08 semesters.

2) Minimum of 75% attendance is mandatory to get eligibility to attend practical & theory examinations along with a provision of condonation of 10% of the attendance by the Vice-Chancellor on the specific recommendation of the principal of the college.

3) As per university curriculum scheme, the assessment of the candidate shall be based on (i) continuous Internal Assessment (IA) throughout the semester and (ii) End Semester Examination (ESE) at the end of the semester. A candidate failing to secure a minimum of 40% of the IA marks in practical/project work shall not be eligible for the practical/project in the university.

The details of internal and external assessment as prescribed in curriculum is given below:

| **(i) Theory Courses** | | |
|---|---|---|
| **Component** | **Category** | **Max. Marks** |
| I | (a) Teachers Assessment (Assignments/Quizzes) | 16 |
| | (b) Mid- Semester Examinations/Tests (Two mid-term tests of 1.5 hrs duration) | 20 |
| | (c) Attendance | 4 |
| II | End-Semester Examination | 60 |
| | **Total** | **100** |
| **(ii) Laboratory Courses** | | |
| **Component** | **Category** | **Marks** |
| I | (a)File work and lab performance | 15 |
| | (b) Viva-voce (two mid-term viva-voce tests) | 10 |
| | (c) Attendance | 5 |
| II | End-Semester viva-voce Examination | 20 |
| | **Total** | **50** |
| **(iii) Project/Seminar** | | |
| **Component** | **Category** | **Marks** |
| I | Internal Assessment – The distribution and weightage to be decided by course co-coordinator | 50 |

| | | |
|---|---|---|
| II | End-Semester Examination | 50 |
| | **Total** | **100** |
| **(iv) Industrial/Practical Training** | | |
| **Component** | **Category** | **Marks** |
| I -Marks to be awarded by the respective Industrial/Practical training organization | Technical Quality of the work | 25 |
| | Attendance, discipline, involvement, etc | 15 |
| | Interest shown by the student | 10 |
| | **Sub Total** | **50** |
| II- Marks to be awarded by the Department/Centre | Project Report | 15 |
| | Project Work | 15 |
| | Viva Voce & Presentation | 20 |
| | **Sub Total** | **50** |
| | **Total** | **100** |
| **(v)Audit Courses** | | |
| **Course Status** | **Marks Obtained** | **Grade Awarded** |
| Audit Pass | ≥ 40% | S ,Satisfactory |
| Audit Fail | < 40% | U, Candidate has to repeat the course |

***Table B.2.2.1d***

**f) Conduct of Experiments:**

Each practical course is performed in laboratories or at site depending on the experiment. All the students are involved in performing of various experiments, collecting and inferring the data as per the specified procedure in Standards/codes. Students are given a hands-on experience to use the machinery and equipment and prepare the samples for testing. The faculty and lab staff guide the students while conducting practicals and observe their performance. As per the university guidelines 8-10 experiments are to be conducted. Laboratory manual explaining the details of the experiment is available with the course teacher/lab and is supplied to the students during the laboratory schedule. The observations are checked and verified by faculty and record/lab files are maintained systematically. Technical staff also guides the students to understand and perform the experiment easily.

**Virtual Labs:** Some of the practicals are explained through virtual labs. The Institute is one of the nodal centers of IIT Roorkee's Virtual Labs.

***Continuous Assessment in laboratory:***

Continuous assessment system is also implemented for assessment of laboratory work. The assessment is done based on submission of laboratory records, understanding of the experiment through oral viva voice questions and participation in performing the experiment. Laboratory work /lab report is also given weightage in the assessment.

**g) Student feedback of teaching learning process and actions taken:**

At the end of the semester, all the students are required to fill a feedback-form apprising the faculty and facilities using a scale of 1 (low) to 5 (high). HOD reviews the feedback and discusses the remedial

measures with concerned faculty members. These Remedial measures are incorporated by the faculty members in their or existing teaching learning process.

### 2.2.2. Quality of internal semester Question papers, Assignments and Evaluation (20)

- ***Internal semester question papers***

In a semester, two periodical tests are conducted as per academic calendar of HPTU; the initiatives and implementation and evaluation processes are mentioned as flow chart with format.

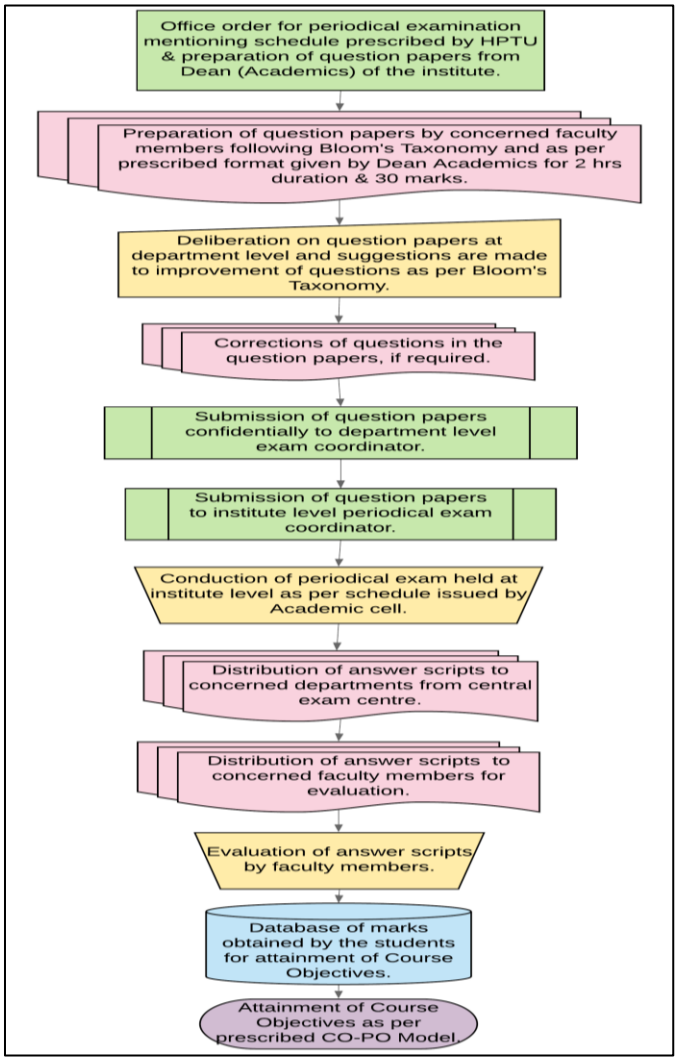



***Fig. B.2.2.2.a Question Paper***

**Jawaharlal Nehru Govt. Engineering College Sundernagar, Mandi (H.P.)**

Course Name: Limit State Design of Metal Structures Course Code: CE-701

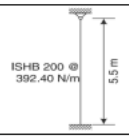
Examination: 2nd Periodical Scheme: CBCS

Branch: Civil Engineering Semester: 7th

**Question Paper for 2nd Periodical Examination (January 2022)**

**Time: Two Hours** **Max Marks: 50**

**Note: Use of calculators, IS 800:2007 and Steel Tables is allowed. Assume suitable data.**

| S.NO | Kx, COx | Question | Marks |
|---|---|---|---|
| Que 1 a) | K3, C401.1 | Slenderness ratio for battened columns is increased by a factor of ___ | 1 |
| b) | K4, C401.1 | The transverse force acting on lacing is computed as _____ | 1 |
| c) | K3, C401.1 | Selection of trial section of beams depends on which parameter? | 1 |
| d) | K2, C401.1 | Purlin is a type of _____ member | 1 |
| e) | K2, C401.2 | Why are angle sections not suitable to be used as compression members? | 1 |
| f) | K2, C401.2 | Enlist the factors on which the bending strength of any beam depends. | 1 |
| g) | K1, C401.2 | Suggest possible ways to reduce slenderness ratio of comp. members. | 1 |
| h) | K2, C401.2 | What are the cases where check for buckling is not required in beams? | 1 |
| i) | K2, C401.2 | What are high and low shear cases for beams? | 1 |
| j) | K2, C401.4 | Classify the cross section ISHB 300 as plastic, compact or semi-compact | 1 |
| Que 2 | K2, C401.2 | Differentiate between: a) Lacing and battens<br>a) Bucking strength and crippling strength of beams | 10 |
| Que 3 | K5, C401.4 | Compute the max. factored compressive load that can be resisted by the compression member safely.   | 10 |
| Que 4 | K6, C401.5 | Suggest the following for a built up-column of effective length 6 m, carrying a factored load of 1500 kN and consisting of 2 ISMC 400 placed face-to-face:<br>a) Suitable spacing between the 2 ISMC channel sections face to face<br>b) Suitable lattice system<br>Justify by doing appropriate calculations for spacing and applying design steps for lattice system. | 10 |
| Que 5 | K6, C401.6 | Predict whether a laterally supported beam having section ISMB 500 will be able to resist a factored bending moment of 350 kNm. The maximum factored shear force is 250 kN. Effective length of beam = 5 m, Grade of steel Fe410. | 10 |

COx- course outcome, Kx- blooms knowledge Level (K1, K2, K3, K4, K5, K6), K1 – Remember K2 – Understand K3 – Apply K4 – Analyze K5 – Evaluate K6 – Create

| CO No. | COURSE OUTCOMES | KL | CO |
|---|---|---|---|
| C401.1 | Recognize the need and properties of structural steel sections in structures | K2 | 4 |
| C401.2 | Identify design philosophies and structural behaviour for the steel sections in terms of tension, compression, flexure. | K3 | 15 |
| C401.3 | Classify the types of connections and check the safety and design of different types of connections | K4 | - |
| C401.4 | Analyse different types of steel tension, compression, beams members | K4 | 11 |
| C401.5 | Choose and select the appropriate design methodology, size and shape of steel, other metal sections | K5 | 10 |
| C401.6 | Suggest the section and structural behaviour of any type of metal section | K5 | 10 |
| | TOTAL | | 50 |

| | | | | | | |
|---|---|---|---|---|---|---|
| CO weightage | C401.1 | C401.2 | C401.3 | C401.4 | C401.5 | C401.6 |
| | 2 | | 35 | 13 | | |
| Knowledge Level weightage | K1 | K2 | K3 | K4 | K5 | K6 |
| | 1 | 5 | 13 | 11 | 10 | |

*Faculty: Ms. Surabhi, Asst. Prof., CE*

***Fig. B.2.2.2.b Periodical Question Paper Sample***

- **Assignments**

2-4 numbers of assignments are given to students by concerned faculty member during the classes. Quiz/ presentations can also be evaluated as assignment. Process of implementation and evaluation given in flow chart:

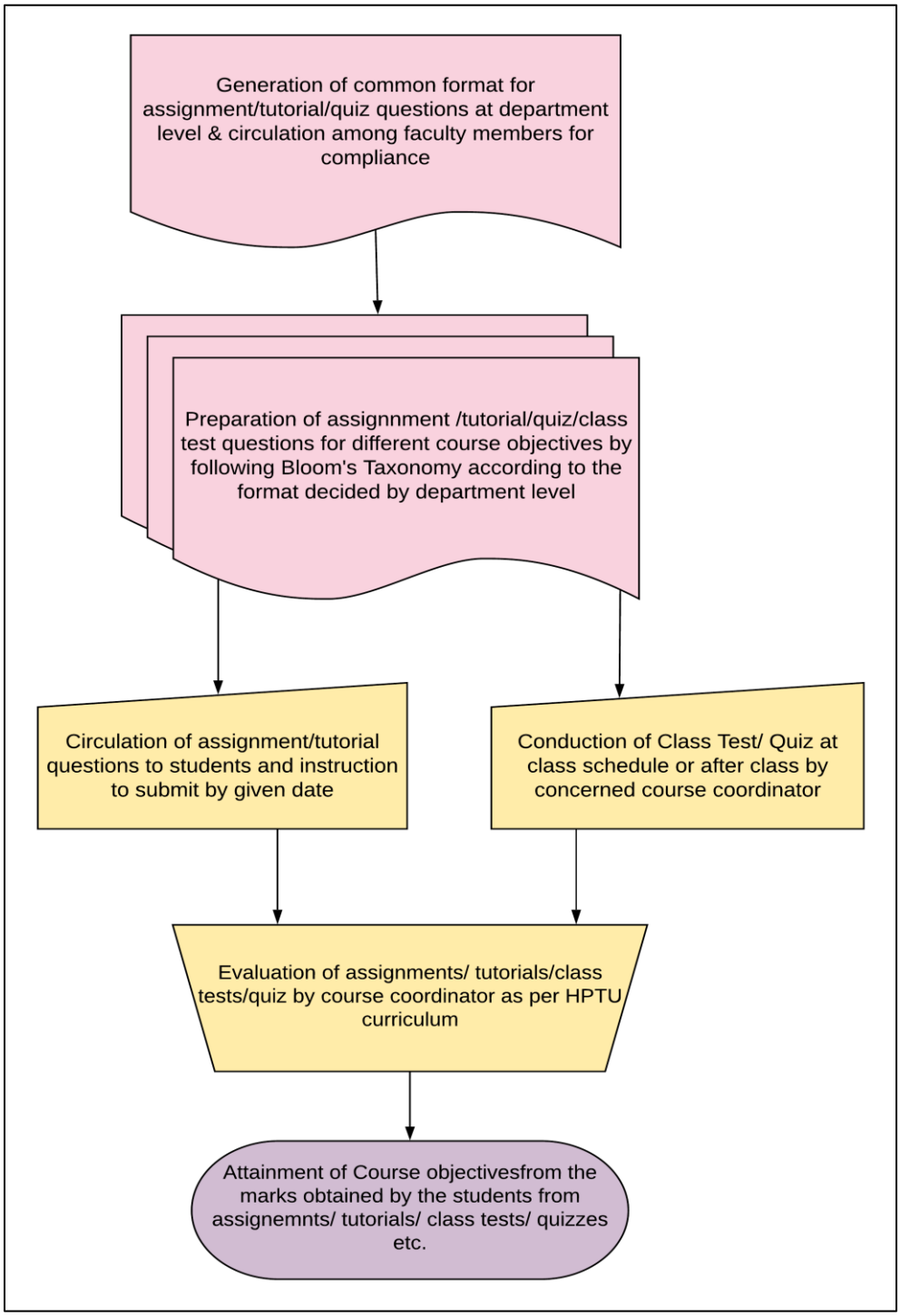



***Fig. B.2.2.2.c Assignment***

**Department of Civil Engineering**
**Jawaharlal Nehru Govt. Engg. College**
**Sundernagar, Dist. Mandi (H.P.)**

MUNICIPAL SOLID WASTE MANAGEMENT (PROGRAM ELECTIVE II) (CE-708)

B. Tech CE 7th Sem SESSION- SEPT-DEC 2022

**ASSIGNMENT No. 1**

**DATE: 21/09/2022** **DATE OF SUBMISSION: 30/09/2022** **TOTAL MARKS: 30**

<table>
<tr><th>Que No.</th><th>Kx, COx</th><th>Question</th><th>Marks</th></tr>
<tr><td>1</td><td>K2, C405.2, K5, C405.5</td><td>Describe the current solid waste management practices in the locality mentioned below by survey:
<table>
<tr><th>Group</th><th>Roll No.</th><th>Survey Area</th></tr>
<tr><td>1</td><td>1901011001-10</td><td>Bhojpur Area (Rest House Chowk to towards Bhojpur)</td></tr>
<tr><td>2</td><td>1901011011-20</td><td>Area covering from Chatrokhari Chowk to Traffic Signal(towards MLSM college)</td></tr>
<tr><td>3</td><td>1901011021-30</td><td>Area covering from Chatrokhari Chowk to Rest House Chowk</td></tr>
<tr><td>4</td><td>1901011031-41</td><td>Pungh Area</td></tr>
<tr><td>5</td><td>1901011042-51</td><td>Haripur Area including polytechnic</td></tr>
<tr><td>6</td><td>1901011052-1904011004</td><td>Area covering from St. Mary's School to Mahamaya Temple</td></tr>
<tr><td>7</td><td>1904011016-20020101008</td><td>Area covering from Suket Bridge to Barrier of JNGEC</td></tr>
</table>
The assignment is to be accomplished by field survey and questions. The assignment is to be submitted by report format. Following points should be mentioned in the assignment:<br>a) Pictures of present condition of the above mentioned area.<br>b) Identify sources, characteristics & quantity (approx.) of solid wastes generated from your locality (Identify min 5 different sources, by survey questions).<br>c)Assessment of the present scenario of your locality (Deficiencies & Ill effects) (by field survey). Include photographs of the present scenario.</td><td>10<br><br>10</td></tr>
<tr><td>2</td><td>K1, C405.1</td><td>Explain the functional elements of efficient solid waste management system.</td><td>10</td></tr>
</table>

COx- course outcome, Kx- blooms knowledge Level (K1, K2, K3, K4, K5, K6) K1 – Remember K2 – Understand K3 – Apply K4 – Analyze K5 – Evaluate K6 – Create

| CO No. | COURSE OUTCOMES | Knowledge Level | CO weightage |
|---|---|---|---|
| C405.1 | Memorise the fundamental concept of solid waste management. | K1 | 10 |
| C405.2 | Explain the sources, types and characteristics of the municipal solid waste, its ill effects on society, the principles of solid waste management with its benefits and also public & private participation. | K2 | 10 |
| C405.3 | Identify collection methods, storage options, transfer, various waste processing techniques & disposal methods for minimization of wastes and resources recovery. | K3 | --- |
| C405.4 | Distinguish various waste processing techniques according to their characteristics. | K4 | ---- |
| C405.5 | Assess municipal solid waste management system in the community according to standard statutory provisions. | K5 | 10 |
| C405.6 | Get new idea about management of municipal solid waste for sustainable environment. | K6 | ---- |
| | TOTAL | | 30 |

| | | | | | | |
|---|---|---|---|---|---|---|
| CO weightage | C313.1 | C313.2 | C313.3 | C313.4 | C313.5 | C313.6 |
| | 10 | 10 | | | 10 | |
| Knowledge Level weightage | K1 | K2 | K3 | K4 | K5 | K6 |
| | 10 | 10 | | | 10 | |

*Course Instructor:*

*Mrs. Bedatrayee Saha, Asst. Prof., CE*

***Fig. B.2.2.2.d Assignment Sample***

- **Seminar**

Seminar is a part of curriculum to measure as well as flourish the ability of the student to study a topic, in Civil Engineering, of current research and practical relevance, from technical literature and present a seminar on that topic. Process of implementation and evaluation is given as flow chart.

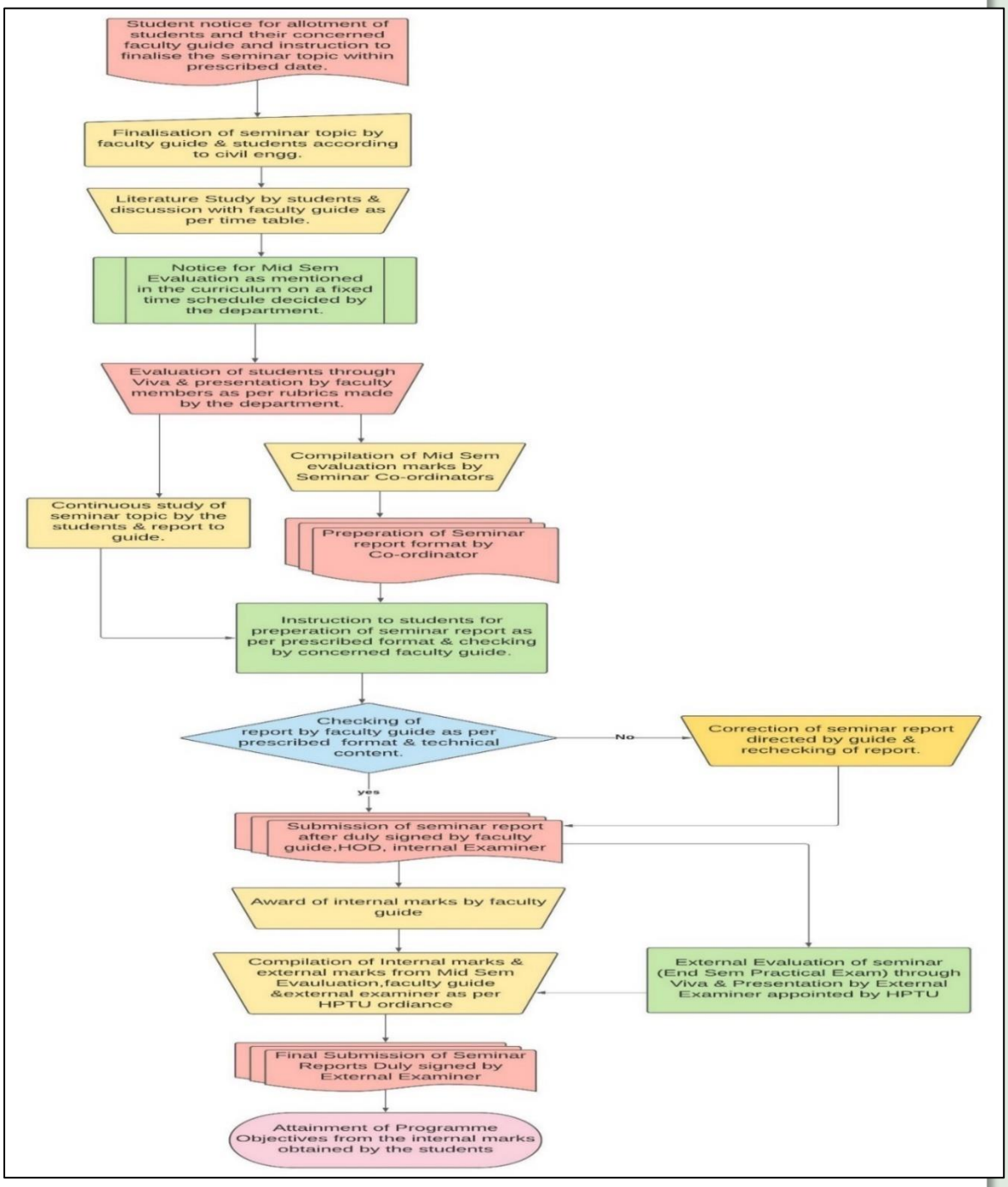



***Fig. B.2.2.2.e Seminar***

The evaluation of Seminar is done as two components i.e. Mid Semester Viva and Internal Evaluation by seminar supervisor on the basis of different parameters as per rubrics.

**RUBRICS FOR SEMINAR EVALUATION (MIDTERM VIVA)**

**(Viva is evaluated in 20 marks & marks will be converted as per marks requirement for internal assessment)**

| Parameters | Levels of Evaluation | | | |
|---|---|---|---|---|
| | Below Average | Average | Good | Excellent |
| Weightage % | 0-40 | 41-65 | 66-80 | 81-100 |
| **Technical Knowledge and Content** | | | | |
| Justification of seminar topic & problem identification (PO2) | No understanding of topic & incorrect explanation. | Understanding is clear but not explained clearly. | Understanding is clear but not explained inappropriately. | Understanding & explanation appropriate. |
| Referred materials (research papers/ other literatures & articles) (PO4) | Material not clearly related to topic. | Material sufficient for clear understanding but not clearly presented. | Material sufficient for clear understanding and effectively presented. | Material sufficient for clear understanding and exceptionally presented. |
| Knowledge of Topic/Understand the effect of suggested solutions w.r.t. society & environment (PO7) | Does not have grasp of information; answered only fundamental questions. | At ease with information; answered most questions. | At ease; answered all questions but failed to elaborate. | Demonstrated full knowledge; answered all questions with elaboration. |
| **Presentation Skills** | | | | |
| Organization of presentation (PO 10) | Hard to follow; sequence of information inappropriate. | Most of information presented in sequence | Information presented in logical sequence; easy to follow | Information presented very well & logical, easy to follow. |
| Mechanics (Grammatical errors/misspellings/uneven formats) (PO 10) | Presentation has more than 10 misspellings and/or grammatical errors, disorganized formatting. | Presentation has no more than 5 misspellings and/or grammatical errors, format is improperly arranged. | Presentation has no more than 2 misspellings and/or grammatical errors, format is arranged good. | Presentation has no misspellings or grammatical errors, format is well arranged. |
| Eye Contact (PO 10) | Reads most slides; no or just occasional eye contact | Refers to slides to make points; occasional eye contact | Refers to slides to make points; eye contact majorly | Refers to slides to make points; engaged with audience |
| Elocution -not ability to speak English language (PO 10) | Mumbles and/or Incorrectly pronounces some terms, Voice is low; difficult to hear | Incorrectly pronounces some terms, Voice fluctuates from low to clear, difficult to hear at times | Incorrectly pronounces few terms, Voice is clear with few fluctuations; audience can hear well most of the time | Correct, precise pronunciation of all terms, Voice is clear and steady; audience can hear well at all times |
| Length and Pace (PO 10) | Short; less than 10 min, Rushed or dragging throughout | Short; 10 min or long > 20, Rushed or dragging partly | Adequate 15-20 min, Most of the seminar well-paced | Appropriate (15-20 min), Well-paced throughout |

***Fig. B.2.2.2.f Seminar Rubrics Mid Sem Viva***

## RUBRICS FOR SEMINAR OVERALL EVALUATION (INTERNAL)

**Total evaluation for internal assessment as per HPTU curriculam (50 marks) = 20 (Mid-term Viva) + 15 (Attendance) + 15 (Project Work & Report)**

**Project Report = 15 marks (Sr. No. 1, 2 & 3), Attendance (Sr. No. 4 &5) = 15 marks**

| Sr. No. | Parameters | Levels of Evaluation | | | |
|---|---|---|---|---|---|
| | | Below Average | Average | Good | Excellent |
| | Weightage % | 0-40 | 41-65 | 66-80 | 81-100 |
| 1 | Technical Knowledge and Awareness related to the seminar topic with Civil Engg. (PO2) (5 marks) | Poor knowledge and no awareness related to project | Lacks sufficient knowledge and awareness | Fair knowledge and awareness related to the project | Extensive knowledge and awareness related to the project |
| 2 | Project Report, its content as per guidelines. (PO10) (5 marks) | Content is not linked with topic at all, not properly arranged, guidelines not followed. | Content is average, Well-arranged format but guidelines not followed. | Content is linked with topic, Well-arranged format as per guidelines. | Content is clearly linked with topic, appropriate & well-arranged format as per guidelines. |
| 3 | Continuous Learning (PO12) (5 marks) | No learning related to the topic. | Learnt about the topic but not in depth. | Learnt majorly the relevant points related to topic & have some clarifications. | Significant & well learnt about the topic & have its clear clarifications. |
| 4 | Assess safety and or environmental concerns related to seminar topic (PO6) (5 marks) | No assessment/explanation of safety and or environmental concerns in seminar topic. | Little explanation of safety and or environmental concerns. | Moderately assesses & explained safety and /or environmental concerns. | Seminar topic is well evaluated for safety and /or environmental concerns & well explained. |
| 5 | Attendance/Regularity (PO9) (5 marks) | Irregular and inconsistent in work | Reports to the guide but lacks consistency | Reports to the guide very often but not very consistent | Reports to the guide regularly and consistent in work |
| 6 | Worked individually or within Team (PO9) (5 marks) | The team did not collaborate or communicate well. Some members work independently, without regard to the work assigned by faculty supervisor. Individual students did not work well as per faculty guide. | The team worked together but with many instances of communication failure to collaborate when necessary. Each student has worked well as per faculty guide. | The team worked well together most of the time, with only a few occurrences of communication failure to collaborate/coordinate when necessary. Each student has worked well as per faculty guide. | The team worked well together to learn the technical content. Each member contributed in a valuable way to the seminar work. |

***Fig. B.2.2.2.g Seminar Rubrics Internal Evaluation by supervisor***

### 2.2.3. Quality of student projects (25)

- ***Processes for project identification, allotment, monitoring and evaluation:***

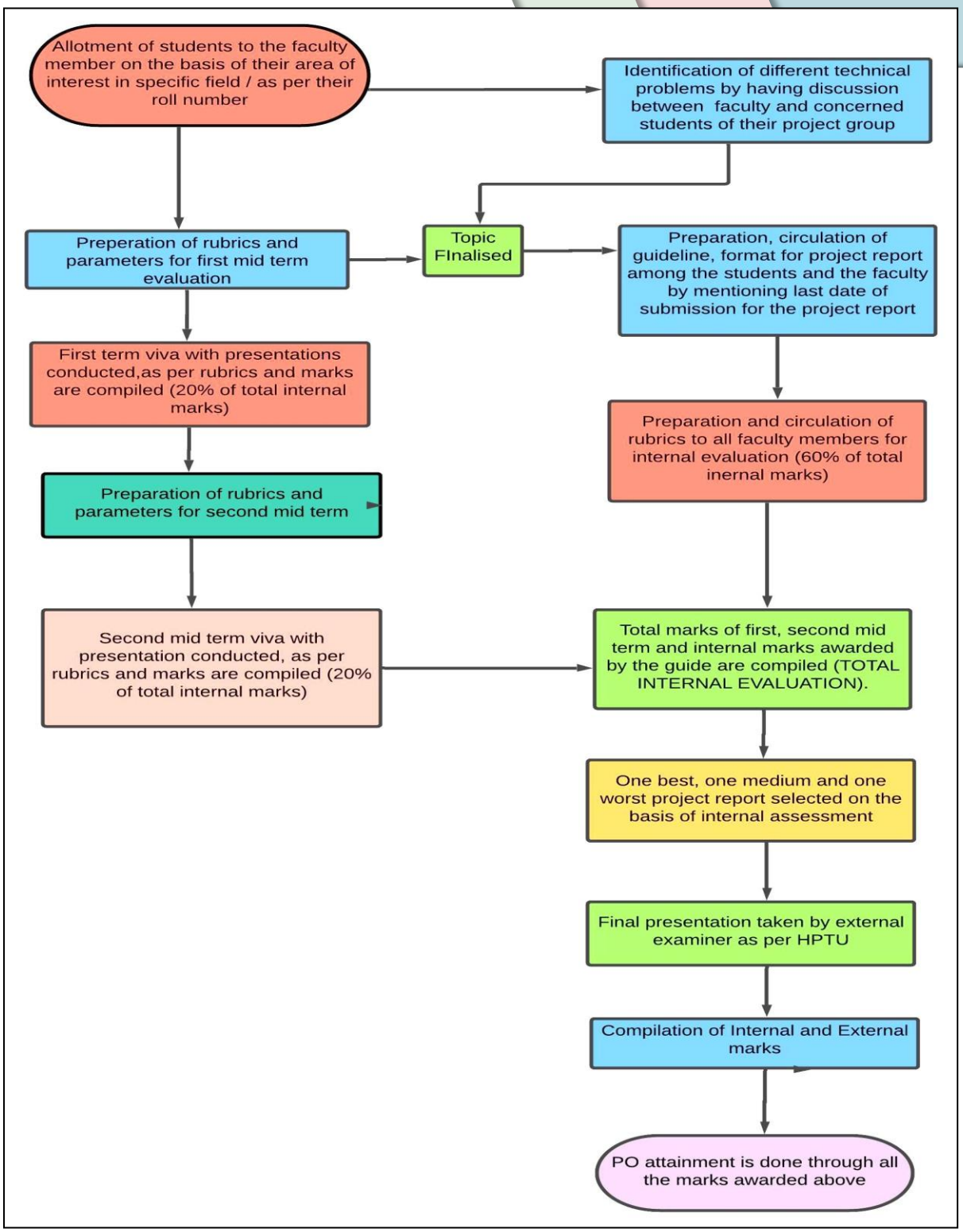



***Fig. B.2.2.3.a Project***

**1. Identification of projects and process of allotment of students to the faculty members**

Every semester in final year (7th and 8th semester) student undertakes project which was executed by them in the 7th and 8th semester respectively. Students are allotted to the faculty member on the basis of area of interest in specific field /as per their roll number. The problem for the execution of the project is identified by having discussion between faculty and concerned students of their group. The students are guided to undergo depth study of the literature, formulate the problem on the basis of research gap and then to proceed further. Students are allotted projects from actual field study (review) or experimental based.

**2. *Type and relevance of the projects and their contribution to POs:***

The faculty supervisor and the students choose the topics that are appropriate to the learning of Civil Engineering with application to society and real problems. The project is evaluated as per rubrics having parameters to which POs are assigned. The detailed process is explained below.

**3. *Process of monitoring and evaluation:*** Projects are allotted in the 7th and 8th semester, and students are guided by concerned faculty in the contact period mentioned in the time table. The 1st and 2nd midterm viva with presentation is conducted as per rubrics and the progress is continuously monitored by supervisor and by periodically project evaluation committee in the form of viva presentation. After 1st and 2nd midterm viva, the internal marks by using rubrics, are awarded by concerned faculty. Internal assessment is compiled and PO's attainment is done by considering the total internal marks given to the students after evaluation. Students are directed to write their respective project report after conducting the lab work/field work/ library work. One best, one medium and one worst project report are selected on the basis of internal assessment. Final evaluation of the project report is conducted by the external examiner appointed by the HPTU University.

**4. *Quality of completed projects/ working prototypes:***

The outcome of the project if found appropriate is published in the name of student and faculty in journals of Civil Engineering.

**5. *Rubrics for internal assessment:***

The students undergoing project are evaluated throughout the semester as per different parameters assigned to evaluation components. The evaluation of students is done in three components i.e.

- 1st Mid-term Evaluation near the beginning/middle of the semester by assigned committee of faculty members after students have decided the project and carried literature review.
- 2nd Mid-term evaluation near the end of the semester by assigned committee of faculty members when students have started working on the project and are analyzing data.
- Final internal evaluation by project guide as per the performance of students the whole semester.

The rubrics for evaluation of students according to the parameters in these different stages of evaluation are given below:

| S.No. | Parameters | Levels of evaluation | | | | |
|---|---|---|---|---|---|---|
| | | **Excellent** | **Good** | **Average** | **Partially acceptable** | **Unacceptable** |
| | Weightage % | 81-100 | 61-80 | 41-60 | 21-40 | 0-20 |
| 1 | Level of understanding of project topic (problem statement) (PO2) | Understand the problem & clearly explain the focusing points. | Understand the problem but not explained clearly. | Understand the problem but lacks in correlating with knowledge. | Understanding & explanations of the problems are not clear. | Difficult to correlate the problem statement. |
| 2 | Literature Review with references (PO4) | Related literature is comprehensive and summarized properly with proper referencing. | Related literature was summarized credibly with referencing. | Literature was summarized but not properly referenced. | Literature was not related to project topic and no suitable referencing. | Literature was not reviewed and no referencing. |
| 3 | Planning of project methodology & distribution of work (PO3) | Good selection of framework with proper justification; Proper time frame defined with appropriate distribution of project work. | Good selection of framework With no proper justification; Proper time frame defined but inappropriate distribution of work. | Inappropriate selection of framework with poor justification; Time frame properly defined but not followed properly; uneven distribution of work. | Wrong selection of framework with no justification; No proper time frame specified; uneven distribution of work; no team work spirit. | No Framework & justification defined; Time frame not properly defined & uneven distribution of work. |

***Table B.2.2.3a Rubrics for 1st Mid Term Evaluation for Project Work***

| | Levels of evaluation | | | | | |
|---|---|---|---|---|---|---|
| **Sr. No.** | **Parameters** | **Excellent** | **Good** | **Average** | **Partially acceptable** | **Unacceptable** |
| | Weightage % | 81-100 | 61-80 | 41-60 | 21-40 | 0-20 |
| 1 | Data collection & analysis for results (PO4) | Chooses appropriate computational/experimentation tools for Data collection; Uses tools effectively, Obtains correct solution for objectives; Results are | Chooses appropriate computational/experimentation tools for Data collection; Uses tools partially, Obtains inappropriate solution; Results are | Chooses appropriate computational/experimentation tools for Data collection; Partially collection of data, Results were not analyzed. | No proper selection of computational/experimentation tools for Data collection; Data are not collected properly, Results are not analyzed. | No computational/ experimentation tools for Data collection are used, Results are not analyzed and Incomplete work. |

| | | | | | | |
|---|---|---|---|---|---|---|
| | | analyzed properly. | analyzed to some extent. | | | |
| 2 | Application of techniques/methods (experiments/ software) (PO5) | Applied knowingly & well explained the techniques/methods used in project work. | Applied & Explained at some extent the techniques/methods used in project work. | Applied but not explained clearly about the techniques/methods used in project work. | Not applied the techniques/methods properly & not explained clearly in project work. | No techniques/methods are used in project work. |
| 3 | Relate the influence of suggested /recommended ideas/explanations (PO7) | Well understand the impact of recommendations/suggestions according to sustainable society & have proper explanations. | Understand the impact of recommendations/suggestions according to sustainable society & have proper explanations. | Understand the impact of recommendations/suggestions according to sustainable society & have some explanations. | Not understand clearly the impact of recommendations/suggestions according to sustainable society & have few explanations. | No understanding of the impact of recommendations/suggestions according to sustainable society & have no explanations. |
| 4 | Presentation skill of work with effective documentation of data/diagrams etc. (PO10) | Good Content of presentation and well arranged; Good spoken Language, Proper eye contact with audience with effective data/ diagrams. | Good content but not well arranged data; Good spoken language but poor eye contact. | Average content with satisfactory presentation & spoken language. | Content of presentation is inappropriate; eye contact with few people & un-clear voice. | Content of presentation is inappropriate with poor delivery of presentation. |

***Table B.2.2.3b Rubrics for 2nd Mid Term Evaluation for Project Work***

| Sr. No. | Parameters | Excellent | Good | Average | Partially acceptable | Unacceptable |
|---|---|---|---|---|---|---|
| | Weightage % | 81-100 | 61-80 | 41-60 | 21-40 | 0-20 |
| 1 | Project Diary (Draft copy of project work) & Final Project Report (PO10) (5 marks) | It includes all of the following: Compilation of literature; Rough sketches, calculations, observations etc.; Rough chapters of project report. The report is complete, | It includes most of the following: Compilation of literature; Rough sketches, calculations, observations etc.; Rough chapters of project report. The report is partially | It includes some of the following: Compilation of literature; Rough sketches, calculations, observations etc.; Rough chapters of project report. | It includes a very few of the following: Compilation of literature; Rough sketches, calculations, observations etc.; Rough chapters of project report. The report is | It includes none of the following: Compilation of literature; Rough sketches, calculations, observations etc.; Rough chapters of project report. The report is |

| | | | | | | |
|---|---|---|---|---|---|---|
| | | information is in logical sequence and in proper format. | complete, information is in logical sequence and in proper format. | The report is incomplete; information is not in logical sequence but in proper format. | incomplete, less Information is provided and not in proper format. | incomplete, no information is provided and not in proper format. |
| 2 | Demonstration of Project work(technical & managerial skill) (PO11) (5 marks) | Full understanding and demonstration of project with complete fulfillment of objectives and also suggest new ideas. | Full understanding and demonstration of project with partial fulfillment of objectives. | Partial understanding and demonstration of project with very few of objectives and does not make connections among ideas. | Demonstrates very little and some understanding of objectives. | No demonstration of project and no understanding of project objectives. |
| 3 | Continuous learning for improvement by the student (PO12) (5 marks) | Significant & well learnt about the project topic & have its clear clarifications. | Learnt majorly the relevant points related to project topic & have some clarifications. | Learnt moderately about the project work & have few clarification. | Learnt about the topic but not in depth. | No learning related to the topic. |
| 4 | Assess safety & environmental concerns in project work (PO6) (5 marks) | Project work is well assessed for safety and /or environmental concerns & well clarified. | Project work is well assessed for safety and /or environmental concerns & clarified. | Project work is assessed for safety and /or environmental concerns & clarified moderately. | Project work is assessed for safety and /or environmental concerns & but not clarified. | No assessment of safety and or environmental concerns in project work. |
| 5 | Function individually & within Team (PO9) (5 marks) | The team worked well together to achieve objectives. Each member contributed in a valuable way to the project. | The team worked well together most of the time, with only a few occurrences of communication failure to collaborate when necessary. | The team worked together but with many instances of occurrences of communication failure to collaborate when necessary. | The team worked together very rarely but some members work independently, without regard to objectives or priorities. | The team did not collaborate or communicate well. Some members work independently, without regard to objectives or priorities. |
| 6 | Attendance/Regularity (PO9) (10 Marks) | 81-100% attendance in all project classes | 71-80% attendance in all project classes | 60-70% attendance in all project classes | 50-61% attendance in all project classes | Below 50% attendance in all project classes |

***Table B.2.2.3c Rubrics for Evaluation by Project Guide as per performance***

Some good projects are identified each semester as per the evaluation components and parameters. A list of such projects is given below:

| S.No. | Students Name | Title | Supervisor | YEAR | PO'S MET | PSO MET |
|---|---|---|---|---|---|---|
| 1. | Shashwat Kapoor | Study of self-curing concrete using PEG-600, Super Absorbent Polymer and light weight aggregates | Ms. Surabhi | 2019-2020 | PO2, PO3, PO4, PO5, PO6,PO7,PO8,PO9,PO10 | PSO1, PSO2,PSO3 |
| 2. | Neeraj Sharma | To study the strength and infiltration characteristics of pervious concrete | Ms. Bedatraye e Saha | 2019-2020 | PO2, PO3, PO4, PO5, PO6,PO7,PO8,PO9,PO10 | PSO1, PSO2,PSO3 |
| 3. | Anish Pandit | Solar Passive Heating System | Dr. S.P. Guleria | 2020-2021 | PO2, PO3, PO4, PO5, PO6,PO7,PO8,PO9,PO10 | PSO1, PSO2,PSO3 |
| 4. | Mukesh Sharma | Seismic Analysis & Design of Boys Hostel at JNGEC Sundernagar using STAAD PRO | Ms. Bedatraye e Saha | 2020-2021 | PO2, PO3, PO4, PO5, PO6,PO7,PO8,PO9,PO10 | PSO1, PSO2,PSO3 |
| 5. | Aakanksha | Potential Application of coir geotextiles in civil Engg. | Dr. Vivek | 2021-2022 | PO2, PO3, PO4, PO5, PO6,PO7,PO8,PO9,PO10 | PSO1, PSO2,PSO3 |
| 6. | Aakanksha | Prediction of Stress-Strain & Displacement Behavoiur of Reinforced Unpaved Roads using FEM & ANN techniques | Dr. Vivek | 2021-2022 | PO2, PO3, PO4, PO5, PO6,PO7,PO8,PO9,PO10 | PSO1, PSO2,PSO3 |

***Table B.2.2.3d Identified good projects***

**Justification:** A project work assigned to students covers the following PO's.

***a) Problem Identification and their analysis***

Students identify the real engineering problem and recommend solution by analyzing these engineering problems by using different methods/technologies/methodologies etc.

***b) Environment and Sustainability Strategies***

Students use various approach /technique, which are sustainable and helpful to reduce stringent impact on environment. Effort is also to look out those studies where emphasis is given to find out economical construction practices.

**c) *Justified & verifiable conclusion***

Students perform various experiments after proper investigations and on the basis of this basis they are capable to provide the justified & verifiable conclusion. Lab studies are carried out and based on the results, justified and verifiable conclusion are worked out.

***d) Real problem solutions***

Students used different technique and all the locally available resources so that they are able to solve the engineering problem assigned to them through the project and also recommended the best solution. Students are encouraged to choose and undergo project work based on solving problems relating to solid waste management, water supply, transportation etc.

***e) Assessment***

After finding the appropriate solution students understand how this appropriate solution can contribute in the benefits of society as well as for sustainable development. The periodical assessment is carried out to monitor the progress of students.

**f) *Communication and documentation:*** All the students are required to present the project through presentations, which helps to enhance the communication skills of students. Project work as per the prescribed format and proper documentation is carried out. Students are directed to present their project works to the project assessment committee and external evaluator. This helps them to enhance their communication skill and also help them to understand the proper documentation through prepared project report.

**2.2.4. Initiatives related to industry interaction (15)**

***a) Industry supported laboratory***

Department has one nowledge center which was established by ACC Cement and Engineer/Supervisor from ACC cement used to visit in the laboratory for demonstration of processes and materials manufactured by them. ACC Ltd. has conducted training Program 'Connect Young Engineers' for students.

***b) Bentley systems***

Department has procured Bentley Academic-subscription Program of Bentley system for unlimited students subscription user of software's. Some of them are mentioned below:

* STAAD.Pro Connect Edition
* STAAD Foundation Advanced
* OpenRoads Designer
* OpenFlows WaterGEMS
* OpenFlows SewerGEMS
* Micro-station etc.

Online and offline training of these software's have been provided by Engineer and expert from Bentley system to the faculty as well as students. Two students from deptt. are appointed as a Bentley student ambassador by Bentley system to organize the training activities for students.

***c) Delivery of lectures by various industry experts***

Various industry experts used to visit the institution for sharing their technical and managerial experience with the students. Details are tabulated as given as under:

| S.No | Topic/Area | Expert name & Address | Date | Beneficial's | Relevance to PO/ PSO |
|---|---|---|---|---|---|
| 1 | New Technology & Instruments used in Survey | Mr. Mayank rana, AIMIL Ltd., Chandigarh | 6/4/2022 | 3rd & 4th year students | PO4, PO5, PO6, PSO3 |
| 2 | Rohtang Tunnel Project | Rajesh Arora, Project manager Rohtang Tunnel/ Banihal Quazigund Tunnel | 17/05/2021 | 3rd & 4th year students | PO3, PO4, PO5, PO6, PO8, PO9, PO11, PSO3 |
| 3 | Bye Laws and regulations in building planning | Er. Pradeep Thakur, Town Planner | 30/05/2021 | 2nd year students | PO3, PO6, PO11, PSO3 |
| 4 | Specifications and tender | Ms. Prerna Gautam, Junior Engineer, HPPWD Sundernagar | 18/12/2021 | 4th year students | PO6, PO8, PO9, PO11, PO 12, PSO3 |
| 5 | Construction and Infrastructure Engineering and Management | Dr. Mohammad Najafi, Associate Professor Dept. of Civil Engineering, at the University of Texas at Arlington, USA. | 18/12/2021 | 3rd & 4th year students | PO3, PO5, PO6, PO7, PO9, PO11, PO12, PSO3 |
| 6 | Solar Energy Initiative | Dr. Vikrant Sharma, Deputy Director, National Institute of Solar Energy, Gurgaon | 06/10/2020 | 3rd & 4th year students | PO3,PO5,PO7, PSO |
| 7 | Durability of Concrete | Mr. Vikrant Malhotra, GM Technical, JK Cement | 29/08/2020 | 3rd & 4th year students | PO3,PO5,PO7, PSO3 |
| 8 | Webinar on Landslide Monitoring by using sensor & wireless Technique | Dr. Uday Kala, Assistant Professor, School of Engg., IIT Mandi | 18/06/2020 | 4th year students | PO2, PO3, PO4, PO5, PSO3 |

***Table B.2.2.4a Industry experts lectures***

***Impact Analysis of industry institute interaction:***

Feedback is taken from the participants of the interaction/ lecture for analysing its relevance and having idea about its impact on students.

| **Webinar on Solar Energy Initiatives on 06/10/2020** | | | |
|---|---|---|---|
| **No of Participants: 74** | | | |
| **Questionnaire for Feedback:** | **Was the webinar relevant?** | **How would you rate the content of the webinar?** | **How would you rate the overall webinar experience?** |
| **Rating:** | 4: Excellent 3: Good 2: Average 1. Poor | | |
| **Overall feedback:** | 79% | 82% | 79% |

***Table B.2.2.4b Sample Feedback Analysis***

**2.2.5. Initiatives related to industry internship/summer training (15)**

Students are deputed to undergo industrial training of 4-6 weeks in industries of repute. The students choose and work in projects of different organizations which help them to observe and learn the practical applications in real life. The training supervisor in the organization observe the performance of the students and evaluate their progress and learning through a prescribed performa.

The following emphasis is given in the industrial training:

- Correlating the practical aspect with theoretical knowledge gained in the classroom teaching.
- Gaining new technical and managerial skills for conduct of any task/project.
- Realization of importance of the subject courses to industry and society.
- Assessment of practical situations during the project work.
- Management and planning of work.
- Learning of ethics, conduct, discipline, and regulations.
- Leadership skills
- Handling projects/tasks independently
- Students undergo training in reputed organizations (some of the mentioned in table)

**SESSION: 2021-2022 INDUSTRIAL TRAINING (SUMMERS 2021)**
**B.TECH CE (BATCH 2018-22)**

| S. No | Name of Students | Roll No | Industrial Training Organization | Details of work assigned at training | From |
|---|---|---|---|---|---|
| 1 | AADARSH | 18BT010101 | HPPWD MANDI | Bridge construction | June -July 2021 |
| 2 | AAKANKSHA | 18BT010102 | HPPWD KULLU DIVISION | Construction Management and Execution of a Building Project | June -July 2021 |
| 3 | AARTI | 18BT010103 | IIM SIRMOUR | Construction Management and execution of a building at IIM Simour | June -July 2021 |
| 4 | ABHINAV MINHAS | 18BT010104 | NIT HAMIRPUR | Groundwater flow modeling using Visual Modflow Flex software | June -July 2021 |
| 5 | ABHISHEK THAKUR | 18BT010105 | AGGARWALSONS ENGINEERS & GOVT. BULIDERS, CHANDIGARH | Construction management and execution of a building project. | June -July 2021 |
| 6 | AKSHAT GUPTA | 18BT010106 | HPPWD SHIMLA | Construction and execution of a building project at IGMC SHIMLA | June -July 2021 |
| 7 | AMAN DEEP | 18BT010107 | KNOW HOW SCHOOLS | Studying about on-site execution of RCC members as well as management part. | June -July 2021 |
| 8 | ANIKET JAMWAL | 18BT010109 | HPPWD MANDI | Construction management and execution of a building project. | June -July 2021 |
| 9 | ANSHUMAN SHARMA | 18BT010110 | HPPWD DIVISION BASSI - BHORANJ | Construction Management and Execution of a Building Project | June -July 2021 |
| 10 | ARJU | 18BT010111 | KNOW HOW SCHOOLS | Studying about on-site execution of RCC members as well as management part | June -July 2021 |

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| 11 | ARYAN ATTRI | 18BT010112 | SJVN DHEP HAMIRPUR | Construction management and execution of a building project. | June -July 2021 |
| 12 | CHANDER SEN | 18BT010114 | NKC PROJECTS (P.) LTD. | Balanced cantilever bridge & highway construction | June -July 2021 |
| 13 | CHETAN KUMAR | 18BT010115 | HPPWD DIVISION 2, MANDI | Construction management and execution of a building project. | June -July 2021 |
| 14 | DEEPAK | 18BT010116 | HPPWD MANDI | Bridge construction | June -July 2021 |
| 15 | DIVYANSH | 18BT010117 | HPPCL, BBMB COLONY, SUNDERNAGAR | Designing of Structures associated with Shongtong project | June -July 2021 |
| 16 | JAGRITI ARORA | 18BT010118 | HPPWD DIVISION KULLU | Construction management and execution of a building project. | June -July 2021 |
| 17 | JATAN THAKUR | 18BT010119 | KNOW HOW SCHOOLS | Studying about on-site execution of RCC member as well as management part | June -July 2021 |
| 18 | KARAN KUMAR | 18BT010120 | HPPWD DIVISION -3 SHIMLA. | Construction and execution of a building project at IGMC SHIMLA | June -July 2021 |
| 19 | KRANTI VEER SINGH | 18BT010121 | HPPCL, BBMB COLONY, SUNDERNAGAR | Designing of Structures associated with Shongtong project | June -July 2021 |
| 20 | LOVE PULKIT | 18BT010122 | H.P.P.W.D. SUB DIVISION KOTLA, DIVISION JAWALI | Retaining and boundary wall construction | June -July 2021 |
| 21 | MADHUSUDAN | 18BT010123 | HPPWD SUNDERNAGAR | Construction management and execution of a building project | June -July 2021 |
| 22 | MANISH | 18BT010124 | HPPWD, B&R DIVISION HAMIRPUR | Construction management and execution of a building project | June -July 2021 |
| 23 | MANISH KUMAR | 18BT010125 | HPPCL, BBMB COLONY, SUNDERNAGAR | Designing of Structures associated with Shongtong project | June -July 2021 |
| 24 | MUSKAN | 18BT010126 | S.J.V.N. SHIMLA | Basics of Hydropower Project | June -July 2021 |
| 25 | NITIN | 18BT010127 | SJVN SHIMLA | Basics of hydropower projects | June -July 2021 |
| 26 | PANKAJ DHALARIA | 18BT010128 | HPPWD, B&R DIVISION, HAMIRPUR | Construction management and execution of a buliding project | June -July 2021 |
| 27 | PIYUSH KAUNDAL | 18BT010129 | HPPWD OFFICE, RAMPUR BUSHAHAR | Construction and development of roads | June -July 2021 |
| 28 | PRASHANT CHAMBYAL | 18BT010130 | NIT HAMIRPUR | Mapping using QGIS software | June -July 2021 |
| 29 | PRASHANT DHIMAN | 18BT010131 | ENNOVATE SKILL, CHANDIGARH | Learning a software 3D design and simulation with fusion | June -July 2021 |
| 30 | PRERNA CHAUHAN | 18BT010132 | KNOW HOW SCHOOLS | Studying about on-site execution of RCC member as well as management part | June -July 2021 |

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| 31 | PRINCE KUMAR | 18BT010133 | HPPWD JOGINDER NAGAR | Construction management and execution of building project | June -July 2021 |
| 32 | PRITAM KUMAR | 18BT010134 | BBMB SUB DIVISION BAGGI | Road construction | June -July 2021 |
| 33 | RAHUL SHARMA | 18BT010135 | CAD DESK, JAIPUR | Revit architecture | June -July 2021 |
| 34 | RAHUL THAKUR | 18BT010136 | HPPWD SUNDERNAGAR | Construction management and execution of a building project | June -July 2021 |
| 35 | RAHUL THAKUR | 18BT010137 | CAD DESK, SUNDERNAGAR | Revit architecture | June -July 2021 |
| 36 | RAKSHA SHARMA | 18BT010138 | HP PWD SUNDERNAGAR | Construction Management and Execution of a Building Project. | June -July 2021 |
| 37 | RISHAV | 18BT010139 | RADOS ENGINEERING | AutoCAD | June -July 2021 |
| 38 | RITIN DOGRA | 18BT010140 | HPPWD, B&R DIVISION, HAMIRPUR H.P | Construction Management and Execution of a Building Project | June -July 2021 |
| 39 | RITISH CHOUDHARY | 18BT010141 | CAD DESK JAIPUR | Revit architecture | June -July 2021 |
| 40 | RITULESH MOHAN | 18BT010142 | HPPWD DIVISION -3 SHIMLA. | Construction and execution of a building project at IGMC Shimla | June -July 2021 |
| 41 | ROHIT THAKUR | 18BT010143 | HPPWD DIVISION SUNDERNAGAR | Construction management and execution of a building project | June -July 2021 |
| 42 | RUBEEN KUMAR | 18BT010144 | NKC PROJECTS (P.) LTD. | Balanced cantilever bridge & highway construction | June -July 2021 |
| 43 | SAHIL KUMAR | 18BT010145 | KNOW HOW SCHOOLS | Studying about on-site execution of RCC members as well as management part. | June -July 2021 |
| 44 | SAKSHAM RANA | 18BT010146 | KNOW HOW SCHOOLS | Studying about on-site execution of RCC members as well as management part. | June -July 2021 |
| 45 | SAKSHAM THAKUR | 18BT010147 | HPPWD, BILASPUR | Construction Management and Execution of a Building Project. | June -July 2021 |
| 46 | SAURABH | 18BT010148 | HPPWD DIVISION BILASPUR | Construction management and execution of building project | June -July 2021 |
| 47 | SHIVANG RATTAN | 18BT010149 | CAD DESK, JAIPUR | Revit architecture | June -July 2021 |
| 48 | SHUBHAM KHEUTA | 18BT010150 | KNOW HOW SCHOOLS | Studying about on-site execution of RCC members as well as management part. | June -July 2021 |
| 49 | SHUBHAM SHARMA | 18BT010151 | KNOW HOW SCHOOLS | Studying about on-site execution of RCC members as well as management part. | June -July 2021 |
| 50 | SONAM ROHAUN | 18BT010152 | KNOW HOW SCHOOLS | Studying about on-site execution of RCC members as well as management part. | June -July 2021 |
| 51 | SOURAV KUMAR | 18BT010153 | SJVN SHIMLA | Basics of hydropower project | June -July 2021 |
| 52 | TAMNNA | 18BT010155 | SJVN SHIMLA | Basics of hydropower project | June -July 2021 |
| 53 | TANVI CHAUHAN | 18BT010156 | SJVN SHIMLA | Basics of hydropower project | June -July 2021 |

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| 54 | TANYA THAKUR | 18BT010157 | NAVAYUGA ENGINEERING COMPANY | Detail on Banihal Quazigund Tunnel, Layout of Tunnel, Method of construction, importance of Ventilation System, Challenges during construction etc. | June -July 2021 |
| 55 | TRANNUM | 18BT010158 | HPPWD DIVISION JAISINGHPUR | Construction management and execution of a Building Project. | June -July 2021 |
| 56 | VAIBHAV SHARMA | 18BT010159 | HPPWD SUB DEVISION BHARWAIN | Construction and development of roads | June -July 2021 |
| 57 | VAIBHAV THAKUR | 18BT010160 | HPPWD SUB DIVISION-LLL MANDI | Construction Management and Execution of a Building Project. | June -July 2021 |
| 58 | VIBHUM AHLUWALIA | 18BT010161 | PK CONSTRUCTION SHIMLA | Construction Management and Execution of a Building Project | June -July 2021 |
| 59 | VIJENDER SINGH | 18BT010162 | HPPWD SUNDERNAGAR | Construction Management and Execution of a Building Project. | June -July 2021 |
| 60 | VISHAL SHARMA | 18BT010163 | SJVN DHEP HAMIRPUR | Construction management | June -July 2021 |
| 61 | MRIDUL | 1901012001 | HPPWD SUNDERNAGAR | Construction Management and Execution of a Building Project. | June -July 2021 |
| 62 | PINKY DEVI | 1901012002 | HPPWD SUB-DIVISION - I CHAMBA (HP) | Construction Management & Execution of a Building Project | June -July 2021 |
| 63 | ROOP KUMAR | 1901012003 | HPPWD SUNDERNAGAR | Construction management and execution of a building project | June -July 2021 |
| 64 | SANDEEP | 1901012004 | NKC PROJECTS (P.) LTD. | Balanced cantilever bridge & highway construction | June -July 2021 |
| 65 | SUMAN SHARMA | 1901012005 | HPPWD SUNDERNAGAR | Construction Management and Execution of a Building Project. | June -July 2021 |
| 66 | VINAY KUMAR | 1901012006 | HPPWD SUNDERNAGAR | Construction Management and Execution of a Building Project. | June -July 2021 |

***Table B.2.2.5a***

**SESSION: 2021-2022 (Even Sem)**
**INDUSTRIAL PROJECT B.TECH CE (BATCH 2018-22)***

| S. No | Name of Students | Roll No | Industrial Training Organization | Details of work assigned at training | Period |
|---|---|---|---|---|---|
| 1 | AADARSH | 18BT010101 | HPPWD | Bridge construction work | March– May 2022 |
| 2 | AARTI | 18BT010103 | CBRI ROORKEE | Flexural Strengthening of RC Corroded Beams Using External FRP Composites and Use of Artificial Intelligence to Predict New Model | March– May 2022 |
| 3 | ABHINAV MINHAS | 18BT010104 | NIT HAMIRPUR | Mapping and groundwater modelling of a study area using ArcGIS, Surfer and Visual Modflow Flex. | March– May 2022 |
| 4 | ABHISHEK THAKUR | 18BT010105 | MICKY CONSTRUCTION | Buildings construction | March– May 2022 |
| 5 | ANIKET JAMWAL | 18BT010109 | PWD SUNDERNAGAR . | Constructional Buildings | March– May 2022 |

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| 6 | ANSHUMAN SHARMA | 18BT010110 | AMBIKA REALCON DEVELOPERS | Construction work | March–May 2022 |
| 7 | ARYAN ATTRI | 18BT010112 | SJVN | Dam construction | March–May 2022 |
| 8 | CHETAN KUMAR | 18BT010115 | PWD SUNDER NAGAR | Building Construction | March–May 2022 |
| 9 | DEEPAK | 18BT010116 | HPPWD | Bridge construction work | March–May 2022 |
| 10 | DIVYANSH | 18BT010117 | SATLUJ JAL VIDYUT NIGAM LIMITED (SJVN LTD.) | Civil Designs Hydro Power Project | March–May 2022 |
| 11 | KRANTI VEER SINGH | 18BT010121 | HPPWD SUNDERNAGAR | Building construction work | March–May 2022 |
| 12 | LOVE PULKIT | 18BT010122 | HPPWD | Road Construction | March–May 2022 |
| 13 | MADHUSUDAN | 18BT010123 | ITM | Construction of buildings | March–May 2022 |
| 14 | MANISH KUMAR | 18BT010124 | HPPWD HAMIRPUR | In-house industrial project | March–May 2022 |
| 15 | MANISH KUMAR | 18BT010125 | AMBIKA REALCON DEVELOPERS | Construction | March–May 2022 |
| 16 | NITIN THAKUR | 18BT010127 | SJVN SHIMLA | Construction and finance management department | March–May 2022 |
| 17 | PANKAJ DHALARIA | 18BT010128 | HP PWD HAMIRPUR | In-house industrial project | March–May 2022 |
| 18 | PRERNA CHAUHAN | 18BT01032 | CSIR-CBRI ROORKEE | Shear strengthening of RC beams using external FRP composites and using AI to predict new mode | March–May 2022 |
| 19 | PRINCE KUMAR | 18BT010133 | HPPWD SUNDERNAGAR | Building Construction | March–May 2022 |
| 20 | PRITAM KUMAR | 18BT010134 | PWD SUNDERNAGAR | Building construction | March–May 2022 |
| 21 | RAHUL SHARMA | 18BT010135 | SATLUJ JAL VIDYUT NIGAM (SJVN) | Dhaula Sidh Hydroelectric Project | March–May 2022 |
| 22 | RISHAV | 18BT010139 | ITM | Building construction | March–May 2022 |
| 23 | RITIN DOGRA | 18BT010140 | MICKEY CONSTRUCTIONS | Building construction | March–May 2022 |
| 24 | RITISH CHOUDHARY | 18BT010141 | SJVN LTD | Hydroelectric project | March–May 2022 |
| 25 | RITULESH MOHAN | 18BT010142 | SJVN LTD | Hydroelectric Project | March–May 2022 |
| 26 | RUBEEN KUMAR | 18BT010144 | HPPWD KULLU | Building construction | March–May 2022 |
| 27 | SHIVANG RATTAN | 18BT010149 | SJVN LTD. | Hydropower Project | March–May 2022 |
| 28 | SONAM ROHAUN | 18BT010152 | CBRI ROORKEE | Parametric Study of RC Structures constructed prior to Code Guidelines and their Retrofitting by RCC Jacketing Using E-Tabs | March–May 2022 |

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| 29 | SOURAV KUMAR | 18BT010153 | CBRI ROORKEE | Enhancement of load carrying capacity of columns using FRP sheets | March–May 2022 |
| 30 | TAMNNA | 18BT010155 | CBRI ROORKEE | Lifetime performance prediction of RC Structures in corrosion situation | March–May 2022 |
| 31 | TANVI CHAUHAN | 18BT010156 | HPPCL | Shongtong Karchham hydroelectric project | March–May 2022 |
| 32 | VAIBHAV SHARMA | 18BT010159 | SJVN | Hydro power plant | March–May 2022 |
| 33 | VAIBHAV THAKUR | 18BT010160 | HPPWD MANDI | Building construction | March–May 2022 |
| 34 | VIBHUM AHLUWALIA | 18BT010161 | PK CONSTRUCTION | Building Construction | March–May 2022 |
| 35 | VISHAL SHARMA | 18BT010163 | SJVNL | Hydro-Electric Power Project Construction | March–May 2022 |
| 36 | SANDEEP | 1901012004 | HPPWD KULLU | Building construction | March–May 2022 |

***Table B.2.2.5b***

**SESSION: 2020-2021 (SUMMERS 2020)**
**INDUSTRIAL TRAINING B.TECH CE (BATCH 2017-21)**

| S. No | Name of Students | Roll No | Industrial Training Organization | Details of work assigned at training | From |
|---|---|---|---|---|---|
| 1 | AAKASH DHIMAN | 17BT010101 | HPPWD SUNDERNAGAR | Construction of cluster University | July – Aug 2020 |
| 2 | ABHISHEK | 17BT010102 | H.P.PWD HAMIRPUR | Construction of chief residence and construction of warehouse building | July – Aug 2020 |
| 3 | ABHISHEK CHANDEL | 17BT010103 | HPPWD MANDI | Sanskriti Sadan at Motipur Mandi | July – Aug 2020 |
| 4 | ADITYA GUPTA | 17BT010104 | HPPWD SUNDERNAGAR | Cluster university MLSM college Sundernagar | July – Aug 2020 |
| 5 | ADITYA SHARMA | 17BT010105 | HPPWD MANDI | Himachal Fire Services, Fire Station Mandi | July – Aug 2020 |
| 6 | AJAY KUMAR | 17BT010106 | HPPWD MANDI | Himachal Fire Services, Fire Station Mandi | July – Aug 2020 |
| 7 | AKSHIK SHARMA | 17BT010107 | HPPWD(B&R), BHADERWAR | Road construction, estimation of road work, etc. | July – Aug 2020 |
| 8 | AMAN KUMAR | 17BT010108 | H.P.P.W.D. TIHRA | Estimation of works, Ongoing work of building and surverying . | July – Aug 2020 |
| 9 | AMIT VIKRAM BHARDWAJ | 17BT010109 | HP.PWD, REHAN. | Construction of Government Women Polytechnic at Rehan. | July – Aug 2020 |
| 10 | ANIL KUMAR | 17BT010110 | HPPWD HAMIRPUR | Construction of residence for Chief Engineer and for others at Hamirpur AND Construction of warehouse for Electronic Voting Machines at Anu | July – Aug 2020 |
| 11 | ANISH PANDIT | 17BT010111 | HP PWD SAMIRPUR | Estimation and design of various Structures and rigid pavements, Surveying and marking the alignment of a link road to village Tikkri, | July – Aug 2020 |

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| | | | | Layout of foundation of a residential building. | |
| 12 | ANITA VERMA | 17BT010112 | RAMPUR HEP, SJVNL, BAYAL, KULLU | Construction of boundary wall in RHPS Colony Duttnagar, Construction of ladies club in RHPS Colony Duttnagar, Addition and alteration to SJVN DAV Public School, Duttnagar at RHPS Colony Duttnagar, etc. | July – Aug 2020 |
| 13 | ARPIT SHARMA | 17BT010113 | H. P. P. W. D. GHUMARWIN | Accommodation for D. A., dy. D. A. And public prosecutor at ghumarwin | July – Aug 2020 |
| 14 | AYUSH GAURAV | 17BT010114 | HPPWD DHARAMSHALA | Construction of type 4 CMO quarter at Dharamshala and CM meeting Hall at circuit house( rest house) dharamshala. | July – Aug 2020 |
| 15 | BHUVNESH SHARMA | 17BT010115 | H.P.P.W.D HAMIRPUR | Construction of ware house building at Hiranagar and construction of Chief residence near Hamir Hotel Hamirpur | July – Aug 2020 |
| 16 | CHANDESH PALSARA | 17BT010116 | HIMACHAL PRADESH PUBLIC WORKS DEPARTMENT | Sanskriti Sadan at Motipur Mandi HP | July – Aug 2020 |
| 17 | DIKSHA CHAUDHARY | 17BT010117 | HPPWD DIVISION SUNDERNAGAR | Cluster University MLSM Sundernagar | July – Aug 2020 |
| 18 | DIVYANSHI | 17BT010118 | HPPWD SUB DIVISION TANDA | C/o centre of excellence in mental health,MBBS hostel and office work | July – Aug 2020 |
| 19 | INDU SHEKHAR | 17BT010119 | HPPWD (B&R) , DIVISION UNA | Construction of Mother and Child Hospital Building ,Una(H.P.) | July – Aug 2020 |
| 20 | KARTIK SEN | 17BT010120 | HPPWD DIVISION SUNDERNAGAR | Cluster University MlSM Sundernagar | July – Aug 2020 |
| 21 | KARTIKEY S SEN | 17BT010121 | NHPC, NAGWAIN, MANDI | Construction of 2 security huts and mess ,SFT tunnel and fencing around dam | July – Aug 2020 |
| 22 | KHUSHWANT SINGH | 17BT010122 | HPPWD, KARSOG | Construction of ITI Karsog Building and GSSS Karsog Building | July – Aug 2020 |
| 23 | MANAY SHARMA | 17BT010123 | HPPWD BHAWARNA | 10250m span bridge over Neugal khad and Degree college, Naura | July – Aug 2020 |
| 24 | MANISH KAUSHAL | 17BT010124 | HPPWD SUNDERNAGAR | Cluster university MLSM at Sunder Nagar | July – Aug 2020 |
| 25 | MANTHAN SHARMA | 17BT010125 | HPPWD BHARWAIN | Construction of road | July – Aug 2020 |
| 26 | MUHAMMAD FAROOQ | 17BT010126 | HPPWD MANDI | Building construction (CHC Kataula) | July – Aug 2020 |
| 27 | MUKESH SHARMA | 17BT010127 | HPPWD RAMPUR | C/O Trauma Center building at MGMSC khaneri Rampur | July – Aug 2020 |
| 28 | MUKUL THAKUR | 17BT010128 | HPPWD MANDI | Himachal fire services,fire station mandi HP | July – Aug 2020 |

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| 29 | NARESH KUMAR | 17BT010129 | HPPWD SHIMLA | Construction of ayurvedic office and nabha colony | July – Aug 2020 |
| 30 | NIKHIL | 17BT010130 | HPPWD NAGROTA BAGWAN | Road and building construction | July – Aug 2020 |
| 31 | NIKHIL KUMAR | 17BT010131 | HPPWD TANDA | Road & Building construction | July – Aug 2020 |
| 32 | NIRMAL THAKUR | 17BT010132 | HPPWD BHORANJ | Estimation of building, retaining walls, survey of site proposed for the construction of PWD staff | July – Aug 2020 |
| 33 | NITIN KUMAR | 17BT010133 | HPPWD KUNIHAR, ARKI | Construction of Roads, Retaining walls, Slab culverts and other Buiding works | July – Aug 2020 |
| 34 | NITIN THAKUR | 17BT010134 | HPPWD SUNDERNAGAR | Construction at Cluster university MLSM snr. | July – Aug 2020 |
| 35 | POONAM | 17BT010135 | HPPWD TAUNI DEVI | Mini secretariate at Sujanpur and Pung Khad Bridge on Hamirpur Sujanpur road | July – Aug 2020 |
| 36 | PRIYANKA CHAUDHARY | 17BT010136 | HPPWD SUNDERNAGAR | Cluster University MLSM Sundernagar | July – Aug 2020 |
| 37 | PRIYANKA KUMARI | 17BT010137 | HPPWD SUNDER NAGAR | Cluster University MLSM Sunder Nagar | July – Aug 2020 |
| 38 | RACHITA GUPTA | 17BT010138 | NATHPA JHAKRI HYDRO POWER STATION, JHAKRI | Office Building Construction and Maintenance work of Nursery. | July – Aug 2020 |
| 39 | RAHUL | 17BT010139 | HPPWD KALPA DIVISION | Construction of A-type quarter and foundation at jnv reckong peo | July – Aug 2020 |
| 40 | RAHUL | 17BT010140 | HPPWD RAMPUR | Construction Of Trauma Center at MGMSC Khaneri, Rampur and making of cross section in graphical way of road from rajpura to ratanpur | July – Aug 2020 |
| 41 | RAHUL GULERIA | 17BT010141 | HPPWD, DIVISION-FATEHPUR | Construction of Government Women Polytechnic, RehaN | July – Aug 2020 |
| 42 | RAHUL THAKUR | 17BT010142 | HIMUDA SARKAGHAT | Construction of car parking lot | July – Aug 2020 |
| 43 | RAJAT SEN | 17BT010143 | NHPC FARIDABAD, HARYANA | Dam Construction | July – Aug 2020 |
| 44 | ROHIT CHANDEL | 17BT010144 | HPPWD SHIMLA | Armsdale Phase-3 | July – Aug 2020 |
| 45 | ROHIT THAKUR | 17BT010145 | HPPWD MANDI | Sanskriti sadan | July – Aug 2020 |
| 46 | RUCHIT CHAUHAN | 17BT010146 | HPPWD DHAMI | Govt. Senior sec. School chanawag, dargi dishti road, ITI Building dargi. | July – Aug 2020 |
| 47 | SAHIL MEHRA | 17BT010147 | HPPWD SHIMLA | Armsdale Phase-3 Sectrate Chotta Shimla | July – Aug 2020 |
| 48 | SAHIL SHARMA | 17BT010148 | HPPWD UNA | Construction of Mother and Child Hospital Building at Una | July – Aug 2020 |
| 49 | Saurabh | 17BT010149 | HPPWD MANDI | Construction of Sanskriti sadan, motipur, mandi | July – Aug 2020 |

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| 50 | SHAGUN SHARMA | 17BT010150 | HPPWD GAGRET UNA | Construction of link road, understanding of estimation of buildings and roads | July – Aug 2020 |
| 51 | SHIVANGI CHOUDHARY | 17BT010152 | HPPWD KARSOG | Construction of gsss karsog building and ITI building at karsog | July – Aug 2020 |
| 52 | SHIVANSH BHARDWAJ | 17BT010153 | HPPWD GHUMARWIN | Accommodation for ADA, Dy. DA and Public Prosecutor at Ghumarwin (C/O Building Portion) and Road Estimation. | July – Aug 2020 |
| 53 | SIMANK CHANDEL | 17BT010154 | HPPWD KULLU | C/O subway at section of NH-21 of kullu Manali road | July – Aug 2020 |
| 54 | SOURAV KUMAR RANA | 17BT010155 | HPPWD JAWALAMUKHI | Buildings and Roads Construction | July – Aug 2020 |
| 55 | SUBHAM KAUSHAL | 17BT010156 | HPPWD SARKAGHAT | Road construction | July – Aug 2020 |
| 56 | SUMIT PATHAK | 17BT010157 | HPPWD SARKAGHAT | Road Construction | July – Aug 2020 |
| 57 | SUNIDHI THAKUR | 17BT010158 | HPPWD JOGINDERNAGAR | Construction of 180m span bridge over river Beas at Sandha Pattan | July – Aug 2020 |
| 58 | TANAM SWARUP MAHAJAN | 17BT010159 | HPPWD SUB-DIVISION DHAMI | Construction work of Sr. Sec. School Chanawag Building, Construction of Retaining wall in Dargi - Dishtti Road, Construction & Finishing work of ITI Dargi | July – Aug 2020 |
| 59 | YASHWANT SINGH | 17BT010161 | HPPWD MANDI | Construction of Sanskriti Sadan at Motipur, Mandi | July – Aug 2020 |
| 60 | SACHIN SHARMA | 17BT040144 | HPPCL, SUNDERNAGAR | Hydraulic design of Barrage of Sainj Hydroelectric Project | July – Aug 2020 |
| 61 | AKSHAY GAUTTAM | 18BTL010101 | H.P.P.W.D. DIVISION BHORANJ | Estimation of structures | July – Aug 2020 |
| 62 | AMIT KUMAR | 18BTL010102 | HIMACHAL PRADESH PUBLIC WORKS DEPARTMENT | Various roads under bangana sub division | July – Aug 2020 |
| 63 | DEVSHRI VATS | 18BTL010103 | IPH /JAL SHAKTI DIVISION SUNDERNAGAR | Study of water supply scheme for rural and urban area | July – Aug 2020 |
| 64 | HARSHLATA SHARMA | 18BTL010104 | JAL SHAKTI VIBHAG | Construction of water treatment plant at Roda Nallah | July – Aug 2020 |
| 65 | NIKHIL | 18BTL010106 | HPPWD GHUMARWIN | Accommodation for ADA, dy. Da & public prosecutor at ghumarwin & road estimation | July – Aug 2020 |
| 66 | PRIYA | 18BTL010107 | IPH DEPARTMENT SUNDERNAGAR | Study of water supply scheme of rural and urban area | July – Aug 2020 |
| 67 | RAJESHWAR PRASHAR | 18BTL010108 | HPPWD GOHAR | Construction of road. | July – Aug 2020 |
| 68 | ROHIT SHARMA | 18BTL010109 | JAL SHAKTI VIBHAG, THEOG, SHIMLA | Project of water supply scheme through lift to Theog town | July – Aug 2020 |

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| 69 | ROHIT SHARMA | 18BTL010110 | H.P.P.W.D SUB DIVISION RAJGARH DISTT. SIRMAUR | Periodical Renewal Coat on Solan-Rajgrah road under P.M.G.S.Y road | July – Aug 2020 |
| 70 | SUNAINA KUMARI | 18BTL010111 | IPH (JAL SHAKTI VIBHAG) SUNDERNAGAR | Study of water supply scheme of rural and urban area | July – Aug 2020 |
| 71 | SUNNY KUMAR | 18BTL010112 | HPPWD UNA | Construction of govt. Degree college at khad (Panjawar) Distt. Una hp | July – Aug 2020 |
| 72 | SAKSHI GAUTAM | 18BTL030109 | IPH DEPARTMENT SUNDERNAGAR | Study of water supply scheme of rural as well as urban area . | July – Aug 2020 |

***Table B.2.2.5c***

**SESSION: 2020-2021 (Even Sem)**

**INDUSTRIAL PROJECT B.TECH CE (BATCH 2017-21)***

| S. No | Name of Students | Roll No | Industrial Training Organization | Details of work assigned | Period |
|---|---|---|---|---|---|
| 1 | AAKASH DHIMAN | 17BT010101 | NHAI, PIU, MANDI HP | Highway construction | Feb-May 2021 |
| 2 | ABHISHEK | 17BT010102 | NHAI, PIU, MANDI HP | Highway construction | Feb-May 2021 |
| 3 | ABHISHEK CHANDEL | 17BT010103 | NKC PROJECTS PVT. LTD, BAJAURA , BHUNTER | Highway construction | Feb-May 2021 |
| 4 | ADITYA GUPTA | 17BT010104 | NHAI, PIU, MANDI HP | Highway construction | Feb-May 2021 |
| 5 | ADITYA SHARMA | 17BT010105 | SCHOOL OF ENGINEERING IIT MANDI HP | Research project | Feb-May 2021 |
| 6 | AJAY KUMAR | 17BT010106 | AFCON INFRASTRUCTURE PVT LTD. TAKOLI PROJECT | Highway construction | Feb-May 2021 |
| 7 | AKSHIK SHARMA | 17BT010107 | ELEATION | Software Ansys | Feb-May 2021 |
| 8 | ANISH PANDIT | 17BT010111 | SJVN LTD. SHANAN SHIMLA | Hydro power project | Feb-May 2021 |
| 9 | ANITA VERMA | 17BT010112 | SJVN LTD. SHANAN SHIMLA | Hydro power project | Feb-May 2021 |
| 10 | AYUSH GAURAV | 17BT010114 | SJVN LTD. SHANAN SHIMLA | Hydro power project | Feb-May 2021 |
| 11 | BHUVNESH SHARMA | 17BT010115 | NAGARJUNA CONSTRUCTION COMPANY AIIMS KOTHIPURA | AIIMS Bilaspur building and campus construction | Feb-May 2021 |

| | | | | | |
|---|---|---|---|---|---|
| 12 | CHANDESH PALSARA | 17BT010116 | SCHOOL OF ENGINEERING IIT MANDI | Research project | Feb-May 2021 |
| 13 | DIKSHA CHAUDHARY | 17BT010117 | DINESH KUMAR SHARMA CONSTRUCTION PVT. LTD, MANDI | Building construction | Feb-May 2021 |
| 14 | INDU SHEKHAR | 17BT010119 | UNIPRO ENGINEERS & CONTRACTORS, AMBALA CANTT | Highway construction | Feb-May 2021 |
| 15 | KARTIK SEN | 17BT010120 | NHAI, PIU,MANDI HP | Highway construction | Feb-May 2021 |
| 16 | KARTIKEY S SEN | 17BT010121 | NHAI, PIU,MANDI HP | Highway construction | Feb-May 2021 |
| 17 | KHUSHWANT SINGH | 17BT010122 | ELEATION | CAE software | Feb-May 2021 |
| 18 | MANISH KAUSHAL | 17BT010124 | NKC PROJECTS PVT. LTD, BAJAURA , BHUNTER, | Highway construction | Feb-May 2021 |
| 19 | NIRMAL THAKUR | 17BT010132 | NHAI, RISHIKESH SADAN, SHIMLA HP | Highway construction | Feb-May 2021 |
| 20 | PRIYANKA CHOUDHARY | 17BT010136 | DKS Construction | Building construction | Feb-May 2021 |
| 21 | PRIYANKA KUMARI | 17BT010137 | DKS Construction | Building construction | Feb-May 2021 |
| 22 | RACHITA GUPTA | 17BT010138 | SJVN LTD. SHANAN, SHIMLA | Hydro power project | Feb-May 2021 |
| 23 | RAHUL GULERIA | 17BT010141 | NAGARJUNA CONSTRUCTION COMPANY AIIMS KOTHIPURA | AIIMS Bilaspur building and campus construction | Feb-May 2021 |
| 24 | RAHUL THAKUR | 17BT010142 | HIMUDA KUSUMPTI, SHIMLA | Research project | Feb-May 2021 |
| 25 | ROHIT CHANDEL | 17BT010144 | SJVN LTD. SHANAN SHIMLA | Hydro power project | Feb-May 2021 |
| 26 | Rohit thakur | 17BT010145 | SCHOOL OF ENGINEERING IIT MANDI | Research project | Feb-May 2021 |
| 27 | SAHIL MEHRA | 17BT010147 | KUTHIALA CONSTRUCTION PVT LTD. SANJAULI, SHIMLA | Hospital construction | Feb-May 2021 |
| 28 | SAHIL SHARMA | 17BT010148 | UNIPRO ENGINEERS & CONTRACTORS AMBALA CANTT | Highway construction | Feb-May 2021 |

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|---|---|---|---|---|---|
| 29 | SAURABH | 17BT010149 | SCHOOL OF ENGINEERING, IIT, MANDI | Research project | Feb-May 2021 |
| 30 | SHIVANGI CHOUDHARY | 17BT010152 | DINESH KUMAR SHARMA CONSTRUCTION PVT. LTD, MANDI | Building construction | Feb-May 2021 |
| 31 | SIMANK CHANDEL | 17BT010154 | NKC PROJECTS PVT. LTD, BAJAURA , BHUNTER, | Highway construction | Feb-May 2021 |
| 32 | SUNIDHI THAKUR | 17BT010158 | DINESH KUMAR SHARMA CONSTRUCTION PVT. LTD MANDI | Building construction | Feb-May 2021 |
| 33 | TANAM SWARUP MAHAJAN | 17BT010159 | SJVN LTD. SHANAN SHIMLA | Hydro power project | Feb-May 2021 |
| 34 | YASHWANT SINGH | 17BT010161 | ELEATION | CAE software | Feb-May 2021 |
| 35 | DEVSHRI VATS | 18BTL010103 | OMNI PACIFIC COLONIZERS PVT LTD. GREATER MOHALI | Residential building flats construction | Feb-May 2021 |
| 36 | HARSHLATA SHARMA | 18BTL010104 | JLPL Mohali | Residential building flats construction | Feb-May 2021 |
| 37 | SUNAINA KUMARI | 18BTL010111 | SJVN LTD. SHANAN SHIMLA | Hydro power project | Feb-May 2021 |

***Table B.2.2.5d***

**INDUSTRIAL TRAINING B.TECH CE (BATCH 2016-20)**
**SESSION: 2019-20 (SUMMERS 2019)**

| S.No | Name of Students | Roll No | Industrial Training Organization | Details of work assigned | To |
|---|---|---|---|---|---|
| 1 | AASTHA SHARMA | 1602614001 | DEPT. OF I&PH SUNDERNAGAR | Rural Piped Supply scheme, Samoun Area | June- July 2019 |
| 2 | ABHAY PRATAP SINGH | 1602614002 | HPPWD SUNDERNAGAR | Cluster University under RUSA Program | June- July 2019 |
| 3 | ADITI RANA | 1602614004 | BBMB, SUNDERNAGAR | Works under water supply and sanitation | June- July 2019 |
| 4 | ADITYA CHATAK | 1602614005 | RAMPUR HPS, SJVNL LTD. | Rampur Hydro Power Project | June- July 2019 |
| 5 | AKSHAY CHANDEL | 1602614006 | M/S DOGRA CONSTRUCTION CO. PVT LTD., BHORANJ, | Prov. Sewerage scheme to Gagret town | June- July 2019 |
| 6 | AKSHAY KUMAR | 1602614007 | HAMIRPUR, | Cement concrete pavement, metalling, tarring, contouring, site work | June- July 2019 |
| 7 | AKSHAY PREMI | 1602614008 | HPPWD RAMPUR | Building work | June- July 2019 |
| 8 | AMAN THAKUR | 1602614009 | BBMB, SUNDERNAGAR | Unisex toilet, B/wall, Estimation & Costing | June- July 2019 |

| | | | | | |
|---|---|---|---|---|---|
| 9 | AMIT KUMAR | 1602614010 | HPPWD BALI CHOWKI | Road and building construction | June- July 2019 |
| 10 | ANKUSH LUCKTOO | 1602614011 | NJHPS SJVNL | Nathpa Jhakri Hydro Power Project | June- July 2019 |
| 11 | ANURAG | 1602614012 | HPPWD MANDI | Building work | June- July 2019 |
| 12 | ANURAG CHAUDHARY | 1602614013 | NM HEP, SJVN LTD. | Naitwar Mari Hydro Electric Project | June- July 2019 |
| 13 | ASHUTOSH SHARMA | 1602614014 | DIVISION, HPPWD NAHAN | District Treasury Building at Nahan | June- July 2019 |
| 14 | AYUSH SHARMA | 1602614015 | HPPWD DHARAMPUR | Building work | June- July 2019 |
| 15 | DEEPAK SHARMA | 1602614016 | SJVN LTD., SHIMLA | Tendering procedure from proposal stage to award | June- July 2019 |
| 16 | DIKSHA KUMARI | 1602614017 | BBMB, SUNDERNAGAR | BSL Project | June- July 2019 |
| 17 | GAGAN DEEP | 1602614018 | HPPWD ANNI | Building and road construction | June- July 2019 |
| 18 | HARIT GULERIA | 1602614019 | HPPWD DEHAR | C/o bridge over Satluj at village Dhawal and other PMGSY roads | June- July 2019 |
| 19 | HARSHA KUMARI | 1602614020 | BBMB, SUNDERNAGAR | Works under water supply and sanitation | June- July 2019 |
| 20 | HIMANI THAKUR | 1602614021 | BBMB, SUNDERNAGAR | Works under water supply and sanitation | June- July 2019 |
| 21 | KAMAL KUMAR | 1602614022 | HPPWD BHAWARNA | C/o 3 m span culvert and bituminous concrete pavement and cutting of road and crate works | June- July 2019 |
| 22 | KARTIK THAKUR | 1602614023 | RAMPUR HYDRO POWER STATION, SJVNL, | Rampur Hydro Power Station | June- July 2019 |
| 23 | KESHAV RAM | 1602614024 | HPPWD KULLU | Roads and bridges work under Kullu subdivision | June- July 2019 |
| 24 | MUNISH NAYAK | 1602614025 | HPPWD JOGINDERNAGAR, | Multi-purpose hall at RGMC Jogindernagar | June- July 2019 |
| 25 | NEERAJ SHARMA | 1602614026 | NJHPS, SJVNL | Nathpa Jhakri Hydro Power Station | June- July 2019 |
| 26 | NITIN RANA | 1602614027 | HPPWD DHARAMSHALA | Prepration of estimates and execution of construction works of buildings and roads, City livelihood centre, Sidhbari | June- July 2019 |
| 27 | PALLAVI | 1602614028 | BBMB, SUNDERNAGAR | U-toilet, B/wall and estimate of classroom | June- July 2019 |
| 28 | PANKAJ CHAUHAN | 1602614029 | HPPWD NADAUN | AMP on various roads, c/o slab culvert, survey work | June- July 2019 |
| 29 | PRANAV SHARMA | 1602614030 | HPPWD BILASPUR | Building work | June- July 2019 |
| 30 | PRATIBHA THAKUR | 1602614031 | HPPWD NIRMAND | Roads and buildings | June- July 2019 |
| 31 | RAHUL SHARMA | 1602614032 | NJHPS, SJVNL | C/o barrack for the HIMPESCO security personnel near Manglad Adit | June- July 2019 |
| 32 | RAJAT KUMAR | 1602614033 | HPPWD BHORANJ | Building work | June- July 2019 |
| 33 | RAJNEESH KUMAR | 1602614034 | HPPWD BHAWARNA | NABARD: C/o 3 m span culvert | June- July 2019 |

| | | | | | |
|---|---|---|---|---|---|
| 34 | RISHAV KAUNDAL | 1602614035 | BBMB, SUNDERNAGAR | Works under water supply and sanitation | June- July 2019 |
| 35 | ROBIN BHARDWAJ | 1602614036 | I&PH DEPT.,BHARARI | Projects under I&PH | June- July 2019 |
| 36 | ROHAN SHAKYA | 1602614037 | HPPWD SOLAN | C/o Solan Rajgarh bye-pass road | June- July 2019 |
| 37 | ROHIT KUMAR | 1602614038 | NJHPS, SJVNL | C/o barrack for the HIMPESCO security personnel near Manglad Adit | June- July 2019 |
| 38 | ROHIT KUMAR | 1602614039 | SJVN LTD., SHIMLA | Tendering procedure from proposal to award stage | June- July 2019 |
| 39 | SALIL SHARIA | 1602614041 | HPPWD TANDA | Construction of mental hospital | June- July 2019 |
| 40 | SANJEEV KUMAR | 1602614042 | HPPWD SUNDERNAGAR | JNGEC Sundernagar | June- July 2019 |
| 41 | SARVESH KUMAR | 1602614043 | HPPWD BALI CHOWKI | Road and building construction | June- July 2019 |
| 42 | SAURAV CHANDEL | 1602614044 | HPPWD JUKHALA | Widening and strengthening of NH88 | June- July 2019 |
| 43 | SHABNAM THAKUR | 1602614045 | HPPWD SUNDERNAGAR | JNGEC Sundernagar | June- July 2019 |
| 44 | SHAHIL THAKUR | 1602614046 | HPPWD HAMIRPUR | C/o Chief Engineer residence, C/o Type IV Qtrs for PWD employees | June- July 2019 |
| 45 | SHANU | 1602614047 | HPPWD BALI CHOWKI | Road and building construction | June- July 2019 |
| 46 | SHASHWAT KAPOOR | 1602614048 | CSIR-CBRI, ROORKEE | Durability properties of Self compacting concrete | June- July 2019 |
| 47 | SHELLY THAKUR | 1602614049 | CSIR-CBRI, ROORKEE | Slope stability assessment and bearing capacity of shallow foundations in Uttarakhand | June- July 2019 |
| 48 | SHIWANGI | 1602614050 | BBMB, SUNDERNAGAR | Works under water supply and sanitation | June- July 2019 |
| 49 | SHREYA | 1602614051 | HPPWD MANDI | Building work | June- July 2019 |
| 50 | SHWETA NAIK | 1602614052 | BBMB SUNDERNAGAR | Estimates, building work, drawings | June- July 2019 |
| 51 | SOURABH THAKUR | 1602614053 | SJVNL, SHIMLA | Tendering procedure from proposal to award stage | June- July 2019 |
| 52 | VISHAL PUN | 1602614055 | CSIR-CBRI, ROORKEE | Local peak pressure on low rise roofs | June- July 2019 |
| 53 | VISHALI | 1602614056 | CSIR-CBRI, ROORKEE | Basal fiber reinforced concrete at elevated temperature | June- July 2019 |
| 54 | VAIBHAV GUPTA | 1602614058 | SJVNL, SHIMLA | Tendering procedure from proposal to award stage | June- July 2019 |
| 55 | POOJA | 1603616035 | BBMB, SUNDERNAGAR | Unisex toilet, B/wall, Estimation & Costing | June- July 2019 |
| 56 | UMESH SHARMA | 1603616055 | HPPWD MANDI | Building work | June- July 2019 |
| 57 | AKHIL | 1604714004 | CSIR-CBRI, ROORKEE | Characterization of ladle furnace slag | June- July 2019 |
| 58 | SAHIL CHAUHAN | 1603614040 | RHPS, SJVNL | Rampur Hydro Power Station | June- July 2019 |
| 59 | ANITA THAKUR | 17BTL010101 | IIT MANDI, KAMAND | Uplift capacity of pervious micropile | June- July 2019 |
| 60 | AVEDAN KUMAR | 17BTL010102 | M/S ALL GRACE DEVELOPERS PVT. LTD., CHAMBA | Widening/ strengthening of NH 154 RD 106/0-130/0 (Chamba Bagga Dam) | June- July 2019 |

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|---|---|---|---|---|---|
| 61 | DIWAKAR SEWAL | 17BTL010103 | HIMUDA, SHIMLA | Application of STAAD.Pro in structural design | June- July 2019 |
| 62 | HARVIND SINGH | 17BTL010104 | PWD (R&B), JAMMU, J&K | Estimating and costing of RCC bunkers and roads | June- July 2019 |
| 63 | JYOTI DEVI | 17BTL010105 | HPPWD SUNDERNAGAR | Cluster University under RUSA Program | June- July 2019 |
| 64 | NEHA THAKUR | 17BTL010106 | CHANDIGARH CENTRAL CPWD, CHANDIGARH | C/o Admin Block for SDG BSF | June- July 2019 |
| 65 | POOJA KUMARI | 17BTL010107 | HPPWD SUNDERNAGAR | JNGEC Sundernagar | June- July 2019 |
| 66 | RAHUL KASHYAP | 17BTL010108 | HPPWD, KASAULI | C/o Govt. Degree College Dharampur at Mandodhar | June- July 2019 |
| 67 | RANJEET NEGI | 17BTL010109 | INTEGRATED KASHANG HEP, HPPCL, RECKONG PEO | Integrated Kashang HEP, HPPCL, Reckong Peo | June- July 2019 |
| 68 | SAHARA THAKUR | 17BTL010110 | CHANDIGARH CENTRAL CPWD, CHANDIGARH | C/o Admin Block for SDG BSF | June- July 2019 |
| 69 | SHIVANI | 17BTL010111 | IIT MANDI, KAMAND | Uplift capacity of pervious micropile | June- July 2019 |
| 70 | SWATI SHARMA | 17BTL010112 | HPPWD, SUNDERNAGAR | JNGEC Sundernagar | June- July 2019 |
| 71 | VIKARAM SHARMA | 17BTL010113 | SJVN LTD., SHIMLA | Tendering procedure from proposal stage to award | June- July 2019 |
| 72 | WARIS ABDAL | 17BTL010114 | PWD, KASHMIR | Agriculture Complex Lal Mandi Srinagar | June- July 2019 |
| 73 | PANKHUDI PAL | 17BTL030107 | IIT MANDI, KAMAND | Uplift capacity of pervious micro pile | June- July 2019 |
| 74 | YOGINDER THAKUR | 17BTL030112 | HPPWD SUNDERNAGAR | JNGEC Sundernagar | June- July 2019 |

***Table B.2.2.5e***

**INDUSTRIAL PROJECT B.TECH CE (BATCH 2016-20)***

**SESSION: 2019-20 (Jan-May 2020)**

| S.No | Name of Students | Roll No | Industrial Training Organization | Details of work assigned | Period |
|---|---|---|---|---|---|
| 1 | AASTHA SHARMA | 1602614001 | IIT MANDI, KAMAND | Collapse potential of soil | Feb-March 2020 |
| 2 | ABHAY PRATAP SINGH | 1602614002 | OPULENT TECHNOLOGIES | Construction and designing in civil Industry | Feb-March 2020 |
| 3 | ADITI RANA | 1602614004 | IIT MANDI, KAMAND | Estimation of ground water recharge Potential in lower himalyan region using hydrus-1d | Feb-March 2020 |
| 4 | AMIT KUMAR | 1602614010 | SJVN LTD | Components of hydroelectric Power project, stability power Analysis of estimation dams & estimation | Feb-March 2020 |
| 5 | ANURAG | 1602614012 | VIDDHI CONSTRUCTIONS | Construction of a residential building and road by vidhi constructions | Feb-March 2020 |

| | | | | | |
|---|---|---|---|---|---|
| 6 | AYUSH SHARMA | 1602614015 | OPULENT TECHNOLOGIES | Construction and designing in civil Industry | Feb-March 2020 |
| 7 | DIKSHAKUMARI | 1602614017 | SJVN LTD | Components of hydroelectric Power project, stability power Analysis of estimationdams & estimation | Feb-March 2020 |
| 8 | HARSHA KUMARI | 1602614020 | SJVN LTD | Components of hydroelectric Power project, stability power Analysis of estimation dams & estimation | Feb-March 2020 |
| 9 | PALLAVI | 1602614028 | VIDDHI CONSTRUCTIONS | Construction of a residential building and road by vidhi constructions | Feb-March 2020 |
| 10 | PRANAV SHARMA | 1602614030 | AFCONS INFRASTRUCTURE LTD. | Construction of tunnel by Afcons infrastructure | Feb-March 2020 |
| 11 | ROHIT KUMAR | 1602614038 | SJVN LTD | Design of various components of Hydroelectric projects including Hydrology, power potential etc. | Feb-March 2020 |
| 12 | SARVESH KUMAR | 1602614043 | VIDDHI CONSTRUCTIONS | Construction of a residential building and road | Feb-March 2020 |
| 13 | SHABNAM THAKUR | 1602614045 | OPULENT TECHNOLOGIES | Construction and designing in civil Industry | Feb-March 2020 |
| 14 | SHAHIL THAKUR | 1602614046 | OPULENT TECHNOLOGIES | Construction and designing in civil Industry | Feb-March 2020 |
| 15 | SHANU | 1602614047 | OPULENT TECHNOLOGIES | Construction and designing in civil Industry | Feb-March 2020 |
| 16 | SHREYA | 1602614051 | IIT MANDI, KAMAND | Collapse potential of flyash | Feb-March 2020 |
| 17 | SHWETA NAIK | 1602614052 | VIDDHI CONSTRUCTIONS | Construction of a residential building And road by vidhi constructions | Feb-March 2020 |
| 18 | VAIBHAV GUPTA | 1602614058 | SJVN LTD | Design of various components of Hydroelectric projects including Hydrology, power potential etc. | Feb-March 2020 |
| 19 | POOJA | 1603616035 | JANTA LAND PROMOTERS LIMITED, MOHALI | Construction of residential buildings and Tower at falcon view project Mohali | Feb-March 2020 |
| 20 | UMESH SHARMA | 1603616055 | JANTA LAND PROMOTERS LIMITED, MOHALI | Construction of residential buildings and Tower at falcon view project Mohali | Feb-March 2020 |
| 21 | SAHIL CHAUHAN | 1603614040 | SJVNL SHIMLA | Hydropower construction Rampur(bayal) | Feb-March 2020 |

| | | | | | |
|---|---|---|---|---|---|
| 22 | ANITA THAKUR | 17BTL010101 | HIMMEL INFOTEL PRIVATE LIMITED, MOHALI | Software programs and construction of Sood tower Himmel infotel private limited | Feb-March 2020 |
| 23 | DIWAKAR SEWAL | 17BTL010103 | CSIR-CBRI, ROORKEE | Comparative study of bamboo versus Conventional houses construction systems | Feb-March 2020 |
| 24 | HARVIND SINGH | 17BTL010104 | NHAI DEPARTMENT, JAMMU | Construction of 58.255 km Long stand - alone ring road/ bypass Around jammu city | Feb-March 2020 |
| 25 | JYOTI DEVI | 17BTL010105 | KMC CONSTRUCTIONS LTD., MANDI | Fourlaning of nerchowk to pandoh Including pandoh bypass section of nh-21 (pacakage-1 km 190.000 to km 221.305) | Feb-March 2020 |
| 26 | NEHA THAKUR | 17BTL010106 | KMC CONSTRUCTIONS LTD., MANDI | Four laning of nerchowk, pandoh including Pandoh bypass section of nh-21, package-1 From km 190.000 to km 221.305 under nhdp-ivb | Feb-March 2020 |
| 27 | RAHUL KASHYAP | 17BTL010108 | JLPLKASAULI | C/o freehold independent villas Janta land promoters limited | Feb-March 2020 |
| 28 | RANJEET NEGI | 17BTL010109 | SJVN LTD | Design of various components of Hydroelectric projects including Hydrology, power potential etc. | Feb-March 2020 |
| 29 | SAHARA THAKUR | 17BTL010110 | KMC CONSTRUCTIONS LTD., MANDI | Four laning of nerchowk, pandoh including Pandoh bypass section of nh-21, package-1 From km 190.000 to km 221.305 under nhdp-ivb | Feb-March 2020 |
| 30 | SHIVANI | 17BTL010111 | IIT MANDI, KAMAND | Measurement of unsaturated Permeability in soils by Oedometer test | Feb-March 2020 |
| 31 | SWATI SHARMA | 17BTL010112 | OPULENT TECHNOLOGIES | Construction and designing in civil Industry | Feb-March 2020 |
| 32 | VIKRAM SHARMA | 17BTL010113 | HPPWD SHIMLA | Construction of type – ii quarters at Police line kaithu, shimla | Feb-March 2020 |
| 33 | WARIS ABDAL | 17BTL010114 | NIT SRINAGAR | Design of multistoreyed building using STAAD.Pro | Feb-March 2020 |
| 34 | PANKHUDI PAL | 17BTL030107 | HIMMEL INFOTEL PRIVATE LIMITED, MOHALI | Software programs and construction of sood tower himmel infotel private limited | Feb-March 2020 |
| 35 | YOGINDER THAKUR | 17BTL030112 | HIMMEL INFOTEL PRIVATE LIMITED, MOHALI | Software programs and construction of sood tower himmel infotel private limited | Feb-March 2020 |

***Table B.2.2.5f***

** Industrial Project is in option with Project-II in 8th semester as per HPTU curriculum.*

The following procedure is adopted for conduct of Industrial Training and Industrial Project:

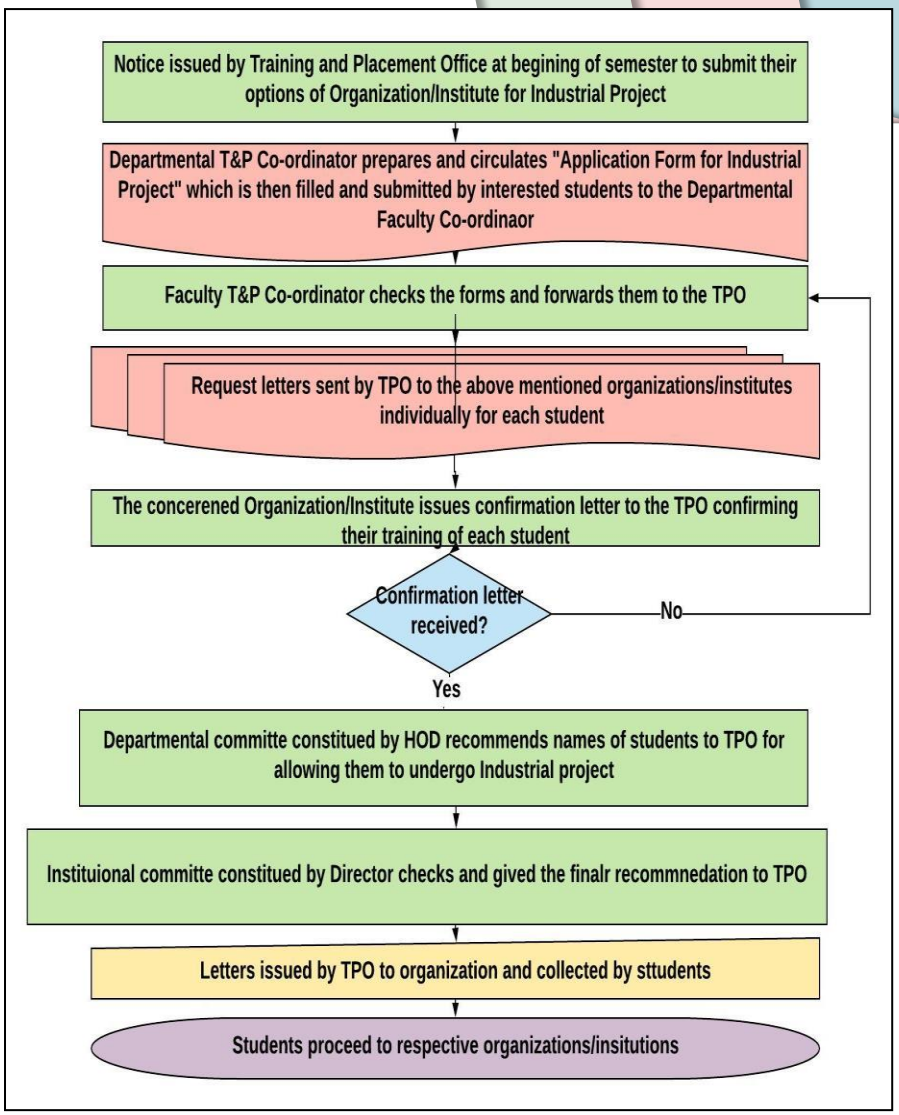



***Fig B.2.2.5a Process of Industrial Training***

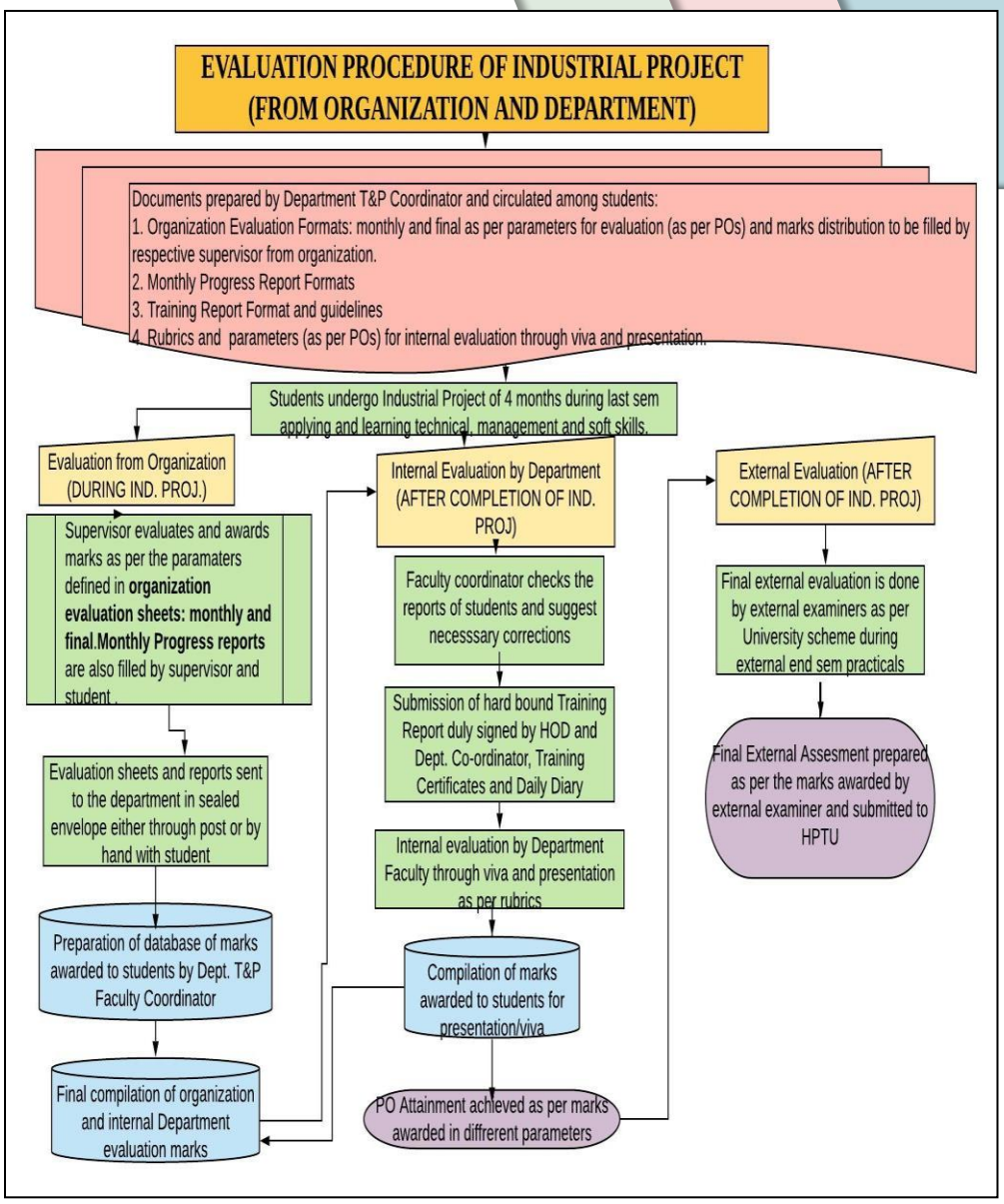



***Fig B.2.2.5b Process of Industrial Project***

CIVIL ENGG.DEPARTMENT,
J.N. GOVT.ENGG.COLLEGE
SUNDERNAGAR,
DISTT. MANDI (H.P.)

No. GEC/SNR/Civil/11/18- Date:

**INDUSTRIAL TRAINING EVALUATION RUBRICS**
**(INTERNAL EVALUATION)**

| EVALUATION PARAMETERS | Good (75% - 100%) | Average (50%-75%) | Poor (<50%) |
|---|---|---|---|
| Identification of the engineering problem in training work allotted (PO2, PO7) | Detailed and extensive explanation of the data, purpose, and importance of the project | Moderate explanation of the data, purpose and importance of the project | Minimal explanation of the data, purpose and importance of the project |
| Technical knowledge used for execution of work (PO3, PO 5) | • Appropriate description of the technical concepts and knowledge used while executing the training task | • In-sufficient d description of the technical concepts and knowledge used while executing the training task | • Poor description of the technical concepts and knowledge used while executing the training task |
| Technical and Management skills gained (PO 11, PO 12) | • Appropriate learning of methodologies, skills and managing and planning for execution of work | • Partial learning of methodologies, skills and managing and planning for execution of work | • Poor learning of methodologies, skills and managing and planning for execution of work |
| Training Report (PO 10) | • Project report is according to the specified format (as directed and intimated by the T&P coordinator) | • Project report is not fully according to the specified format (as directed and intimated by the T&P coordinator) | • Project report not prepared according to the specified format (as directed and intimated by the T&P coordinator) |
| Diary/Record of work maintenance (PO 4, PO 10) | • Diary well maintained on daily or weekly basis | • Diary maintained but not complete | • Diary not maintained |
| Presentation and communication skills (PO 10) | • Contents of presentations are appropriate and well delivered<br>• Proper eye contact with audience and clear voice with good spoken language | • Contents of presentations are not appropriate<br>• Eye contact with few people and clear voice with good spoken language | • Contents of presentations are not appropriate and not well delivered<br>• Poor delivery of presentation |

T&P Faculty Representative
Dept. of Civil Engineering

Department of Civil Engineering
Jawaharlal Nehru Government Engineering College
Sundernagar, Distt. Mandi (H.P.)-175018
Phone No. 01907-267199, 267688, Fax No. 267811
Web site: http//www.jngec.ac.in, Email: jngechp@yahoo.co.in

June - July (5)

Roll No - 36

**INDUSTRIAL PRACTICAL TRAINING CIVIL ENGINEERING 2021 (CE-712)**
**EVALUATION SHEET FROM ORGANIZATION (TO BE FILLED BY SUPERVISOR IN TRAINING ORGANIZATION/INSTITUTE)**

NAME OF STUDENT (TRAINEE): RAHUL THAKUR
NAME AND DESIGNATION OF SUPERVISOR Er. AMIT | JUNIOR ENGG.
CONTACT NUMBER/EMAIL ID OF SUPERVISOR: 89881-19306
NAME AND ADRRESS OF ORGANIZATION: HP PWD SUNDER NAGAR
NAME OF TRAINING PROJECT: CONSTRUCTION MANAGEMENT & EXECUTION OF BUILDING PROJECT
DURATION OF TRAINING: from 11 JUNE 2021 to 13 JULY 2021

*Marks to be awarded to the students based on the following criteria:*

| S. No | CRITERIA | TOTAL MARKS | MARKS OBTAINED |
|---|---|---|---|
| 1. | **Technical Quality of work (25)** | | |
| a | Knowledge and ability to apply basic science and civil engineeringconcepts (PO1) | 5 | 4 |
| b | Ability analyse complex engineering problems faced in industry using technical skills and knowledge (PO2) | 5 | 4 |
| c | Ability to design/suggest solutions to practical civil engineering problems (PO3) | 5 | 4 |
| d | Ability to conduct investigations using different techniques analyse the data to achieve desired results (PO4) | 5 | 4 |
| e | Application of appropriate skills/resources/ concepts to solve technical problems (PO5) | 5 | 5 |
| 2. | **Attendance, Discipline, Involvement (15)** | | |
| a | a Regularity /attendance in work and commitment to professional ethics, rules and responsibilities of organization with discipline (PO8) | 4 | 4 |
| b | Role as an individual and as a team member in the organization (PO9) | 4 | 4 |
| c | Evaluate the societal/legal/culture issues at work and understanding the responsibility of professional engineering practice (PO6) | 4 | 4 |
| d | Ability to communicate and maintain documentation and records (PO10) | 3 | 3 |
| 3. | **Interest shown by student to gain knowledge of latest technologies to solve engineering problems related to environment or society (10)** | | |
| a | Understanding of effect of civil engineering projects/solutions on society and environment (PO7) | 4 | 4 |
| b | Managing and planning project work or task assigned (PO11) | 3 | 3 |
| c | Understanding of importance of and preparation and ability to Engage in independent and life- long learning (PO12) | 3 | 3 |
| | **TOTAL** | 50 | 46 |

Signature of Supervisor(with date and stamp)
Junior Engineer
Local Section Office
HPPWD

NOTE:
This evaluation must be done by the worthy supervisor/guide of the respective organization/industry according to his/her observation of the students performance in the training.

***Fig B.2.2.5c Rubrics for Internal Evaluation and Sample Evaluation Sheet of Industrial Training from organization***

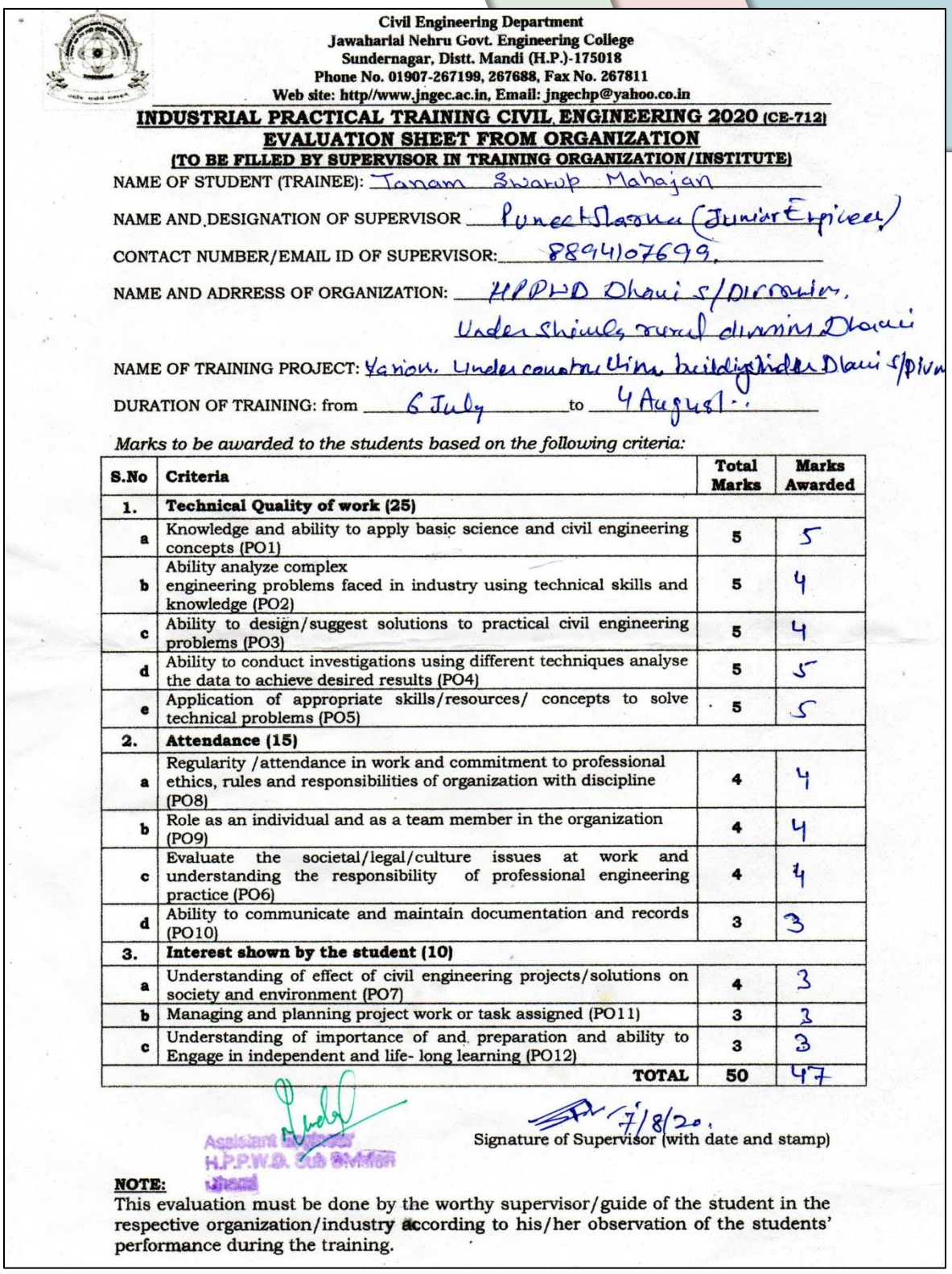
CIVIL ENGG.DEPARTMENT,
J.N. GOVT.ENGG.COLLEGE SUNDERNAGAR,
DISTT. MANDI (H.P.)

**INDUSTRIAL PROJECT (CE-809)**
**EVALUATION RUBRICS (INTERNAL EVALUATION)**

| EVALUATION PARAMETERS | Good (75% - 100%) | Average (50%-75%) | Poor (<50%) |
|---|---|---|---|
| **Identification of the engineering problem in work allotted (PO2, PO6, PO7)** | Detailed and extensive explanation of the data, purpose, and importance of the project | Moderate explanation of the data, purpose and importance of the project | Minimal explanation of the data, purpose and importance of the project |
| **Technical knowledge used for execution of work (PO3, PO 5)** | • Appropriate description of the technical concepts and knowledge used while executing the training task | • In-sufficient d description of the technical concepts and knowledge used while executing the training task | • Poor description of the technical concepts and knowledge used while executing the training task |
| **Technical and Management skills gained and used (PO 11, PO 12)** | • Appropriate learning of methodologies, skills and managing and planning for execution of work | • Partial learning of methodologies, skills and managing and planning for execution of work | • Poor learning of methodologies, skills and managing and planning for execution of work |
| **Training Report (PO 10)** | • Project report is according to the specified format (as directed and intimated by the T&P coordinator) | • Project report is not fully according to the specified format (as directed and intimated by the T&P coordinator) | • Project report not prepared according to the specified format (as directed and intimated by the T&P coordinator) |

Industrial Project Coordinator
Dept. of Civil Engineering

***Fig B.2.2.5d Rubrics for Internal Evaluation of Industrial Project***



Civil Engineering Department
Jawaharlal Nehru Govt. Engineering College
Sundernagar, Distt. Mandi (H.P.)-175018
Phone No. 01907-267199, 267688, Fax No. 267811
Web site: http//www.jngec.ac.in, Email: jngechp@yahoo.co.in

**INDUSTRIAL PRACTICAL TRAINING CIVIL ENGINEERING 2020 (CE-712)**

**EVALUATION SHEET FROM ORGANIZATION**

**(TO BE FILLED BY SUPERVISOR IN TRAINING ORGANIZATION/INSTITUTE)**

NAME OF STUDENT (TRAINEE): Tanam Swarup Mahajan

NAME AND DESIGNATION OF SUPERVISOR Puneet Sharma (Junior Engineer)

CONTACT NUMBER/EMAIL ID OF SUPERVISOR: 8894107699.

NAME AND ADRRESS OF ORGANIZATION: HPPWD Dhami S/Division. Under Shimla rural division Dhami

NAME OF TRAINING PROJECT: Various. Under construction building under Dhami S/Divn

DURATION OF TRAINING: from 6 July to 4 August.

*Marks to be awarded to the students based on the following criteria:*

| S.No | Criteria | Total Marks | Marks Awarded |
|---|---|---|---|
| 1. | **Technical Quality of work (25)** | | |
| a | Knowledge and ability to apply basic science and civil engineering concepts (PO1) | 5 | 5 |
| b | Ability analyze complex engineering problems faced in industry using technical skills and knowledge (PO2) | 5 | 4 |
| c | Ability to design/suggest solutions to practical civil engineering problems (PO3) | 5 | 4 |
| d | Ability to conduct investigations using different techniques analyse the data to achieve desired results (PO4) | 5 | 5 |
| e | Application of appropriate skills/resources/ concepts to solve technical problems (PO5) | 5 | 5 |
| 2. | **Attendance (15)** | | |
| a | Regularity /attendance in work and commitment to professional ethics, rules and responsibilities of organization with discipline (PO8) | 4 | 4 |
| b | Role as an individual and as a team member in the organization (PO9) | 4 | 4 |
| c | Evaluate the societal/legal/culture issues at work and understanding the responsibility of professional engineering practice (PO6) | 4 | 4 |
| d | Ability to communicate and maintain documentation and records (PO10) | 3 | 3 |
| 3. | **Interest shown by the student (10)** | | |
| a | Understanding of effect of civil engineering projects/solutions on society and environment (PO7) | 4 | 3 |
| b | Managing and planning project work or task assigned (PO11) | 3 | 3 |
| c | Understanding of importance of and preparation and ability to Engage in independent and life- long learning (PO12) | 3 | 3 |
| | **TOTAL** | 50 | 47 |

Assistant Engineer
H.P.P.W.D. Sub Division
Dhami

7/8/20.
Signature of Supervisor (with date and stamp)

**NOTE:**
This evaluation must be done by the worthy supervisor/guide of the student in the respective organization/industry according to his/her observation of the students' performance during the training.

***Fig B.2.2.5e Sample Evaluation Sheet of Industrial Project from organization***

***Impact Analysis of* industry internship/summer training:**

Feedback is taken from the students after completion of industry internship/ summer training on the basis of different parameters relevant to their experience.

The students are asked to rate the different parameters according to their experience and learning during industry training. The rating criteria is: 3: Strongly Agree 2: Agree 1: Disagree

The response of the students is recorded and analysed.

A sample analysis for industrial training of Batch 2021 students on the basis of questionnaire from students is given be below:

| S.No. | Questionnaire for Feedback: | Overall response of students |
|---|---|---|
| 1 | Application of the knowledge of basics of engineering, civil engineering concepts in Industry (PO1) | 82% |
| 2 | Identification and analysis of actual engineering problems in industry/ site/workplace (PO2) | 81% |
| 3 | Exposure for designing solutions for complex engineering problems and processes to get desired results as per requirement while considering public health and safety, and cultural, societal, and environmental considerations (PO3) | 78% |
| 4 | Opportunity to investigate/experiments of practical problems in Industry and analyse the consequent results (PO4) | 80% |
| 5 | Creation, selection, and application of appropriate techniques, resources, and modern engineering tools/modeling to complex engineering activities, undergoing in ongoing project(s) in Industry (PO5) | 78% |
| 6 | Application of reasoning informed by the knowledge to assess societal, health, safety, legal and cultural issues and realization of the responsibilities relevant to the civil engineering profession (PO6) | 78% |
| 7 | Realization of the impact of the professional civil engineering solutions in societal and environmental contexts, and ability to demonstrate the knowledge of, and need for sustainable development. (PO7) | 80% |
| 8 | Application and importance of specified norms/standards/ethical principles in different civil engineering problems and commitment to professional ethics and responsibilities (PO8) | 78% |
| 9 | Realization of role and function effectively as an individual, and as a member or leader in actual workplace under and with different types of teams (PO9) | 80% |
| 10 | Effective communication during work on technical engineering activities with the engineering community and with society and being ability to maintain documentation / records / effective reports, give, and receive clear instructions (PO10) | 81% |
| 11 | Management and planning of finances, people, resources, time schedule etc. for project/ task assigned (PO11) | 80% |
| 12 | Recognising the need for, and have the ability to engage in independent and life-long learning in the broadest context of technological change (PO12) | 78% |

A sample analysis for industrial training of Batch 2021 students on the basis of questionnaire from training supervisor is given be below:

| S.No. | Questionnaire for evaluation of Industrial Training Organization from Supervisor | Overall response of students |
|---|---|---|
| 1 | Knowledge and ability to apply basic science and civil engineering concepts (PO1) | 94% |

| | | |
|---|---|---|
| **2** | Ability to design/suggest solutions to practical civil engineering problems (PO3) | 90% |
| **3** | Ability to conduct investigations using different techniques analyse the data to achieve desired results (PO4) | 91% |
| **4** | Application of appropriate skills/resources/ concepts to solve technical problems (PO5) | 91% |
| **5** | a Regularity /attendance in work and commitment to professional ethics, rules and responsibilities of organization with discipline (PO8) | 92% |
| **6** | Role as an individual and as a team member in the organization (PO9) | 92% |
| **7** | Evaluate the societal/legal/culture issues at work and understanding the responsibility of professional engineering practice (PO6) | 96% |
| **8** | Ability to communicate and maintain documentation and records (PO10) | 93% |
| **9** | Understanding of effect of civil engineering projects/solutions on society and environment (PO7) | 95% |
| **10** | Managing and planning project work or task assigned (PO11) | 96% |
| **11** | Understanding of importance of and preparation and ability to Engage in independent and life- long learning (PO12) | 90% |
| **12** | Understanding of effect of civil engineering projects/solutions on society and environment (PO7) | 98% |

A sample analysis for Industrial Project of Batch 2020 students is given be below:

| **S.No.** | **Questionnaire for Feedback:** | **Overall response of students** |
|---|---|---|
| **1** | Application of the knowledge of basics of engineering, civil engineering concepts in Industry (PO1) | 88% |
| **2** | Identification and analysis of actual engineering problems in industry/ site/workplace (PO2) | 83% |
| **3** | Exposure for designing solutions for complex engineering problems and processes to get desired results as per requirement while considering public health and safety, and cultural, societal, and environmental considerations (PO3) | 83% |
| **4** | Opportunity to investigate/experiments of practical problems in Industry and analyse the consequent results (PO4) | 72% |
| **5** | Creation, selection, and application of appropriate techniques, resources, and modern engineering tools/modeling to complex engineering activities, undergoing in ongoing project(s) in Industry (PO5) | 82% |
| **6** | Application of reasoning informed by the knowledge to assess societal, health, safety, legal and cultural issues and realization of the responsibilities relevant to the civil engineering profession (PO6) | 81% |
| **7** | Realization of the impact of the professional civil engineering solutions in societal and environmental contexts, and ability to demonstrate the knowledge of, and need for sustainable development. (PO7) | 85% |
| **8** | Application and importance of specified norms/standards/ethical principles in different civil engineering problems and commitment to professional ethics and responsibilities (PO8) | 86% |
| **9** | Realization of role and function effectively as an individual, and as a member or leader in actual workplace under and with different types of teams (PO9) | 83% |
| **10** | Effective communication during work on technical engineering activities with the engineering community and with society and being ability to maintain documentation / records / effective reports, give, and receive clear instructions (PO10) | 88% |
| **11** | Management and planning of finances, people, resources, time schedule etc. for project/ task assigned (PO11) | 79% |
| **12** | Recognising the need for, and have the ability to engage in independent and life-long learning in the broadest context of technological change (PO12) | 85% |

## 3. COURSE OUTCOMES AND PROGRAM OUTCOMES (120)

### 3.1. Establish the correlation between the courses and the Program Outcomes (POs) and Program Specific Outcomes (PSOs) (20)

#### 3.1.1. Course Outcomes (COs)

The section includes Course outcomes of one subject from each semester (3rd to 8th semester) of each session

**SESSION 2021-2022**

**Semester: 3rd**

Course Name: Mechanics of Solids Course Code: CE-301/ C203

| COs | Upon successful completion of the course, students will be able to |
|---|---|
| C203.1 | Concept of stress strain behaviour of material and related theorem |
| C203.2 | Describe bending moment, Shear force, deflection, Torsion, compression based on the behaviour of structural components |
| C203.3 | Compute the resultant stresses in various structural components and draw BMD AND SFD |
| C203.4 | Analyze the structural members subjected to tension, compression, torsion, bending and combined stresses using the fundamental concepts of stress, strain and elastic behavior of materials. |
| C203.5 | Categories the different methods to determine the transverse deflection in beams, torsion of circular shaft and internal pressure in thin cylinder and sphere. |
| C203.6 | Evaluate the behaviour of components based on material properties, boundary condition and different type of loading. |

***Table B.3.1.1 (a)***

**Semester: 4th**

Course Name: Building Planning and Construction Course Code: CE-404/C218

| COs | Upon successful completion of the course, students will be able to: |
|---|---|
| C218.1 | Identify the factors to be considered in stages of planning of buildings |
| C218.2 | Understand the aim of building planning and application of codes, bye-laws and regulations |
| C218.3 | Recognize components of buildings and their functions |
| C218.4 | Choose suitable type of material and construction procedure for different components of building |
| C218.5 | Understand the functions of main building services and remedial measures provided in buildings |
| C218.6 | Plan any building by applying suitable principles of planning and construction |

***Table B.3.1.1 (b)***

**Semester: 5th**

Course Name: Limit State Design of Concrete Structures I Course Code: CE-501/ C301

| COs | Upon successful completion of the course, students will be able to |
|---|---|
| **C301.1** | Understand the role and properties of reinforced concrete materials i.e. concrete mix, its constituents and steel and RCC members |
| **C301.2** | Compare and recognize various design philosophies and the structural behaviour of RCC beams, columns, slabs. |
| **C301.3** | Interpret and apply suitable codal provisions and design philosophy. |
| **C301.4** | Analyse and evaluate the performance of reinforced concrete beams, slabs |
| **C301.5** | Recommend suitable design of RCC beams, slabs, columns according to given situation |
| **C301.6** | Predict and suggest possible behaviour of any RCC member in terms of flexure, shear, bond etc. |

***Table B.3.1.1 (c)***

**Semester: 6th**

Course Name: Environmental Engg. -II Course Code: CE-603/C315

| COs | Upon successful completion of the course, students will be able to: |
|---|---|
| **C315.1** | Relate the basic concepts of chemical & environmental sciences related to wastewater & solid waste. |
| **C315.2** | Understand different types & components of sewerage systems, different flow conditions, concepts of different treatment methods, methods of wastewater and solid waste disposal. |
| **C315.3** | Make use of different methods for treatment & disposal techniques, design of sewers in various flow conditions. |
| **C315.4** | Analyze different wastewater treatment methods, appurtenances & solid waste disposal techniques. |
| **C315.5** | Assess different wastewater treatment methods, solid waste management techniques according to standard guidelines |
| **C315.6** | Give new idea about wastewater & solid waste management system in relation with societal needs & for sustainable environment. |

***Table B.3.1.1 (d)***

**Semester: 7th**

Course Name: Quantity Surveying and Valuation Course Code: CE-702/ C402

| COs | Upon successful completion of the course, students will be able to |
|---|---|
| **C402.1** | Identify the civil engineering materials, their specifications & uses for civil engineering structures and understand the accounts related fundamentals. |
| **C402.2** | Interpret different quantity estimate methods & accounts related terms. |
| **C402.3** | Make use of the quantity estimation methods & account procedures for civil engineering structures. |
| **C402.4** | Compare various items of works & their rates, contracts, tenders for estimation purposes. |
| **C402.5** | Assess contracts, tenders in construction practices in compliance with safety & legal issues and actual value of any property . |
| **C402.6** | Compose new ideas for estimation & valuation of civil engg structures. |

**Table B.3.1.1 (e)**

### 3.1.2. CO-PO matrices of courses selected in 3.1.1 (05)

The section includes Course Outcome-Program Outcome Mapping Matrix of one subject selected in section 3.1.1 of each semester (3rd to 8th sem) to each session.

Correlation levels of COs with POs 3, 2, 1, - are defined as below:

| Corelation level | Definition |
|---|---|
| 3 | Strongly Related |
| 2 | Moderately Related |
| 1 | Slightly Related |
| - | Not Related |

**SESSION 2021-2022**

**Semester: 3rd**

Course Name: Mechanics of Solids Course Code: CE-301/ C203

| COs | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PO8 | PO9 | PO10 | PO11 | PO12 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **C203.1** | 3 | 2 | 1 | 2 | 1 | 3 | 3 | 3 | 2 | 2 | 3 | 2 |
| **C203.2** | 3 | 2 | 3 | 2 | 2 | 3 | 3 | 3 | 2 | 2 | 3 | 2 |
| **C203.3** | 3 | 2 | 3 | 2 | 2 | 3 | 3 | 3 | 2 | 2 | 3 | 2 |
| **C203.4** | 3 | 3 | 2 | 3 | 2 | 3 | 3 | 3 | 2 | 2 | 3 | 2 |
| **C203.5** | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 2 | 2 | 3 | 2 |
| **C203.6** | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 2 | 2 | 3 | 2 |
| **C203** | **3.00** | **2.50** | **2.50** | **2.50** | **2.17** | **3.00** | **3.00** | **3.00** | **2.00** | **2.00** | **3.00** | **2.00** |

***Table B.3.1.2 (a)***

**Semester: 4th**

Course Name: Building Planning and Construction Course Code: CE-404/C218

| COs | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PO8 | PO9 | PO10 | PO11 | PO12 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **C218.1** | 3 | 2 | 1 | 2 | 1 | 3 | 3 | 3 | 2 | 2 | 3 | 2 |
| **C218.2** | 3 | 2 | 2 | 2 | 2 | 3 | 3 | 3 | 2 | 2 | 3 | 2 |
| **C218.3** | 3 | 3 | 2 | 3 | 2 | 3 | 3 | 3 | 2 | 2 | 3 | 2 |
| **C218.4** | 3 | 3 | 2 | 3 | 2 | 3 | 3 | 3 | 2 | 2 | 3 | 2 |
| **C218.5** | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 2 | 2 | 3 | 2 |
| **C218.6** | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 2 | 2 | 3 | 2 |
| **C215** | **3.0** | **2.7** | **2.2** | **2.7** | **2.2** | **3.0** | **3.0** | **3.0** | **2.0** | **2.0** | **3.0** | **2.0** |

***Table B.3.1.2 (b)***

**Semester: 5th**

Course Name: Limit State Design of Concrete Structures I Course Code: CE-501/ C301

| COs | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PO8 | PO9 | PO10 | PO11 | PO12 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **C301.1** | 3 | 2 | 1 | 2 | 1 | 3 | 3 | 3 | 2 | 2 | 3 | 2 |
| **C301.2** | 3 | 2 | 3 | 2 | 2 | 3 | 3 | 3 | 2 | 2 | 3 | 2 |
| **C301.3** | 3 | 2 | 3 | 2 | 2 | 3 | 3 | 3 | 2 | 2 | 3 | 2 |
| **C301.4** | 3 | 3 | 2 | 3 | 2 | 3 | 3 | 3 | 2 | 2 | 3 | 2 |
| **C301.5** | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 2 | 2 | 3 | 2 |
| **C301.6** | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 2 | 2 | 3 | 2 |
| **C301** | **3** | **2.5** | **2.5** | **2.5** | **2.2** | **3** | **3** | **3** | **2** | **2** | **3** | **2** |

***Table B.3.1.2 (c)***

**Semester: 6th**

Course Name: Environmental Engg. -II Course Code: CE-603/C315

| COs | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PO8 | PO9 | PO10 | PO11 | PO12 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **C315.1** | 2 | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| **C315.2** | 3 | 2 | 1 | 2 | 1 | 3 | 3 | 3 | 2 | 2 | 3 | 2 |
| **C315.3** | 3 | 2 | 2 | 2 | 2 | 3 | 3 | 3 | 2 | 2 | 3 | 2 |
| **C315.4** | 3 | 3 | 2 | 3 | 2 | 3 | 3 | 3 | 2 | 2 | 3 | 2 |
| **C315.5** | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 2 | 2 | 3 | 2 |
| **C315.6** | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 2 | 2 | 3 | 2 |
| **C315** | **2.83** | **2.33** | **2.00** | **2.33** | **2.00** | **2.83** | **2.83** | **2.83** | **2.00** | **2.00** | **2.83** | **2.00** |

***Table B.3.1.2 (d)***

**Semester: 7th**

Course Name: Municipal Solid Waste Management Course Code: CE-708/ C405

| COs | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PO8 | PO9 | PO10 | PO11 | PO12 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **C405.1** | 2 | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| **C405.2** | 3 | 2 | 1 | 2 | 1 | 3 | 3 | 3 | 2 | 2 | 3 | 2 |
| **C405.3** | 3 | 2 | 2 | 2 | 2 | 3 | 3 | 3 | 2 | 2 | 3 | 2 |
| **C405.4** | 3 | 3 | 2 | 3 | 2 | 3 | 3 | 3 | 2 | 2 | 3 | 2 |
| **C405.5** | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 2 | 2 | 3 | 2 |
| **C405.6** | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 2 | 2 | 3 | 2 |
| **C405** | **2.8** | **2.3** | **2.0** | **2.3** | **2.0** | **2.8** | **2.8** | **2.8** | **2.0** | **2.0** | **2.8** | **2.0** |

***Table B.3.1.2 (e)***

**3.1.3. Program level Course-PO matrix of all courses including first year courses (10)**

**SESSION 2021-22**

| | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PO8 | PO9 | PO10 | PO11 | PO12 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **C101** | | | | | | | | | 1.25 | 2.53 | 1.83 | 1.50 |
| **C102** | 3.00 | 2.70 | 1.00 | 2.00 | | | | | 1.30 | | | 2.50 |
| **C103** | 1.70 | 2.00 | 1.00 | | | 1.00 | | 1.50 | | | | 1.00 |
| **C104** | 1.70 | 1.30 | 1.00 | 1.00 | | | | | | | | 0.80 |
| **C105** | 3.00 | 3.00 | 3.00 | | 3.00 | | | | | | | 3.00 |
| **C106** | 1.17 | 1.00 | 1.83 | 1.20 | 1.00 | | | | | | | 1.00 |
| **C107** | | | 1.25 | | | 2.00 | 2.00 | | | | | 1.00 |
| **C108** | | | | | | | | | 1.00 | 2.00 | 1.80 | 2.00 |
| **C109** | 1.80 | | | 1.50 | | | | | 1.70 | | | 1.00 |
| **C110** | 3.00 | 3.00 | 3.00 | | 3.00 | | | | | | | 3.00 |
| **C111** | | | | | | | | | 1.25 | 2.33 | 1.83 | 1.50 |
| **C112** | 3.00 | 2.33 | 1.00 | | 1.00 | | | | 1.00 | | | 2.50 |
| **C113** | 3.00 | 1.00 | 1.30 | - | 1.00 | 1.20 | 1.50 | | | | | 1.00 |
| **C114** | 1.00 | 0.80 | 0.80 | 0.90 | | 0.30 | 0.60 | | | | 1.00 | 0.90 |

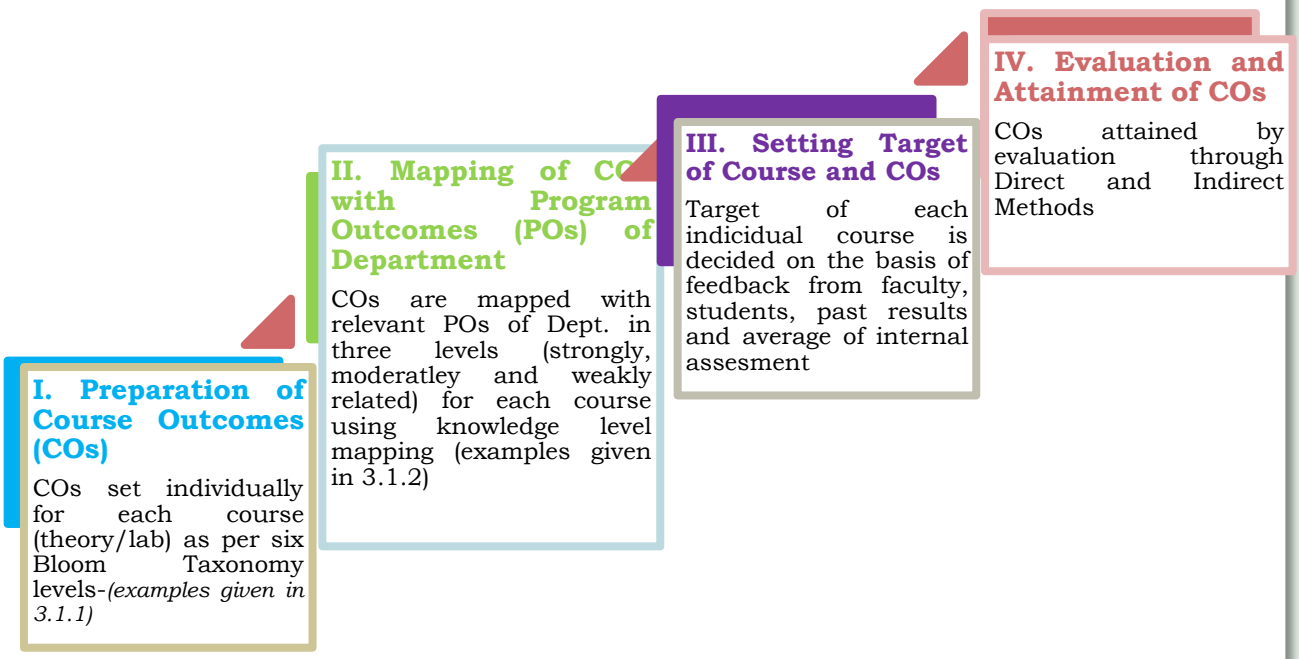
| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **C116** | 3.00 | 2.00 | 1.00 | 1.00 | 2.00 | | 1.00 | | | | | 2.00 |
| **C117** | | | 1.20 | | | | 1.00 | | 1.00 | | | 1.00 |
| **C118** | 1.80 | 1.90 | 1.60 | 1.20 | 1.90 | 1.80 | | | 1.60 | | 1.80 | 1.80 |
| **C119** | 1.67 | 1.67 | 1.00 | 2.50 | | 3.00 | | 1.00 | 2.00 | | | 1.00 |
| **C201** | 2.83 | 2.33 | 2.00 | 2.33 | 2.00 | 2.83 | 2.83 | 2.83 | 2.00 | 2.00 | 2.83 | 2.00 |
| **C202** | 1.00 | 1.83 | 2.00 | 1.33 | 1.83 | 3.00 | 3.00 | 3.00 | 2.00 | 2.00 | 3.00 | 2.00 |
| **C203** | 3.00 | 2.67 | 2.17 | 2.67 | 2.17 | 3.00 | 3.00 | 3.00 | 2.00 | 2.00 | 3.00 | 2.00 |
| **C204** | 3.00 | 2.50 | 2.33 | 2.50 | 2.33 | 3.00 | 3.00 | 3.00 | 2.00 | 2.00 | 3.00 | 2.00 |
| **C205** | 3.00 | 2.50 | 2.33 | 2.67 | 2.33 | 3.00 | 2.83 | 2.83 | 2.00 | 2.00 | 3.00 | 2.00 |
| **C206** | 2.83 | 2.33 | 2.00 | 2.33 | 2.00 | 2.83 | 2.83 | 2.83 | 2.00 | 2.00 | 2.83 | 2.00 |
| **C207** | 2.00 | 1.67 | 1.17 | 1.67 | 1.17 | 2.00 | 2.00 | 2.00 | 1.33 | 1.33 | 2.00 | 1.33 |
| **C210** | 3.00 | 2.60 | 2.00 | 2.60 | 2.00 | 3.00 | 3.00 | 3.00 | 2.00 | 2.00 | 3.00 | 2.00 |
| **C211** | 3.00 | 2.50 | 2.00 | 2.50 | 2.00 | 3.00 | 3.00 | 3.00 | 2.00 | 2.00 | 3.00 | 2.00 |
| **C212** | 3.00 | 2.60 | 2.40 | 2.60 | 2.40 | 3.00 | 3.00 | 3.00 | 2.00 | 2.00 | 3.00 | 2.00 |
| **C213** | 3.00 | 2.60 | 1.17 | 2.66 | 3.00 | - | - | - | 1.17 | - | 2.00 | 2.33 |
| **C214** | 1.00 | 1.83 | 2.00 | 1.33 | 1.83 | 3.00 | 3.00 | 3.00 | 2.00 | 2.00 | 3.00 | 2.00 |
| **C215** | 3.00 | 2.50 | 2.50 | 2.50 | 2.17 | 3.00 | 3.00 | 3.00 | 2.00 | 2.00 | 3.00 | 2.00 |
| **C216** | 2.80 | 2.20 | 1.80 | 2.20 | 1.80 | 2.80 | 2.80 | 2.80 | 2.00 | 2.00 | 2.80 | 2.00 |
| **C217** | 3.00 | 2.50 | 2.33 | 2.67 | 2.33 | 3.00 | 2.83 | 2.83 | 2.00 | 2.00 | 3.00 | 2.00 |
| **C218** | 3.00 | 2.67 | 2.17 | 2.67 | 2.17 | 3.00 | 3.00 | 3.00 | 2.00 | 2.00 | 3.00 | 2.00 |
| **C222** | 3.00 | 2.50 | 2.00 | 2.50 | 2.00 | 3.00 | 3.00 | 3.00 | 2.00 | 2.00 | 3.00 | 2.00 |
| **C223** | 3.00 | 2.60 | 2.40 | 2.60 | 2.40 | 3.00 | 3.00 | 3.00 | 2.00 | 2.00 | 3.00 | 2.00 |
| **C224** | 3.00 | 2.60 | 2.40 | 2.60 | 2.40 | 3.00 | 3.00 | 3.00 | 2.00 | 2.00 | 3.00 | 2.00 |
| **C301** | 3.00 | 2.50 | 2.50 | 2.50 | 2.17 | 3.00 | 3.00 | 3.00 | 2.00 | 2.00 | 3.00 | 2.00 |
| **C302** | 3.00 | 2.50 | 2.50 | 2.50 | 2.17 | 3.00 | 3.00 | 3.00 | 2.00 | 2.00 | 3.00 | 2.00 |
| **C304** | 2.83 | 2.33 | 2.17 | 2.33 | 2.17 | 2.83 | 3.00 | 3.00 | 2.00 | 2.00 | 2.83 | 2.00 |
| **C305** | 2.83 | 2.33 | 2.00 | 2.33 | 2.00 | 2.83 | 2.83 | 2.83 | 2.00 | 2.00 | 2.83 | 2.00 |
| **C310** | 2.80 | 2.20 | 1.80 | 2.20 | 1.80 | 2.80 | 2.80 | 2.80 | 2.00 | 2.00 | 2.80 | 2.00 |
| **C311** | 2.80 | 2.20 | 1.80 | 2.20 | 1.80 | 2.80 | 2.80 | 2.80 | 2.00 | 2.00 | 2.80 | 2.00 |
| **C312** | 3.00 | 2.50 | 2.25 | 2.50 | 2.25 | 3.00 | 3.00 | 3.00 | 2.00 | 2.00 | 3.00 | 2.00 |
| **C313** | 3.00 | 2.67 | 2.17 | 2.67 | 2.17 | 3.00 | 3.00 | 3.00 | 2.00 | 2.00 | 3.00 | 2.00 |
| **C315** | 2.83 | 2.33 | 2.00 | 2.33 | 2.00 | 2.83 | 2.83 | 2.83 | 2.00 | 2.00 | 2.83 | 2.00 |
| **C316** | 2.83 | 2.33 | 2.00 | 2.33 | 2.00 | 2.83 | 2.83 | 2.83 | 2.00 | 2.00 | 2.83 | 2.00 |
| **C318** | 3.00 | 2.50 | 2.50 | 2.50 | 2.17 | 3.00 | 3.00 | 3.00 | 2.00 | 2.00 | 3.00 | 2.00 |
| **C320** | 2.83 | 2.33 | 2.00 | 2.33 | 2.00 | 2.83 | 2.83 | 2.83 | 2.00 | 2.00 | 2.83 | 2.00 |

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **C323** | 3.00 | 2.50 | 2.25 | 2.50 | 2.25 | 3.00 | 3.00 | 3.00 | 2.00 | 2.00 | 3.00 | 2.00 |
| **C324** | | 3.00 | | 3.00 | | 3.00 | 3.00 | 3.00 | 3.00 | 3.00 | | 3.00 |
| **C401** | 3.00 | 2.50 | 2.17 | 2.67 | 2.17 | 3.00 | 3.00 | 3.00 | 2.00 | 2.00 | 3.00 | 2.00 |
| **C402** | 3.00 | 2.25 | 2.00 | 2.50 | 2.00 | 3.00 | 3.00 | 3.00 | 2.00 | 2.00 | 3.00 | 2.00 |
| **C403** | 2.80 | 2.20 | 1.80 | 2.20 | 1.80 | 2.80 | 2.80 | 2.80 | 2.00 | 2.00 | 2.80 | 2.00 |
| **C404** | 3.00 | 2.25 | 2.00 | 2.50 | 2.00 | 3.00 | 3.00 | 3.00 | 2.00 | 2.00 | 3.00 | 2.00 |
| **C405** | 2.83 | 2.33 | 2.00 | 2.33 | 2.00 | 2.83 | 2.83 | 2.83 | 2.00 | 2.00 | 2.83 | 2.00 |
| **C408** | 3.00 | 3.00 | 3.00 | 3.00 | 3.00 | 3.00 | 3.00 | 3.00 | 3.00 | 3.00 | 3.00 | 2.00 |
| **C409** | 3.00 | 3.00 | 2.90 | 2.80 | 2.80 | 2.80 | 3.00 | 2.80 | 2.80 | 2.60 | 3.00 | 2.80 |
| **C410** | 2.80 | 2.20 | 1.80 | 2.20 | 1.80 | 2.80 | 2.80 | 2.80 | 2.00 | 2.00 | 2.80 | 2.00 |
| **C411** | | 3.00 | 3.00 | 3.00 | 3.00 | 3.00 | 3.00 | 3.00 | 3.00 | 3.00 | 3.00 | 3.00 |
| **PO TARGET** | **2.67** | **2.32** | **1.96** | **2.27** | **2.10** | **2.74** | **2.73** | **2.83** | **1.93** | **2.09** | **2.76** | **1.92** |

***TABLE B.3.1.3.1a CO-PO MATRIX OF COURSES (2021-2022)***

### 3.2. Attainment of Course Outcomes (50)

#### 3.2.1. Describe the assessment processes used to gather the data upon which the evaluation of Course Outcome is based (10)



**I. Preparation of Course Outcomes (COs)**

Course Outcomes are the expected abilities of students based on relevance of the course, divided into the different levels/stages of abilities gained.

Levels are decided according to knowledge levels of Bloom's Taxonomy

- Level 1 Knowledge
- Level 2 Understanding
- Level 3 Application
- Level 4 Analysis
- Level 5 Evaluation
- Level 6 Creation

The COs' are prepared for each subject: theory and practical correlating with these levels bases on the expected result/aim of the course. *(Examples in 3.1.1)*

Each CO is assigned appropriate knowledge level.

**II. Mapping of COs with Program Outcomes (POs) of Department**

The Course Outcomes of each course are mapped with the 12 Program Outcomes of the Department.

The degree of relation of each CO with PO is established in three levels

- Level 1 Low Relation (L)
- Level 2 Medium Relation (M)
- Level 3 Strong Relation (S)

*(See CO-PO Matrix in 3.1.2)*

Each PO and CO are assigned Knowledge levels. Based on the difference between the knowledge levels of PO (PKL) and knowledge level of CO (CKL), strong/medium/ low relation is worked out.

**CKL – Course outcome Knowledge level, PKL – Program outcome Knowledge Level**

| Difference CKL-PKL | Corelation | Corelation Notation | Relation level |
|---|---|---|---|
| -1, 0, positive | Strong Corelation | S | 3 |
| -2, -3 | Medium Corelation | M | 2 |
| -4, -5 | Low Corelation | L | 1 |

| CO-PO ARTICULATION MATRIX | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CKL – Course outcome Knowledge level, PKL – Program outcome Knowledge Level | | | | | | | | | | | | | |
| | **CKL** | **PO1** | **PO2** | **PO3** | **PO4** | **PO5** | **PO6** | **PO7** | **PO8** | **PO9** | **PO10** | **PO11** | **PO12** |
| **PKL** | | **3** | **5** | **6** | **5** | **6** | **3** | **3** | **3** | **M** | **M** | **3** | **M** |
| **C301.1** | **2** | -1 | -3 | -4 | -3 | -4 | -1 | -1 | -1 | M | M | -1 | M |
| **C301.2** | **3** | 0 | -2 | -3 | -2 | -3 | 0 | 0 | 0 | M | M | 0 | M |
| **C301.3** | **3** | 0 | -2 | -3 | -2 | -3 | 0 | 0 | 0 | M | M | 0 | M |
| **C301.4** | **4** | 1 | -1 | -2 | -1 | -2 | 1 | 1 | 1 | M | M | 1 | M |
| **C301.5** | **5** | 2 | 0 | -1 | 0 | -1 | 2 | 2 | 2 | M | M | 2 | M |
| **C301.6** | **5** | 2 | 0 | -1 | 0 | -1 | 2 | 2 | 2 | M | M | 2 | M |
| | | | | | | | | | | | | | |
| | **CKL** | **PO1** | **PO2** | **PO3** | **PO4** | **PO5** | **PO6** | **PO7** | **PO8** | **PO9** | **PO10** | **PO11** | **PO12** |
| **PKL** | | 3 | 5 | 6 | 5 | 6 | 3 | 3 | 3 | M | M | 3 | M |
| **C301.1** | 2 | S | M | L | M | L | S | S | S | M | M | S | M |
| **C301.2** | 3 | S | M | S | M | M | S | S | S | M | M | S | M |
| **C301.3** | 3 | S | M | S | M | M | S | S | S | M | M | S | M |
| **C301.4** | 4 | S | S | M | S | M | S | S | S | M | M | S | M |
| **C301.5** | 5 | S | S | S | S | S | S | S | S | M | M | S | M |
| **C301.6** | 5 | S | S | S | S | S | S | S | S | M | M | S | M |
| | **CKL** | **PO1** | **PO2** | **PO3** | **PO4** | **PO5** | **PO6** | **PO7** | **PO8** | **PO9** | **PO10** | **PO11** | **PO12** |
| **PKL** | | **3** | **5** | **6** | **5** | **6** | **3** | **3** | **3** | **M** | **M** | **3** | **M** |
| **C301.1** | **2** | S | M | L | M | L | S | S | S | M | M | S | M |
| **C301.2** | **3** | S | M | S | M | M | S | S | S | M | M | S | M |
| **C301.3** | **3** | S | M | S | M | M | S | S | S | M | M | S | M |
| **C301.4** | **4** | S | S | M | S | M | S | S | S | M | M | S | M |
| **C301.5** | **5** | S | S | S | S | S | S | S | S | M | M | S | M |
| **C301.6** | **5** | S | S | S | S | S | S | S | S | M | M | S | M |

**III. Setting Target for Course and COs**

The motive of each step of evaluation is to attain CO and POs ultimately in relation to the target set.

Attainment targets are set for each course

- Course Target: Percentage of students expected to attain the individual CO targets of marks. The target is set after conducting meeting with concerned faculty, Head of Department, and student class representatives based on experience, results and performance of students.
  For example: Level 3 is decided as 70%of total students in a class getting more than 60%. Here, 70% is target for course
- CO Marks Targets: Each CO target attainment level is set according to the average marks of students in internal assessment of each individual CO.
  For example: if average marks attained by the class in CO1 is 60%, then target for CO1 is 60%.

*Therefore, if course target is 70% and CO target is 60%, then*
*CO 1 is attained if 70% of students have attained more than 60% marks. This is taken as level 3 for course attainment. (or more than 70% of class should attain at least the average marks or more).*
*CO target will vary for each CO based on average marks attained and Course target is kept same for all COs.*

| | CO1 | CO2 | CO3 | CO4 | CO5 | CO6 |
|---|---|---|---|---|---|---|
| **CO Target (Average Marks)** | **60%** | **83%** | **81%** | **71%** | **77%** | **83%** |
| **Course Target** | **70%** | **70%** | **70%** | **70%** | **70%** | **70%** |

CO1 is attained when 70% of students score more than 60%marks
CO2 is attained when 70% of students score more than 83%marks
CO3 is attained when 70% of students score more than 81%marks
CO4 is attained when 70% of students score more than 71%marks
CO5 is attained when 70% of students score more than 77%marks
CO6 is attained when 70% of students score more than 83%marks

**IV. Evaluation and Attainment of COs**

| | | |
|---|---|---|
| **Direct Method** | | |
| CO Attainment is achieved by evaluation of students through Internal and External Assessment in theory and practical subjects. This is the direct method of evaluation. | | |
| *Components of Internal Assessment:* | | |
| 1. | Mid semester Examinations | Two mid semester examinations of theory subjects are conducted in each semester of 30 marks each with minimum 4 questions of different weightages. Each question is mapped with relevant course outcomes *(refer process of setting of question paper already discussed in Criteria 2).* The marks awarded during evaluation in any question are considered the marks attained in the respective COs mapped with that question. All COs mapped with the question paper are evaluated likewise. |
| 2. | Assignments | Assignments/presentations/small projects/quiz/group tasks are assigned to students timely to assess their performance. Each question or task of assignment or any other means mentioned above are mapped with CO *(refer process of setting of question paper already discussed in Criteria 2)*. These are evaluated by concerned faculty and marks awarded. All COs mapped with the assignment etc. are evaluated likewise. |
| 3. | Practical/Lab Assessment | Practical/ lab course is evaluated based on lab performance of students, lab report/file and mid semester viva held during the semester. All these components are mapped with relevant course outcomes. Students are evaluated continuously by faculty on these parameters. The marks awarded are considered as the marks attained in the respective COs. |
| *Components of External Assessment:* As the external examinations are not governed by our Institute, the pass percentage in the end semester examinations is considered the CO attainment in external assessment. | | |
| **Indirect Method** | | |
| CO Attainment is also carried out by taking course end surveys from students at the end of semester. This is the direct method of evaluation. | | |
| *Components of Internal Assessment:* | | |
| 1. | Course End Survey | A questionnaire about the course is prepared by the course coordinator and the program coordinator and is distributed to students to get their feedback at end of the semester regarding attainment of COs. |

***Table B.3.2.1. PROCESS OF CO ASSESSMENT***

**3.2.2. Record the attainment of Course Outcomes of all courses with respect to set attainment levels (40)**

Course Outcomes are attained through evaluation of components of internal assessment i.e.

- Mid Semester Periodical Exams, Assignments/presentation/ quiz/seminar etc. for Theory subjects
- Mid Semester Viva, Lab Performance and Lab Report/file for Practical subjects.

*(The evaluation scheme already explained in criteria 2)*

CO and PO Attainment model has been devised by the Department in MS Excel to analyse the performance of students based on the set COs and POs. Each component of evaluation is related to Course outcomes of the respective subject/ course.

The attainment levels are set considering average performance levels of the students in internal and external assessment and analysed with respect to target level. Attainment level is measured in terms of student performance in internal assessments (Internal Assessment) with respect to the Course Outcomes of a course in addition to the performance in the end semester University examination (External Assessment).

The detailed method is explained as below:

**CO ATTAINMENT PROCEDURE BY ATTAINMENT MODEL**

| **Internal Assessment** | | | |
|---|---|---|---|
| **1** | **Bifurcation of marks in COs for each student** | | Marks obtained by each student in each parameter of evaluation scheme distributed into respective COs as mapped with them. |
| **2** | **CO Marks Percentage Attained by student ($X_S$)** | | Percentage of marks obtained by each student is obtained in respective COs and average is determined for whole class. |
| **3** | **CO Attainment Targets** | | Target is set as the <u>percentage of students</u> getting <u>more than class average marks</u> or set by the program in each of the associated COs in the assessment parameters (midterm tests, assignments, mini projects, quizzes, presentations, viva, report, performance etc. as mapped with the COs). Therefore, attainment is based on two targets: |
| | i. | **$T_A$: Course Target (percentage of students)** | It is the min*imum percentage of students expected to attain CO targets*. The value in %age is set by the Department by conducting meeting involving Head of Department, all faculty and student class representatives. e.g. $T_A$ = 50% means that 50% of students in class must attain the min. marks in each CO ($T_B$) |
| | ii. | **$T_B$: Individual CO Marks Target (Minimum %age of marks expected to be attained in each CO individually)** | It is the minimum percentage of marks to be attained by student in each CO individually. It is *average of percentage of marks scored in each of the associated COs* in each evaluation component. |
| **4** | **Percentage Average CO Marks ($Y_T$)** | | Average CO attained in each course or a higher value (as decided by concerned faculty) is considered the target for the respective CO. $Y_{T=}T_B$ |

| | | |
|---|---|---|
| **5** | **Attainment Levels of Student** | Three attainment levels are decided based on marks of student<br>**Level 3:** If CO% attained by a student is more than Target of that CO i.e. $\boldsymbol{X_s \geq Y_T}$<br>**Level 2:** If CO% attained by a student is less than target of that CO but greater than minimum marks ($Z_M$) ($Z_M$ usually taken as 40% but can be taken less based on average marks) $\boldsymbol{Y_T < X_s \leq Z_m}$<br>**Level 1:** If CO% attained by a student is less than minimum marks (usually taken as 40% but can be taken less based on average marks)<br>$\boldsymbol{X_s < Z_m}$ |
| **6** | **%age students attained Grade Level 3 ($N_3$)** | %age of students attaining levels 3, 2, 1 are determined by dividing No. of students attaining the levels (counting the students with levels 3, 2, 1) with total no of students in class. The percentage of students who have attained marks more than the CO target $T_B$ = percentage of students who have attained level 3 = $N_3$ |
| **7** | **Comparison of $N_3$, $N_2$, $N_1$ with course target $T_A$** | If the %age of students who have attained level 3 (i.e. CO target $T_B$) is greater than course target TA, then CO is achieved. $N_2$ and $N_1$ are not relevant |
| **8** | **Levels of Attainment / Achievement of COs** | **Grade 3:** If the %age of students who have attained level 3 (i.e. CO target $T_B$) is greater than or equal to course target $T_A$<br>$N_3 \geq T_A$<br>**Grade 2:** If the %age of students who have attained level 3 (i.e. CO target $T_B$) is less than $T_A$ but greater than minimum students expected to attain target ($N_M$).<br>$T_A < N_3 \leq N_m$<br>**Grade 1:** If the %age of students who have attained level 3 (i.e. CO target $T_B$) is less than minimum students expected to attain target ($N_M$).<br>$T_A \leq N_M$ |
| **9** | **Final CO Attained Internal Assessment (IA)** | The grades as shown in point no. 8 are considered the attainment of CO in internal assessment. |
| **External Assessment** | | |
| **10** | **Percentage CO Attained External Assessment ($N_E$)** | As the external examinations are not governed by our Institute, the pass percentage in the end semester examinations is considered the CO attainment in external assessment. |
| **11** | **Grade Levels of Attainment / Achievement of COs** | **Grade 3:** If the %age of students who passed the end sem exam greater than or equal to course target $T_A$<br>$\boldsymbol{N_E \geq T_A}$<br>**Grade 2:** If the %age of students who passed the end sem exam is less than $T_A$ but greater than minimum students expected to attain target ($N_M$).<br>$\boldsymbol{T_A < N_E \leq N_m}$<br>**Grade 1:** If the %age of students who passed the end sem exam is less than minimum students expected to attain target ($N_M$).<br>$\boldsymbol{T_A \leq N_E}$ |

| | | |
|---|---|---|
| **12** | **Final CO Attained External Assessment (EA)** | The grades as shown in point no. 11 are considered the attainment of CO in external assessment. |
| **13** | **CO ATTAINED: DIRECT METHOD (COA)**<br>$CO_A = 0.4 \times IA + 0.6 \times EA$ **-for theory subjects**<br>$CO_A = 0.6 \times IA + 0.4 \times EA$ **-for practical subjects**<br>40 % weightage to Internal assessment, 60% weightage to External assessment for theory subjects as per university scheme.<br>60 % weightage to Internal assessment, 40% weightage to External assessment for practical subjects | |
| **Indirect Attainment CO** | | |
| **Indirect assessment based on student's response for each course outcome is collected from course end survey of each course.**<br>**In course end survey, grading is done by students in 3 rating levels: 1,2,3** | | |
| **14** | **Levels of Attainment / Achievement of COs** | **Grade 3:** If the %age of students who gave rating 3 is equal to course target $T_A$ $N \geq T_A$<br>**Grade 2:** If the %age of students who gave rating 3 is less than $T_A$ but greater than minimum students expected to attain target ($N_M$). $T_A < N \leq N_m$<br>**Grade 1:** If the %age of students who gave rating 3 is less than minimum students expected to attain target ($N_M$). $T_A \leq N$ |
| **15** | **CO Attained: Indirect Method ($CO_B$)** | The grades as shown in point no. 14 are considered the attainment of CO through indirect attainment |
| **16** | **TOTAL CO ATTAINED: DIRECT METHOD (COA) AND INDIRECT METHOD (COB)**<br>$CO_T = 0.8 \times CO_A + 0.2 \times CO_B$<br>80 % weightage to Direct method of attainment and 20% weightage to Indirect method of attainment | |

***Table B.3.2.2 a PROCESS OF CO ASSESSMENT***

**SESSION 2021-22**

| Courses | Cos | Target | Direct Attained | | Direct External Attained | | Indirect Attained | | Attained Level |
|---|---|---|---|---|---|---|---|---|---|
| | | | % Attained | Level Attained | % Attained | Level Attained | % Attained | Level Attained | |
| **C201** | C201.1 | 50% | 54% | 3.00 | 73% | 3.00 | 51% | 3.00 | 3 |
| | C201.2 | 50% | 56% | 3.00 | 73% | 3.00 | 51% | 3.00 | 3 |
| | C201.3 | 50% | 48% | 2.00 | 73% | 3.00 | 36% | 2.00 | 2.48 |
| | C201.4 | 50% | 46% | 2.00 | 73% | 3.00 | 36% | 2.00 | 2.48 |
| | C201.5 | 50% | 75% | 3.00 | 73% | 3.00 | 36% | 2.00 | 2.8 |
| | C201.6 | 50% | 100% | 3.00 | 73% | 3.00 | 33% | 2.00 | 2.8 |
| **C202** | C202.1 | 65% | 52% | 1.00 | 95% | 3.00 | 89% | 3.00 | 2.36 |
| | C202.2 | 65% | 63% | 2.00 | 95% | 3.00 | 71% | 3.00 | 2.68 |
| | C202.3 | 65% | 52% | 1.00 | 95% | 3.00 | 59% | 1.00 | 1.96 |
| | C202.4 | 65% | 54% | 1.00 | 95% | 3.00 | 56% | 1.00 | 1.96 |
| | C202.5 | 65% | 44% | 1.00 | 95% | 3.00 | 51% | 1.00 | 1.96 |
| **C203** | C203.1 | 50% | 50% | 2.00 | 54% | 2.00 | 70% | 3.00 | 2.20 |
| | C203.2 | 50% | 53% | 2.00 | 54% | 2.00 | 58% | 2.00 | 2.00 |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | C203.3 | 50% | 36% | 1.00 | 54% | 2.00 | 70% | 3.00 | 1.88 |
| | C203.4 | 50% | 33% | 1.00 | 54% | 2.00 | 63% | 2.00 | 1.68 |
| | C203.5 | 50% | 46% | 1.00 | 54% | 2.00 | 65% | 2.00 | 1.68 |
| | C203.6 | 50% | 57% | 2.00 | 54% | 2.00 | 60% | 2.00 | 2.00 |
| **C204** | C204.1 | 55% | 52% | 2.00 | 90% | 3.00 | 51% | 2.60 | 2.48 |
| | C204.2 | 55% | 60% | 2.00 | 90% | 3.00 | 47% | 2.60 | 2.8 |
| | C204.3 | 55% | 50% | 3.00 | 90% | 3.00 | 43% | 3.00 | 2.28 |
| | C204.4 | 55% | 58% | 2.00 | 90% | 3.00 | 43% | 2.60 | 2.6 |
| | C204.5 | 55% | 51% | 2.00 | 90% | 3.00 | 43% | 3.00 | 2.28 |
| | C204.6 | 55% | 80% | 3.00 | 90% | 3.00 | 41% | 3.00 | 2.6 |
| **C205** | C205.1 | 65% | 64% | 3.00 | 95% | 3.00 | 43% | 2.00 | 2.8 |
| | C205.2 | 65% | 56% | 3.00 | 95% | 3.00 | 71% | 3.00 | 3.00 |
| | C205.3 | 65% | 54% | 3.00 | 95% | 3.00 | 51% | 3.00 | 3.00 |
| | C205.4 | 65% | 54% | 3.00 | 95% | 3.00 | 54% | 3.00 | 3.00 |
| | C205.5 | 65% | 59% | 3.00 | 95% | 3.00 | 48% | 2.00 | 2.80 |
| | C205.6 | 65% | 0% | 1.00 | 95% | 3.00 | 40% | 1.00 | 1.96 |
| **C206** | C206.1 | 60% | 44% | 2.00 | 97% | 3.00 | 46% | 2.00 | 2.48 |
| | C206.2 | 60% | 42% | 2.00 | 97% | 3.00 | 71% | 3.00 | 2.68 |
| | C206.3 | 60% | 55% | 2.00 | 97% | 3.00 | 41% | 2.00 | 2.48 |
| | C206.4 | 60% | 59% | 2.00 | 97% | 3.00 | 51% | 2.00 | 2.48 |
| | C206.5 | 60% | 62% | 3.00 | 97% | 3.00 | 44% | 2.00 | 2.80 |
| | C206.6 | 60% | 82% | 3.00 | 97% | 3.00 | 44% | 2.00 | 2.80 |
| **C207** | C207.1 | 80% | 79% | 3.00 | 99% | 3.00 | 70% | 3.00 | 3.00 |
| | C207.2 | 80% | 53% | 2.00 | 99% | 3.00 | 58% | 2.00 | 2.48 |
| | C207.3 | 80% | 71% | 3.00 | 99% | 3.00 | 70% | 3.00 | 3.00 |
| | C207.4 | 80% | 48% | 2.00 | 99% | 3.00 | 63% | 3.00 | 2.68 |
| **C210** | C210.1 | 75% | 44% | 1.00 | 100% | 3.00 | 68% | 3.00 | 2.04 |
| | C210.2 | 75% | 44% | 1.00 | 100% | 3.00 | 62% | 2.00 | 1.84 |
| | C210.3 | 75% | 44% | 1.00 | 100% | 3.00 | 54% | 2.00 | 1.84 |
| | C210.4 | 75% | 44% | 1.00 | 100% | 3.00 | 58% | 2.00 | 1.84 |
| | C210.5 | 75% | 33% | 1.00 | 100% | 3.00 | 54% | 2.00 | 1.84 |
| **C211** | C211.1 | 60% | 56% | 2.00 | 100% | 3.00 | 83% | 3.00 | 2.52 |
| | C211.2 | 60% | 51% | 1.00 | 100% | 3.00 | 78% | 3.00 | 2.04 |
| | C211.3 | 60% | 55% | 1.00 | 100% | 3.00 | 83% | 3.00 | 2.04 |
| | C211.4 | 60% | 48% | 1.00 | 100% | 3.00 | 80% | 3.00 | 2.04 |
| **C212** | C212.1 | 75% | 56% | 2.00 | 100% | 3.00 | 68% | 3.00 | 2.52 |
| | C212.2 | 75% | 56% | 2.00 | 100% | 3.00 | 62% | 2.00 | 2.32 |
| | C212.3 | 75% | 53% | 2.00 | 100% | 3.00 | 54% | 2.00 | 2.32 |
| | C212.4 | 75% | 56% | 2.00 | 100% | 3.00 | 58% | 2.00 | 2.32 |
| | C212.5 | 75% | 51% | 2.00 | 100% | 3.00 | 54% | 2.00 | 2.32 |
| **C213** | C213.1 | 60% | 50% | 2.00 | 81% | 3.00 | 87% | 3.00 | 2.25 |
| | C213.2 | 60% | 46% | 1.00 | 81% | 3.00 | 78% | 3.00 | 1.92 |
| | C213.3 | 60% | 47% | 1.00 | 81% | 3.00 | 70% | 3.00 | 1.90 |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | C213.4 | 60% | 43% | 1.00 | 81% | 3.00 | 70% | 3.00 | 1.90 |
| | C213.5 | 60% | 49% | 1.00 | 81% | 3.00 | 78% | 3.00 | 1.92 |
| | C213.6 | 60% | 41% | 1.00 | 81% | 3.00 | 91% | 3.00 | 1.94 |
| **C214** | C214.1 | 70% | 45% | 1.00 | 96% | 3.00 | 89% | 3.00 | 2.36 |
| | C214.2 | 70% | 48% | 1.00 | 96% | 3.00 | 71% | 3.00 | 2.36 |
| | C214.3 | 70% | 46% | 1.00 | 96% | 3.00 | 60% | 1.00 | 1.96 |
| | C214.4 | 70% | 42% | 1.00 | 96% | 3.00 | 51% | 1.00 | 1.96 |
| | C214.5 | 70% | 7% | 1.00 | 96% | 3.00 | 44% | 1.00 | 1.96 |
| | C214.6 | 70% | 7% | 1.00 | 96% | 3.00 | 37% | 1.00 | 1.96 |
| **C215** | C215.1 | 50% | 63% | 3.00 | 70% | 3.00 | 46% | 2.00 | 2.80 |
| | C215.2 | 50% | 67% | 3.00 | 70% | 3.00 | 71% | 3.00 | 3.00 |
| | C215.3 | 50% | 34% | 1.00 | 70% | 3.00 | 41% | 2.00 | 2.16 |
| | C215.4 | 50% | 51% | 3.00 | 70% | 3.00 | 51% | 3.00 | 3.00 |
| | C215.5 | 50% | 50% | 3.00 | 70% | 3.00 | 44% | 2.00 | 2.80 |
| | C215.6 | 50% | 56% | 3.00 | 70% | 3.00 | 44% | 2.00 | 2.80 |
| **C216** | C216.1 | 50% | 44% | 2.00 | 71% | 3.00 | 46% | 2.00 | 2.48 |
| | C216.2 | 50% | 54% | 3.00 | 71% | 3.00 | 71% | 3.00 | 3.00 |
| | C216.3 | 50% | 31% | 1.00 | 71% | 3.00 | 41% | 2.00 | 2.16 |
| | C216.4 | 50% | 33% | 1.00 | 71% | 3.00 | 51% | 3.00 | 2.36 |
| | C216.5 | 50% | 31% | 1.00 | 71% | 3.00 | 44% | 2.00 | 2.16 |
| | C216.6 | 50% | 33% | 1.00 | 71% | 3.00 | 51% | 3.00 | 2.10 |
| **C217** | C217.1 | 65% | 49% | 2.00 | 95% | 3.00 | 27% | 1.00 | 2.28 |
| | C217.2 | 65% | 34% | 1.00 | 95% | 3.00 | 68% | 3.00 | 2.36 |
| | C217.3 | 65% | 56% | 3.00 | 95% | 3.00 | 40% | 1.00 | 2.60 |
| | C217.4 | 65% | 57% | 3.00 | 95% | 3.00 | 49% | 2.00 | 2.80 |
| **C218** | C218.1 | 70% | 61% | 2.00 | 99% | 3.00 | 70% | 3.00 | 2.68 |
| | C218.2 | 70% | 56% | 2.00 | 99% | 3.00 | 58% | 2.00 | 2.48 |
| | C218.3 | 70% | 55% | 2.00 | 99% | 3.00 | 70% | 3.00 | 2.68 |
| | C218.4 | 70% | 47% | 1.00 | 99% | 3.00 | 63% | 2.00 | 2.16 |
| | C218.5 | 70% | 62% | 2.00 | 99% | 3.00 | 65% | 2.00 | 2.48 |
| | C218.6 | 70% | 38% | 1.00 | 99% | 3.00 | 60% | 2.00 | 2.16 |
| **C222** | C222.1 | 50% | 47% | 2.00 | 100% | 3.00 | 70% | 3.00 | 2.52 |
| | C222.2 | 50% | 47% | 2.00 | 100% | 3.00 | 64% | 2.00 | 2.32 |
| | C222.3 | 50% | 73% | 3.00 | 100% | 3.00 | 54% | 2.00 | 2.80 |
| | C222.4 | 50% | 48% | 2.00 | 100% | 3.00 | 60% | 2.00 | 2.32 |
| **C223** | C223.1 | 75% | 55% | 2.00 | 100% | 3.00 | 68% | 3.00 | 2.52 |
| | C223.2 | 75% | 55% | 2.00 | 100% | 3.00 | 62% | 2.00 | 2.32 |
| | C223.3 | 75% | 52% | 2.00 | 100% | 3.00 | 54% | 2.00 | 2.32 |
| | C223.4 | 75% | 55% | 2.00 | 100% | 3.00 | 58% | 2.00 | 2.32 |
| | C223.5 | 75% | 51% | 2.00 | 100% | 3.00 | 54% | 2.00 | 2.32 |
| **C224** | C224.1 | 65% | 58% | 2.00 | 100% | 3.00 | 60% | 2.00 | 2.32 |
| | C224.2 | 65% | 58% | 2.00 | 100% | 3.00 | 70% | 3.00 | 2.52 |
| | C224.3 | 65% | 56% | 2.00 | 100% | 3.00 | 60% | 2.00 | 2.32 |

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|---|---|---|---|---|---|---|---|---|---|
| | C224.4 | 65% | 62% | 2.00 | 100% | 3.00 | 68% | 3.00 | 2.52 |
| | C224.5 | 65% | 67% | 3.00 | 100% | 3.00 | 63% | 2.00 | 2.80 |
| **C301** | C301.1 | 55% | 57% | 3.00 | 96% | 3.00 | 55% | 2.00 | 2.8 |
| | C301.2 | 55% | 59% | 3.00 | 96% | 3.00 | 51% | 2.00 | 2.8 |
| | C301.3 | 55% | 54% | 2.00 | 96% | 3.00 | 45% | 2.00 | 2.48 |
| | C301.4 | 55% | 57% | 3.00 | 96% | 3.00 | 43% | 2.00 | 2.8 |
| | C301.5 | 55% | 43% | 2.00 | 96% | 3.00 | 43% | 2.00 | 2.48 |
| | C301.6 | 55% | 49% | 2.00 | 96% | 3.00 | 39% | 1.00 | 2.28 |
| **C302** | C302.1 | 50% | 43% | 2.00 | 91% | 3.00 | 55% | 2.00 | 2.48 |
| | C302.2 | 50% | 46% | 2.00 | 91% | 3.00 | 51% | 2.00 | 2.48 |
| | C302.3 | 50% | 48% | 2.00 | 91% | 3.00 | 45% | 2.00 | 2.48 |
| | C302.4 | 50% | 54% | 2.00 | 91% | 3.00 | 43% | 2.00 | 2.48 |
| | C302.5 | 50% | 48% | 2.00 | 91% | 3.00 | 43% | 2.00 | 2.48 |
| | C302.6 | 50% | 49% | 2.00 | 91% | 3.00 | 39% | 1.00 | 2.28 |
| **C304** | C304.1 | 60% | 99% | 3.00 | 91% | 3.00 | 49% | 2.00 | 2.80 |
| | C304.2 | 60% | 52% | 3.00 | 91% | 3.00 | 78% | 3.00 | 3.00 |
| | C304.3 | 60% | 38% | 1.00 | 91% | 3.00 | 43% | 2.00 | 2.16 |
| | C304.4 | 60% | 46% | 2.00 | 91% | 3.00 | 54% | 3.00 | 2.68 |
| | C304.5 | 60% | 46% | 2.00 | 91% | 3.00 | 46% | 2.00 | 2.48 |
| | C304.6 | 60% | 35% | 1.00 | 91% | 3.00 | 44% | 2.00 | 2.16 |
| **C305** | C305.1 | 60% | 52% | 2.00 | 97% | 3.00 | 36% | 1.00 | 2.28 |
| | C305.2 | 60% | 36% | 1.00 | 97% | 3.00 | 49% | 2.00 | 2.16 |
| | C305.3 | 60% | 65% | 3.00 | 97% | 3.00 | 29% | 1.00 | 2.60 |
| | C305.4 | 60% | 68% | 3.00 | 97% | 3.00 | 41% | 2.00 | 2.80 |
| | C305.5 | 60% | 42% | 2.00 | 97% | 3.00 | 34% | 1.00 | 2.28 |
| | C305.6 | 60% | 55% | 2.00 | 97% | 3.00 | 25% | 1.00 | 2.28 |
| **C310** | C310.1 | 75% | 41% | 1.00 | 100% | 3.00 | 69% | 2.00 | 1.84 |
| | C310.2 | 75% | 41% | 1.00 | 100% | 3.00 | 63% | 2.00 | 1.84 |
| | C310.3 | 75% | 77% | 3.00 | 100% | 3.00 | 57% | 2.00 | 2.80 |
| | C310.4 | 75% | 41% | 1.00 | 100% | 3.00 | 69% | 2.00 | 1.84 |
| | C310.5 | 75% | 41% | 1.00 | 100% | 3.00 | 65% | 2.00 | 1.84 |
| **C311** | C311.1 | 75% | 52% | 1.00 | 100% | 3.00 | 49% | 1.00 | 1.64 |
| | C311.2 | 75% | 52% | 1.00 | 100% | 3.00 | 55% | 1.00 | 1.64 |
| | C311.3 | 75% | 35% | 1.00 | 100% | 3.00 | 49% | 1.00 | 1.64 |
| | C311.4 | 75% | 52% | 1.00 | 100% | 3.00 | 47% | 1.00 | 1.64 |
| | C311.5 | 75% | 52% | 1.00 | 100% | 3.00 | 41% | 1.00 | 1.64 |
| **C312** | C312.1 | 60% | 39% | 1.00 | 100% | 3.00 | 46% | 2.00 | 1.84 |
| | C312.2 | 60% | 39% | 1.00 | 100% | 3.00 | 51% | 2.00 | 1.84 |
| | C312.3 | 60% | 47% | 2.00 | 100% | 3.00 | 51% | 2.00 | 2.32 |
| | C312.4 | 60% | 42% | 2.00 | 100% | 3.00 | 46% | 2.00 | 2.32 |
| **C313** | C313.1 | 60% | 49% | 2.00 | 78% | 3.00 | 67% | 3.00 | 2.68 |
| | C313.2 | 60% | 36% | 1.00 | 78% | 3.00 | 71% | 3.00 | 2.36 |
| | C313.3 | 60% | 47% | 2.00 | 78% | 3.00 | 62% | 3.00 | 2.68 |

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|---|---|---|---|---|---|---|---|---|---|
| | C313.4 | 60% | 68% | 3.00 | 78% | 3.00 | 62% | 3.00 | 3.00 |
| | C313.5 | 60% | 49% | 2.00 | 78% | 3.00 | 64% | 3.00 | 2.68 |
| | C313.6 | 60% | 46% | 2.00 | 78% | 3.00 | 62% | 3.00 | 2.68 |
| **C315** | C315.1 | 65% | 43% | 1.00 | 97% | 3.00 | 47% | 2.00 | 2.16 |
| | C315.2 | 65% | 52% | 2.00 | 97% | 3.00 | 47% | 2.00 | 2.48 |
| | C315.3 | 65% | 57% | 2.00 | 97% | 3.00 | 36% | 1.00 | 2.28 |
| | C315.4 | 65% | 52% | 2.00 | 97% | 3.00 | 42% | 1.00 | 2.28 |
| | C315.5 | 65% | 61% | 2.00 | 97% | 3.00 | 33% | 1.00 | 2.28 |
| | C315.6 | 65% | 51% | 2.00 | 97% | 3.00 | 31% | 1.00 | 2.28 |
| **C316** | C316.1 | 65% | 58% | 2.00 | 94% | 3.00 | 30% | 1.00 | 2.28 |
| | C316.2 | 65% | 52% | 2.00 | 94% | 3.00 | 38% | 1.00 | 2.28 |
| | C316.3 | 65% | 43% | 1.00 | 94% | 3.00 | 28% | 1.00 | 1.96 |
| | C316.4 | 65% | 57% | 2.00 | 94% | 3.00 | 33% | 1.00 | 2.28 |
| | C316.5 | 65% | 10% | 1.00 | 94% | 3.00 | 33% | 1.00 | 1.96 |
| | C316.6 | 65% | 74% | 3.00 | 94% | 3.00 | 33% | 1.00 | 2.60 |
| **C318** | C318.1 | 50% | 55% | 3.00 | 100% | 3.00 | 46% | 2.00 | 2.80 |
| | C318.2 | 50% | 52% | 3.00 | 100% | 3.00 | 71% | 3.00 | 3.00 |
| | C318.3 | 50% | 54% | 3.00 | 100% | 3.00 | 41% | 2.00 | 2.80 |
| | C318.4 | 50% | 49% | 2.00 | 100% | 3.00 | 51% | 3.00 | 2.68 |
| | C318.5 | 50% | 51% | 3.00 | 100% | 3.00 | 44% | 2.00 | 2.80 |
| | C318.6 | 50% | 61% | 3.00 | 100% | 3.00 | 44% | 2.00 | 2.80 |
| **C320** | C320.1 | 50% | 65% | 3.00 | 97% | 3.00 | 46% | 2.00 | 2.80 |
| | C320.2 | 50% | 48% | 2.00 | 97% | 3.00 | 71% | 3.00 | 2.68 |
| | C320.3 | 50% | 49% | 2.00 | 97% | 3.00 | 41% | 2.00 | 2.48 |
| | C320.4 | 50% | 52% | 3.00 | 97% | 3.00 | 51% | 3.00 | 3.00 |
| | C320.5 | 50% | 51% | 3.00 | 97% | 3.00 | 44% | 2.00 | 2.80 |
| | C320.6 | 50% | 39% | 1.00 | 97% | 3.00 | 44% | 2.00 | 2.16 |
| **C323** | C323.1 | 60% | 48% | 2.00 | 100% | 3.00 | 54% | 2.00 | 2.32 |
| | C323.2 | 60% | 48% | 2.00 | 100% | 3.00 | 68% | 3.00 | 2.52 |
| | C323.3 | 60% | 49% | 2.00 | 100% | 3.00 | 58% | 2.00 | 2.32 |
| | C323.4 | 60% | 45% | 1.00 | 100% | 3.00 | 60% | 2.00 | 1.84 |
| **C401** | C401.1 | 50% | 77% | 3.00 | 98% | 3.00 | 61% | 3.00 | 3.00 |
| | C401.2 | 50% | 62% | 3.00 | 98% | 3.00 | 55% | 3.00 | 3.00 |
| | C401.3 | 50% | 38% | 2.00 | 98% | 3.00 | 61% | 3.00 | 2.68 |
| | C401.4 | 50% | 42% | 2.00 | 98% | 3.00 | 59% | 3.00 | 2.68 |
| | C401.5 | 50% | 55% | 3.00 | 98% | 3.00 | 55% | 3.00 | 3.00 |
| | C401.6 | 50% | 67% | 3.00 | 98% | 3.00 | 43% | 2.00 | 2.80 |
| **C402** | C402.1 | 70% | 83% | 3.00 | 95% | 3.00 | 30% | 1.00 | 2.60 |
| | C402.2 | 70% | 80% | 3.00 | 95% | 3.00 | 70% | 3.00 | 3.00 |
| | C402.3 | 70% | 61% | 3.00 | 95% | 3.00 | 41% | 2.00 | 2.80 |
| | C402.4 | 70% | 58% | 3.00 | 95% | 3.00 | 52% | 3.00 | 3.00 |
| | C402.5 | 70% | 55% | 1.00 | 95% | 3.00 | 46% | 2.00 | 2.16 |
| | C402.6 | 70% | 50% | 1.00 | 95% | 3.00 | 44% | 2.00 | 2.16 |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| **C403** | C403.1 | 60% | 44% | 2.00 | 100% | 3.00 | 46% | 2.00 | 2.48 |
| | C403.2 | 60% | 56% | 3.00 | 100% | 3.00 | 71% | 3.00 | 3.00 |
| | C403.3 | 60% | 61% | 3.00 | 100% | 3.00 | 41% | 2.00 | 2.80 |
| | C403.4 | 60% | 65% | 3.00 | 100% | 3.00 | 51% | 3.00 | 3.00 |
| | C403.5 | 60% | 41% | 2.00 | 100% | 3.00 | 44% | 2.00 | 2.48 |
| **C404** | C404.1 | 50% | 59% | 3.00 | 95% | 3.00 | 32% | 1.00 | 2.60 |
| | C404.2 | 50% | 65% | 3.00 | 95% | 3.00 | 67% | 3.00 | 3.00 |
| | C404.3 | 50% | 61% | 3.00 | 95% | 3.00 | 40% | 1.00 | 2.60 |
| | C404.4 | 50% | 68% | 3.00 | 95% | 3.00 | 52% | 3.00 | 3.00 |
| | C404.5 | 50% | 62% | 3.00 | 95% | 3.00 | 48% | 2.00 | 2.80 |
| | C404.6 | 50% | 0% | 1.00 | 95% | 3.00 | 57% | 3.00 | 2.36 |
| **C405** | C405.1 | 60% | 52% | 2.00 | 100% | 3.00 | 53% | 2.00 | 2.48 |
| | C405.2 | 60% | 61% | 3.00 | 100% | 3.00 | 45% | 2.00 | 2.80 |
| | C405.3 | 60% | 58% | 2.00 | 100% | 3.00 | 45% | 2.00 | 2.48 |
| | C405.4 | 60% | 61% | 3.00 | 100% | 3.00 | 51% | 2.00 | 2.80 |
| | C405.5 | 60% | 68% | 3.00 | 100% | 3.00 | 47% | 2.00 | 2.80 |
| | C405.6 | 60% | 0% | 1.00 | 100% | 3.00 | 41% | 2.00 | 2.16 |
| **C410** | C410.1 | 75% | 70% | 2.00 | 100% | 3.00 | 49% | 1.00 | 2.12 |
| | C410.2 | 75% | 50% | 1.00 | 100% | 3.00 | 49% | 1.00 | 1.64 |
| | C410.3 | 75% | 50% | 1.00 | 100% | 3.00 | 44% | 1.00 | 1.64 |
| | C410.4 | 75% | 70% | 2.00 | 100% | 3.00 | 47% | 1.00 | 2.12 |
| | C410.5 | 75% | 70% | 2.00 | 100% | 3.00 | 47% | 1.00 | 2.12 |

***Table B.3.2.2.1 CO ATTAINMENT RESULT (21-22)***

### 3.3. Attainment of Program Outcomes and Program Specific Outcomes (50)

#### 3.3.1. Describe assessment tools and processes used for measuring the attainment of each of the Program Outcomes and Program Specific Outcomes (10)

**I.Program Outcomes (POs)**

POs are per defined graduate attributes

**II. Correlation of Program Outcomes (POs)**

Relation of POS established directly or indirectly in different components of evaluation (theory/lab and practical/seminar/training)

**PO Attainment (Direct and Indirect Methods)**

POs are attained as per CO-PO mapping for theory and lab subjects and as per parameters and rubrics for prject/semianr/training

| I. Program Outcomes (POs) |
|---|
| The Program Outcomes of Department are followed same as graduate attributes defined by NBA for engineering graduates. |

| II. Correlation of Program Outcomes (POs) with evaluation of components | |
|---|---|
| **Relation of Course outcomes with Program Outcomes is established directly or indirectly for all components of curriculum as follows:** | |
| **Theory and Practical Subjects (Indirect Relation)** | Course outcomes of each theory and practical course are mapped with POs (as discussed in 3.2.1), hence are indirectly related to POs (by CO PO Mapping). |
| **Project, Seminar, Industrial Training/ Project (Direct Relation)** | The evaluation and assessment of Project/ Seminar/ Industrial Training is done on the basis of various parameters and rubrics prepared for each evaluation (internal and external). Relation of each parameter is established with relevant POs. *(See Tables B.3.3.1.b to B.3.3.1.h below)* |

***Table B.3.3.1 a PROCESS OF PO ASSESSMENT***

**CORRELATION OF PROGRAM OUTCOMES (POS) WITH EVALUATION OF COMPONENTS**

**III. PO Attainment (Direct and Indirect Methods)**

| | | | |
|---|---|---|---|
| **Direct Attainment** | • **PO Attainment of *theory and practical subjects*** is done by attaining COs which are mapped with POs. Final PO is attainment after bifurcation as per CO PO matrix. (*Explained in Table B.3.3.1.i : PO Attainment Procedure by Attainment Model For Theory And Practical Subjects below)*<br>• **PO attainment of *Project/Seminar/ Training*** is directly achieved as parameters and rubrics for evaluation are as per POs (tables given above). The marks obtained in each parameter) are the POs attained *(Explained in Table B.3.3.1.j: PO Attainment Procedure For Project/Seminar/Training below)* | | |
| **Indirect Attainment (*samples provided in Fig.3.3.1-B.3.3.3 (b)*)** | Course End Surveys | Each semester | Parameters mentioned in the surveys are related with POs directly. Analysis of surveys are done and final PO attainment is achieved |
| | Exit Surveys | Annually | |
| | Alumni Survey | Continuously | |

**RUBRICS FOR PROJECT MIDTERM (1st) EVALUATION**

| Sr. No. | Parameters | Levels of evaluation | | | | |
|---|---|---|---|---|---|---|
| | | Excellent | Good | Average | Partially acceptable | Unacceptable |
| | Weightage % | 81-100 | 61-80 | 41-60 | 21-40 | 0-20 |
| 1 | Level of understanding of project topic (problem statement) (PO2) | Understand the problem & clearly explain the focusing points. | Understand the problem but not explained clearly. | Understand the problem but lacks in correlating with knowledge. | Understanding & explanations of the problems are not clear. | Difficult to correlate the problem statement. |
| 2 | Literature Review with references (PO4) | Related literature is comprehensive and summarized properly with proper referencing. | Related literature was summarized credibly with referencing. | Literature was summarized but not properly referenced. | Literature was not related to project topic and no suitable referencing. | Literature was not reviewed and no referencing. |
| 3 | Planning of project methodology & distribution of work (PO3) | Good selection of frame work with proper justification; Proper time frame defined with appropriate distribution of project work. | Good selection of frame work With no proper justification; Proper time frame defined but inappropriate distribution of work. | Inappropriate selection of frame work with poor justification; Time frame properly defined but not followed properly; uneven distribution of work. | Wrong selection of framework with no justification; No proper time frame specified; uneven distribution of work; no team work spirit. | No Frame work & justification defined; Time frame not properly defined & uneven distribution of work. |

***Table B.3.3.1.b PARAMETERS AND RUBRICS FOR PROJECT MIDTERM (1st) EVALUATION***

**RUBRICS FOR PROJECT MIDTERM (2nd) EVALUATION**

| Sr. No. | Parameters | Levels of evaluation | | | | |
|---|---|---|---|---|---|---|
| | | Excellent | Good | Average | Partially acceptable | Unacceptable |
| | Weightage % | 81-100 | 61-80 | 41-60 | 21-40 | 0-20 |
| 1 | Data collection & analysis for results (PO4) | Chooses appropriate computational/experimentation tools for Data collection; Uses tools effectively; Obtains correct solution for objectives; Results are analyzed properly. | Chooses appropriate computational/experimentation tools for Data collection; Uses tools partially; Obtains inappropriate solution; Results are analyzed to some extent. | Chooses appropriate computational/experimentation tools for Data collection; Partially collection of data, Results were not analyzed. | No proper selection of computational/experimentation tools for Data collection; Data are not collected properly, Results are not analyzed. | No computational/ experimentation tools for Data collection are used, Results are not analyzed and Incomplete work. |
| 2 | Application of techniques/methods (experiments/software) (PO5) | Applied knowingly & well explained the techniques/methods used in project work. | Applied & Explained at some extent the techniques/methods used in project work. | Applied but not explained clearly about the techniques/methods used in project work. | Not applied the techniques/methods properly & not explained clearly in project work. | No techniques/methods are used in project work. |
| 3 | Relate the influence of suggested /recommended ideas/explanations (PO7) | Well understand the impact of recommendations/suggestions according to sustainable society & have proper explanations. | Understand the impact of recommendations/suggestions according to sustainable society & have proper explanations. | Understand the impact of recommendations/suggestions according to sustainable society & have some explanations. | Not understand clearly the impact of recommendations/suggestions according to sustainable society & have few explanations. | No understanding of the impact of recommendations/ suggestions according to sustainable society & have no explanations. |
| 4 | Presentation skill of work with effective documentation of data/diagrams etc. (PO10) | Good Content of presentation and well arranged; Good spoken Language, Proper eye contact with audience with effective data/ diagrams. | Good content but not well arranged data; Good spoken language but poor eye contact. | Average content with satisfactory presentation & spoken language. | Content of presentation is inappropriate; eye contact with few people & un-clear voice. | Content of presentation is inappropriate with poor delivery of presentation. |

***Table B.3.3.1 c PARAMETERS AND RUBRICS FOR PROJECT MIDTERM (2nd) EVALUATION***

**RUBRICS FOR PROJECT OVERALL EVALUATION (INTERNAL)**
**20 marks for Performance & Report (Sr. No. 1, 2, 3 & 4) & 15 marks for Attendance (Sr. No. 5 & 6)**
**[As per Marks distribution for internal assessment by HPTU]**

| Sr. No. | Parameters | Excellent | Good | Average | Partially acceptable | Unacceptable |
|---|---|---|---|---|---|---|
| | Weightage % | 81-100 | 61-80 | 41-60 | 21-40 | 0-20 |
| 1 | Project Diary (Draft copy of project work) & Final Project Report (PO10) (5 marks) | It includes all of the following: Compilation of literature; Rough sketches, calculations, observations etc.; Rough chapters of project report. The report is complete, information is in logical sequence and in proper format. | It includes most of the following: Compilation of literature; Rough sketches, calculations, observations etc.; Rough chapters of project report. The report is partially complete, information is in logical sequence and in proper format. | It includes some of the following: Compilation of literature; Rough sketches, calculations, observations etc.; Rough chapters of project report. The report is incomplete; information is not in logical sequence but in proper format. | It includes a very few of the following: Compilation of literature; Rough sketches, calculations, observations etc.; Rough chapters of project report. The report is incomplete, less Information is provided and not in proper format. | It includes none of the following: Compilation of literature; Rough sketches, calculations, observations etc.; Rough chapters of project report. The report is incomplete, no information is provided and not in proper format. |
| 2 | Demonstration of Project work(technical & managerial skill) (PO11) (5 marks) | Full understanding and demonstration of project with complete fulfillment of objectives and also suggest new ideas. | Full understanding and demonstration of project with partial fulfillment of objectives. | Partial understanding and demonstration of project with very few of objectives and does not make connections among ideas. | Demonstrates very little and some understanding of objectives. | No demonstration of project and no understanding of project objectives. |
| 3 | Continuous learning for improvement by the student (PO12) (5 marks) | Significant & well learnt about the project topic & have its clear clarifications. | Learnt majorly the relevant points related to project topic & have some clarifications. | Learnt moderately about the project work & have few clarifications. | Learnt about the topic but not in depth. | No learning related to the topic. |
| 4 | Assess safety & environmental concerns in project work (PO6) (5 marks) | Project work is well assessed for safety and /or environmental concerns & well clarified. | Project work is well assessed for safety and /or environmental concerns & clarified. | Project work is assessed for safety and /or environmental concerns & clarified moderately. | Project work is assessed for safety and /or environmental concerns & but not clarified. | No assessment of safety and or environmental concerns in project work. |
| 5 | Function individually & within Team (PO9) (5 marks) | The team worked well together to achieve objectives. Each member contributed in a valuable way to the project. | The team worked well together most of the time, with only a few occurrences of communication failure to collaborate when necessary. | The team worked together but with many instances of occurrences of communication failure to collaborate when necessary. | The team worked together very rarely but some members work independently, without regard to objectives or priorities. | The team did not collaborate or communicate well. Some members work independently, without regard to objectives or priorities. |
| 6 | Attendance/Regularity (PO9) (10 Marks) | 81-100% attendance in all project classes | 71-80% attendance in all project classes | 60-70% attendance in all project classes | 50-61% attendance in all project classes | Below 50% attendance in all project classes |

***Table B.3.3.1 d PARAMETERS AND RUBRICS FOR PROJECT INTERNAL EVAUATION BY SUPERVISOR/GUIDE***

**RUBRICS FOR SEMINAR EVALUATION (MIDTERM VIVA)**

**(Viva is evaluated in 20 marks & marks will be converted as per marks requirement for internal assessment)**

| Parameters | Levels of Evaluation | | | |
|---|---|---|---|---|
| | Below Average | Average | Good | Excellent |
| Weightage % | 0-40 | 41-65 | 66-80 | 81-100 |
| **Technical Knowledge and Content** | | | | |
| Justification of seminar topic & problem identification (PO2) | No understanding of topic & incorrect explanation. | Understanding is clear but not explained clearly. | Understanding is clear but not explained inappropriately. | Understanding & explanation appropriate. |
| Referred materials (research papers/ other literatures & articles) (PO4) | Material not clearly related to topic. | Material sufficient for clear understanding but not clearly presented. | Material sufficient for clear understanding and effectively presented. | Material sufficient for clear understanding and exceptionally presented. |
| Knowledge of Topic/Understand the effect of suggested solutions w.r.t. society & environment (PO7) | Does not have grasp of information; answered only fundamental questions. | At ease with information; answered most questions. | At ease; answered all questions but failed to elaborate. | Demonstrated full knowledge; answered all questions with elaboration. |
| **Presentation Skills** | | | | |
| Organization of presentation (PO 10) | Hard to follow; sequence of information inappropriate. | Most of information presented in sequence | Information presented in logical sequence; easy to follow | Information presented very well & logical, easy to follow. |
| Mechanics (Grammatical errors/misspellings/uneven formats) (PO 10) | Presentation has more than 10 misspellings and/or grammatical errors, disorganized formatting. | Presentation has no more than 5 misspellings and/or grammatical errors, format is improperly arranged. | Presentation has no more than 2 misspellings and/or grammatical errors, format is arranged good. | Presentation has no misspellings or grammatical errors, format is well arranged. |
| Eye Contact (PO 10) | Reads most slides; no or just occasional eye contact | Refers to slides to make points; occasional eye contact | Refers to slides to make points; eye contact majorly | Refers to slides to make points; engaged with audience |
| Elocution -not ability to speak English language (PO 10) | Mumbles and/or Incorrectly pronounces some terms, Voice is low; difficult to hear | Incorrectly pronounces some terms, Voice fluctuates from low to clear, difficult to hear at times | Incorrectly pronounces few terms, Voice is clear with few fluctuations; audience can hear well most of the time | Correct, precise pronunciation of all terms, Voice is clear and steady; audience can hear well at all times |
| Length and Pace (PO 10) | Short; less than 10 min, Rushed or dragging throughout | Short; 10 min or long > 20, Rushed or dragging partly | Adequate 15-20 min, Most of the seminar well-paced | Appropriate (15-20 min), Well-paced throughout |

***Table B.3.3.1 e PARAMETERS AND RUBRICS FOR SEMINAR MIDTERM EVALUATION***

## RUBRICS FOR SEMINAR OVERALL EVALUATION (INTERNAL)

**Total evaluation for internal assessment as per HPTU curriculam (50 marks) = 20 (Mid-term Viva) + 15 (Attendance) + 15 (Project Work & Report)**

**Project Report = 15 marks (Sr. No. 1, 2 & 3), Attendance (Sr. No. 4 &5) = 15 marks**

| Sr. No. | Parameters | Levels of Evaluation | | | |
|---|---|---|---|---|---|
| | | Below Average | Average | Good | Excellent |
| | Weightage % | 0-40 | 41-65 | 66-80 | 81-100 |
| 1 | Technical Knowledge and Awareness related to the seminar topic with Civil Engg. (PO2) (5 marks) | Poor knowledge and no awareness related to project | Lacks sufficient knowledge and awareness | Fair knowledge and awareness related to the project | Extensive knowledge and awareness related to the project |
| 2 | Project Report, its content as per guidelines. (PO10) (5 marks) | Content is not linked with topic at all, not properly arranged, guidelines not followed. | Content is average, Well-arranged format but guidelines not followed. | Content is linked with topic, Well-arranged format as per guidelines. | Content is clearly linked with topic, appropriate & well-arranged format as per guidelines. |
| 3 | Continuous Learning (PO12) (5 marks) | No learning related to the topic. | Learnt about the topic but not in depth. | Learnt majorly the relevant points related to topic & have some clarifications. | Significant & well learnt about the topic & have its clear clarifications. |
| 4 | Assess safety and or environmental concerns related to seminar topic (PO6) (5 marks) | No assessment/explanation of safety and or environmental concerns in seminar topic. | Little explanation of safety and or environmental concerns. | Moderately assesses & explained safety and /or environmental concerns. | Seminar topic is well evaluated for safety and /or environmental concerns & well explained. |
| 5 | Attendance/Regularity (PO9) (5 marks) | Irregular and inconsistent in work | Reports to the guide but lacks consistency | Reports to the guide very often but not very consistent | Reports to the guide regularly and consistent in work |
| 6 | Worked individually or within Team (PO9) (5 marks) | The team did not collaborate or communicate well. Some members work independently, without regard to the work assigned by faculty supervisor. Individual students did not work well as per faculty guide. | The team worked together but with many instances of communication failure to collaborate when necessary. Each student has worked well as per faculty guide. | The team worked well together most of the time, with only a few occurrences of communication failure to collaborate/coordinate when necessary. Each student has worked well as per faculty guide. | The team worked well together to learn the technical content. Each member contributed in a valuable way to the seminar work. |

***Table B.3.3.1 f PARAMETERS AND RUBRICS FOR SEMINAR FOR INTERNAL EVALUATION BY SUPERVISOR/GUIDE***

## INDUSTRIAL TRAINING EVALUATION RUBRICS (INTERNAL EVALUATION)

| EVALUATION PARAMETERS | Good (75% - 100%) | Average (50%-75%) | Poor (<50%) |
|---|---|---|---|
| Identification of the engineering problem in training work allotted (PO2, PO7) | Detailed and extensive explanation of the data, purpose, and importance of the project | Moderate explanation of the data, purpose and importance of the project | Minimal explanation of the data, purpose and importance of the project |
| Technical knowledge used for execution of work (PO3, PO 5) | • Appropriate description of the technical concepts and knowledge used while executing the training task | • In-sufficient d description of the technical concepts and knowledge used while executing the training task | • Poor description of the technical concepts and knowledge used while executing the training task |
| Technical and Management skills gained (PO 11, PO 12) | • Appropriate learning of methodologies, skills and managing and planning for execution of work | • Partial learning of methodologies, skills and managing and planning for execution of work | • Poor learning of methodologies, skills and managing and planning for execution of work |
| Training Report (PO 10) | • Project report is according to the specified format (as directed and intimated by the T&P coordinator) | • Project report is not fully according to the specified format (as directed and intimated by the T&P coordinator) | • Project report not prepared according to the specified format (as directed and intimated by the T&P coordinator) |
| Diary/Record of work maintenance (PO 4, PO 10) | • Diary well maintained on daily or weekly basis | • Diary maintained but not complete | • Diary not maintained |
| Presentation and communication skills (PO 10) | • Contents of presentations are appropriate and well delivered<br>• Proper eye contact with audience and clear voice with good spoken language | • Contents of presentations are not appropriate<br>• Eye contact with few people and cleat voice with good spoken language | • Contents of presentations are not appropriate and not well delivered<br>• Poor delivery of presentation |

***Table B.3.3.1 g PARAMETERS AND RUBRICS FOR INDUSTRIAL TRAINING EVALUATION (INTERNAL EVALUATION)***

Civil Engineering Department
Jawaharlal Nehru Govt. Engineering College
Sundernagar, Distt. Mandi (H.P.)-175018
Phone No. 01907-267199, 267688, Fax No. 267811
Web site: http//www.jngec.ac.in, Email: jngechp@yahoo.co.in

## INDUSTRIAL PRACTICAL TRAINING EVALUATION SHEET FROM ORGANIZATION

**(TO BE FILLED BY SUPERVISOR IN TRAINING ORGANIZATION/INSTITUTE)**

NAME OF STUDENT (TRAINEE): _____

NAME AND DESIGNATION OF SUPERVISOR _____

CONTACT NUMBER/EMAIL ID OF SUPERVISOR:_____

NAME AND ADRRESS OF ORGANIZATION: _____

_____

NAME OF TRAINING PROJECT: _____

DURATION OF TRAINING: from _____to _____

Marks to be awarded to the students based on the following criteria:

| S.No | CRITERIA | TOTAL MARKS | MARKS OBTAINED |
|---|---|---|---|
| 1. | **Technical Quality of work (25)** | | |
| a | Knowledge of basic concepts in civil engineering (PO1) | 5 | |
| b | Knowledge of civil engineering practices (PO2) | 5 | |
| c | Application of concepts to solve technical problems (PO5) | 5 | |
| d | Ability to experiment and analyse the data to achieve desired results (PO4) | 5 | |
| e | Managing and planning project work or task assigned (PO11) | 5 | |
| 2. | **Attendance, Discipline, Involvement (PO8,PO9)** | 15 | |
| 3. | **Interest shown by student to gain knowledge of latest technologies to solve engineering problems related to environment or society (PO7, PO12)** | 10 | |
| | **TOTAL** | 50 | |

**NOTE:**

This evaluation must be done by the worthy supervisor/guide of the respective organization/industry according to his/her observation of the students' performance in the training.

Signature of Supervisor

***Table B.3.3.1h PARAMETERS FOR INDUSTRIAL TRAINING EVALUATION (EVALUATION FROM ORGANIZATION)***

**PO ATTAINMENT PROCEDURE BY ATTAINMENT MODEL FOR THEORY AND PRACTICAL SUBJECTS**

| | | |
|---|---|---|
| **Direct Attainment** | | |
| **1** | Distribution of CO attained into POs in theory and practical courses (CO – PO Matrix) | The final CO attained (Internal + External Assessment) $CO_A$ as explained in Table B.3.2.2 point 13, is distributed in Program Outcomes according to the CO PO Mapping Matrix (See 3.1.2). The relation of CO-PO mapping matrix: 3,2,1 (See Table B.3.2.1 (I)) governs the weightage and distribution of each CO into respective POs. |
| **2** | PO Direct attainment ($PO_D$) | Average of POs attained (bifurcated for each CO) |
| **Indirect Attainment** | | |
| **3** | PO Attainment through Indirect Method ($PO_{ID}$) | The alumni, exit surveys etc are used to determine the indirect PO attainment.<br>*(samples provided in Fig.3.3.1- B.3.3.3 (b))* |
| **4** | **FINAL PO ATTAINED: INDIRECT METHOD: ($PO_A$)**<br>$PO_A = 0.8 \times PO_D + 0.2 \times PO_{ID}$<br>20 % weightage to Indirect Method i.e surveys<br>80% weightage to Direct Method assessment | |
| **5** | ***POs are attained if the attainment is more than or equal to the individual PO targets based on CO PO relation of each subject*** | |

***Table B.3.3.1 i PO ATTAINMENT PROCEDURE BY ATTAINMENT MODEL FOR THEORY AND PRACTICAL SUBJECTS***

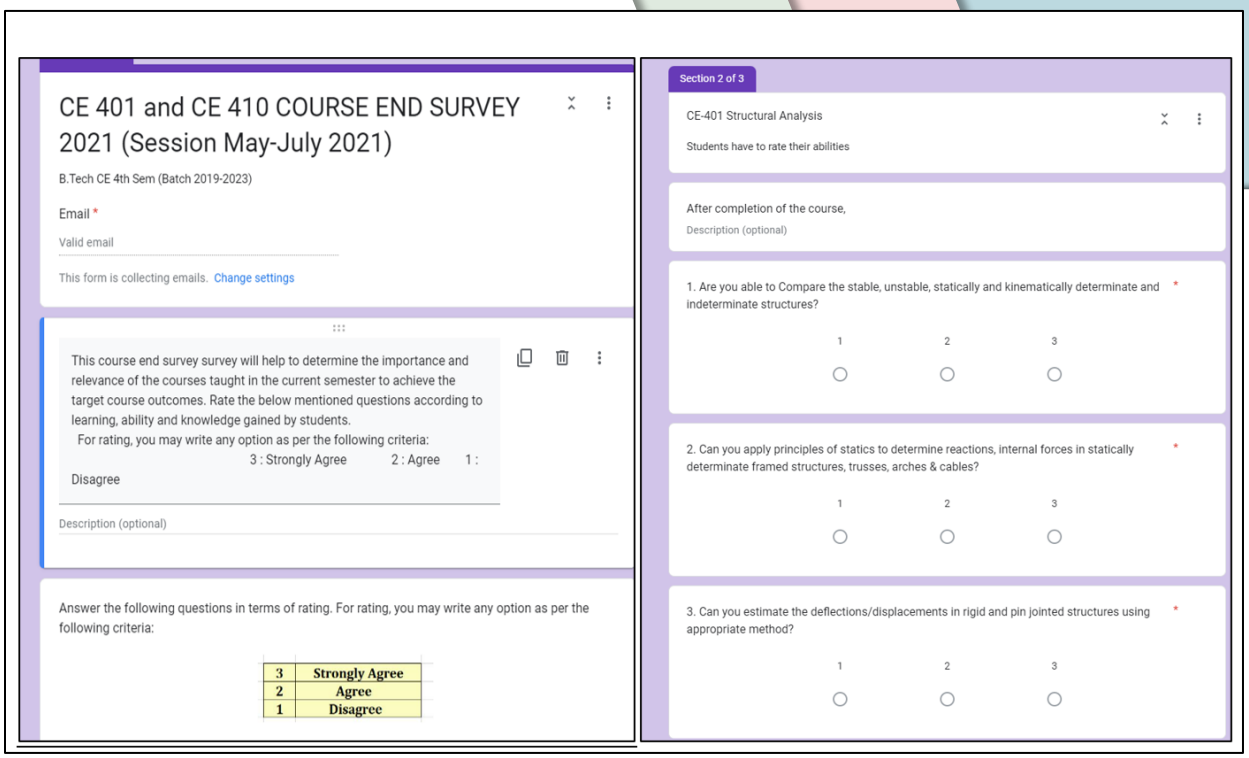



***Fig. B.3.3.1 Sample Course End Survey (Google Form)***

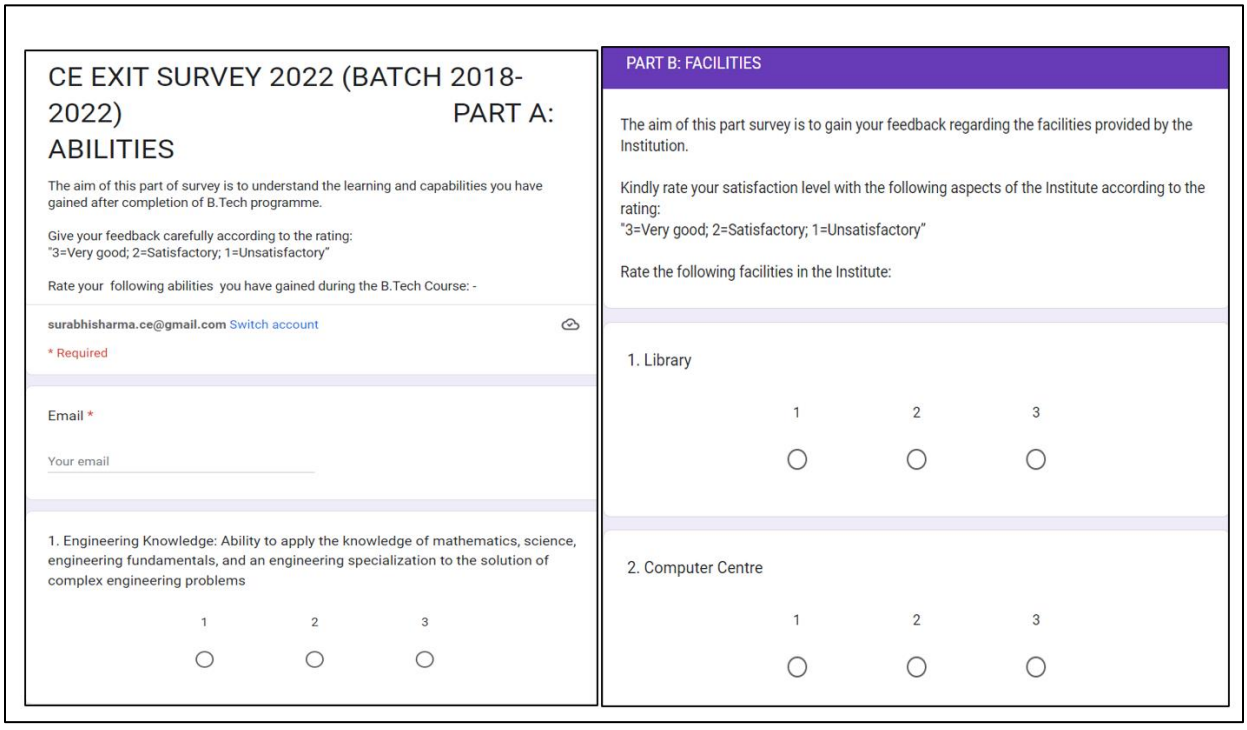



***Fig. B.3.3.2 Sample Exit Survey***

**JAWAHARLAL NEHRU GOVERNMENT ENGINEERING COLLEGE, SUNDERNAGAR (JNGEC)**

**ALUMNI FEEDBACK FORM**

| | |
|---|---|
| Name of the Alumni | ADITI RANA |
| Year of Graduation | 2020 |
| Name of the Company / Organization/Institute | IIT MANDI |
| Designation of the Alumni | MS Scholar |
| Alumni contact Mobile No. | 9459078843 |
| Alumni contact E - Mail Id | aditirana412@gmail.com |

| S no. | Questionnaire for feedback | Ratings(3=Strongly agree, 2=Agree, 1=Disagree) | | |
|---|---|---|---|---|
| | | 3 | 2 | 1 |
| 1 | Have you apply knowledge of mathematical foundations, science and engineering concepts to solve the problems in Civil Engg? (PO1) | ✓ | | |
| 2. | Canyou identify, formulate and analyze Engineering problems in reaching substantial conclusions using analytical tools appropriate to Civil Engg? (PO2) | ✓ | | |
| 3. | Have you learnt design/develop a process/technique to meet desired needs within realistic constraints relating to economic, environmental, social and ethical, health & safety and sustainability concerns? (PO3) | | ✓ | |
| 4. | Have you conducted the investigation , experiments, analyse and interpret the data to provide justified and verifiable conclusion(PO4) | | ✓ | |
| 5. | Have you applied techniques and resources to solve Engineering problems? (PO5) | | ✓ | |
| 6. | an you assess safety, legal and environmental issues and consequent responsibility relevant to the Civil Engineering practices?(PO6) | ✓ | | |
| 7. | Have you understood the impact of the professional Civil Engineering solutions in relations to societal needs, environmental concerns and sustainable development? (PO7) | ✓ | | |
| 8. | Can you apply and commit the professional ethics and norms of Civil Engg. Practice? (PO8) | ✓ | | |
| 9. | Did you learn to function effectively as a member and/or leader in diverse teams?(PO9) | ✓ | | |
| 10. | Are you able to communicate effectively; comprehend | | | |

***Fig. B.3.3.3 (a) Sample Alumni Survey***

| | | | | |
|---|---|---|---|---|
| | work through effective reports, documentation and effective presentations? (PO10) | ✓ | | |
| 11. | Have you gained knowledge and understanding of the technical and management skills to plan projects (as an individual or in the team) in diverse areas of civil engineering? (PO11) | ✓ | | |
| 12. | Do you have lifelong learning in continuing professional development as per the latest technological advancement? (PO 12) | ✓ | | |

***Comments:***

.....

*Thank you for taking the time to answer our questions. Your feedback is tremendously valuable to us!*

*Sign:* _____

***Fig. B.3.3.3 (b) Sample Alumni Survey***

## PO ATTAINMENT PROCEDURE FOR PROJECT/SEMINAR/TRAINING

| | | |
|---|---|---|
| **1** | **PO Attainment for Project Evaluation** | • Evaluation of progress of students in 1st Mid-term Viva by Dept. Faculty as per rubrics and different parameters related to POs<br>• Evaluation of progress students in 2nd Mid-term Viva by Dept. Faculty as per rubric and parameters related to POs<br>• Internal Evaluation of overall performance of students by Supervisor/ Guide as per rubrics and parameters related to POs<br>(samples of evaluation shown in Fig. B.3.3.4) |
| **2** | **PO Attainment for Seminar Evaluation** | • Evaluation of progress of students Mid-term Viva by Dept. Faculty as per rubrics and different parameters related to POs<br>• Internal Evaluation of overall performance of students by Supervisor/ Guide as per rubrics and parameters related to POs<br>(samples of evaluation shown in Fig. B.3.3.5) |
| **3** | **PO Attainment for Industrial Training/Project** | • Evaluation of progress and performance of students in organization by Supervisor in organization as per different parameters related to POs<br>• Internal Evaluation of overall performance and knowledge of students by Department Faculty as per rubrics and parameters related to POs<br>(sample of evaluation shown in Fig. B.3.3.6) |
| ***The course end surveys for seminar, project, industrial project are also included in evaluation of PO Attained** | | |

***Table B.3.3.1 j PO ATTAINMENT PROCEDURE FOR PROJECT/SEMINAR/TRAINING***

**Project I (CE 711), 7th sem, Sept-Feb 2022 first mid term Viva, Batch 18-22**

| Sr No. | Roll No. | Name of the Student | Level of umdertanding of project topic(problem statement) (PO2) (10 marks) | Literature Review with references (PO4)(10 marks) | Planning of project methodology & distribution of work (PO3)(10 marks) | **First evaluator mean (for first mid term)(10)** | Level of umdertanding of project topic(problem statement) (PO2) (10 marks) | Literature Review with references (PO4)(10 marks) | Planning of project methodology & distribution of work (PO3)(10 marks) | **Second evaluator mean (for first mid term) (10)** | **First +second evaluator mean (for 1st mid term) (10)** |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 18BT010101 | AADARSH | 5 | 5.0 | 5.0 | **5.0** | 7.0 | 7 | 7 | **7.0** | 6.0 |
| 2 | 18BT010102 | AAKANKSHA | 9 | 9.0 | 9.0 | **9.0** | 9.0 | 9 | 9 | **9.0** | 9.0 |
| 3 | 18BT010103 | AARTI | 7 | 7.0 | 7.0 | **7.0** | 7.0 | 7 | 7 | **7.0** | 7.0 |
| 4 | 18BT010104 | ABHINAV MINHAS | 7 | 7.0 | 7.0 | **7.0** | 7 | 7.0 | 7.0 | **7.0** | 7.0 |
| 5 | 18BT010105 | ABHISHEK THAKUR | 7 | 7.0 | 7.0 | **7.0** | 7 | 7.0 | 7.0 | **7.0** | 7.0 |
| 6 | 18BT010106 | AKSHAT GUPTA | 7 | 8.0 | 9.0 | **8.0** | 8.0 | 8 | 8 | **8.0** | 8.0 |
| 7 | 18BT010107 | AMAN DEEP | 8.0 | 8 | 8 | **8.0** | 7 | 8.0 | 9.0 | **8.0** | 8.0 |
| 8 | 18BT010109 | ANIKET JAMWAL | 6 | 8 | 7 | **7.0** | 8.0 | 7 | 6 | **7.0** | 7.0 |

| Project I (CE 711), 7th sem, Sept-Feb 2022,2nd mid term Viva, Batch 18-22 | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| r No. | Roll No. | Name of the Student | Data collection & analysis for results (PO4) | Application of techniques/methods (experiments/software)(PO5) | Relate the influence of suggested /recommended ideas/explanations (PO7)3 | Presentation skill of work with effective documentation of data/diagrams etc. (PO10)2 | **First evaluator mean (for first mid term)(10)** | Data collection & analysis for results (PO4) | Application of techniques/methods (experiments/software)(PO5) | Relate the influence of suggested /recommended ideas/explanations (PO7)3 | Presentation skill of work with effective documentation of data/diagrams etc. (PO10)2 | **second evaluator mean (for first mid term) (10)** | **First +second evaluator mean (for 1st mid term) (10)** |
| 1 | 18BT010101 | AADARSH | 7 | 7.0 | 7.0 | 7.0 | **7.0** | 7.0 | 7 | 7 | 7.0 | **7.0** | 7.0 |
| 2 | 18BT010102 | AAKANKSHA | 9 | 9.0 | 9.0 | 9.0 | **9.0** | 9.0 | 9 | 9 | 9.0 | **9.0** | 9.0 |
| 3 | 18BT010103 | AARTI | 7 | 7.0 | 7.0 | 7.0 | **7.0** | 7.0 | 7 | 7 | 7.0 | **7.0** | 7.0 |
| 4 | 18BT010104 | ABHINAV MINHAS | 7 | 7.0 | 7.0 | 7.0 | **7.0** | 7 | 7.0 | 7.0 | 7.0 | **7.0** | 7.0 |
| 5 | 18BT010105 | ABHISHEK THAKUR | 7 | 7.0 | 7.0 | 7.0 | **7.0** | 7 | 7.0 | 7.0 | 7.0 | **7.0** | 7.0 |
| 6 | 18BT010106 | AKSHAT GUPTA | 7 | 8.0 | 9.0 | 8.0 | **8.0** | 8.0 | 8 | 8 | 8.0 | **8.0** | 8.0 |
| 7 | 18BT010107 | AMAN DEEP | 8.0 | 8 | 8 | 8 | **8.0** | 7 | 8.0 | 9.0 | 8 | **8.0** | 8.0 |
| 8 | 18BT010109 | ANIKET JAMWAL | 6 | 8 | 7 | 7 | **7.0** | 8.0 | 7 | 6 | 7 | **7.0** | 7.0 |
| 9 | 18BT010110 | ANSHUMAN SHARMA | 8 | 6 | 7 | 7 | **7.0** | 7.0 | 6 | 8 | 7 | **7.0** | 7.0 |

| Internal Marks From Supervisor (out of 30 marks) for Project I (CE 711), 7th sem, Sept-Feb 2022 | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| **Sr No.** | **Roll No.** | **Name of the Student** | **Project Diary (Draft copy of project work) & Final Project Report (PO10)** | **Demonstration of Project work(technical & managerial skill) (PO11)** | **Continuous learning for improvement by the student (PO12)** | **Assess safety & environmental concerns in projectwork (PO6)** | **Function individually & within Team (PO9)** | **Attendance/ Regularity (PO9)** | **Total (Out of 30)** |
| | | | **(5 marks)** | **(5 marks)** | **(5 marks)** | **(5 marks)** | **(5 marks)** | **(5 Marks)** | **30** |
| 1 | 18BT010101 | AADARSH | 4 | 4 | 4 | 5 | 4 | 4 | 25 |
| 2 | 18BT010102 | AAKANKSHA | 5 | 5 | 5 | 5 | 5 | 5 | 30 |
| 3 | 18BT010103 | AARTI | 5 | 4 | 4 | 5 | 4 | 4 | 26 |
| 4 | 18BT010104 | ABHINAV MINHAS | 4 | 4 | 5 | 5 | 3 | 4 | 25 |
| 5 | 18BT010105 | ABHISHEK THAKUR | 4 | 4 | 4 | 4 | 4 | 4 | 24 |
| 6 | 18BT010106 | AKSHAT GUPTA | 5 | 4 | 5 | 5 | 4 | 4 | 27 |
| 7 | 18BT010107 | AMAN DEEP | 4 | 4 | 4 | 4 | 4 | 4 | 24 |
| 8 | 18BT010109 | ANIKET JAMWAL | 3 | 4 | 4.0 | 4 | 5 | 5 | 25 |
| 9 | 18BT010110 | ANSHUMAN SHARMA | 4 | 4 | 4 | 4 | 4 | 3 | 23 |

***Fig. B.3.3.4 PO ATTAINMENT FOR PROJECT EVALUATION***

| Internal Marks for Seminar (CE 613), 6th sem, April-July 2022 | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Mid term Viva | | | | Internal Assessment by Faculty Guide | | | | | | Total |
| Sr No. | Roll No. | NAME OF STUDENTS | Justification of seminar topic & problem identification (PO2) | Referred materials (research papers/ other literatures & articles) (PO4) | Knowledge of Topic/Underst and the effect of suggested solutions w.r.t. society & environment (PO7) | Presentation & Communication Skill (PO10) | Technical Knowledge and Awareness related to the seminar topic with Civil Engg. (PO2) | Semianr Report, its content as per guidelines (PO10) | Continuous Learning of topic by the student (PO12) | Assess safety and or environmental concerns related to seminar topic (PO6) | Attendance/Regularity (PO8) | Worked individually or within Team (PO9) | |
| | | | 5 marks | 5 marks | 5 marks | 5 marks | 5 marks | 5 marks | 5 marks | 5 marks | 5 marks | 5 marks | 50.0 |
| 1 | 1901011001 | Abhishek | 3.0 | 3.0 | 3 | 3.0 | 4.0 | 3 | 3.0 | 4.0 | 4.0 | 4.0 | 34.0 |
| 2 | 1901011002 | Abhishek | 3.0 | 4.0 | 3 | 3.0 | 4.5 | 4.5 | 4.0 | 4.0 | 3.0 | 4.0 | 37.0 |
| 3 | 1901011003 | Aditya Sharma | 4.5 | 4.5 | 4 | 4.0 | 4.0 | 3 | 4.0 | 3.0 | 3.0 | 3.0 | 37.0 |
| 4 | 1901011004 | Ajay Kumar | 3.0 | 3.0 | 4 | 3.0 | 4.0 | 4 | 4.0 | 4.5 | 3.5 | 4.0 | 37.0 |
| 5 | 1901011006 | Akash Thakur | 3.5 | 3.5 | 3.5 | 3.5 | 4.0 | 3 | 4.0 | 4.0 | 3.0 | 4.0 | 36.0 |
| 6 | 1901011007 | Aman Soni | 4.0 | 3.5 | 4.5 | 4.0 | 3.0 | 4 | 4.0 | 4.0 | 4.0 | 4.0 | 39.0 |
| 7 | 1901011008 | Amisha Sharma | 4.0 | 4.0 | 4 | 4.0 | 4.0 | 3 | 4.0 | 3.0 | 4.0 | 4.0 | 38.0 |
| 8 | 1901011009 | Ananay Thakur | 4.0 | 3.0 | 3 | 3.0 | 4.5 | 4.5 | 4.0 | 4.0 | 4.0 | 4.0 | 38.0 |

***Fig. B.3.3.5 PO ATTAINMENT FOR SEMINAR EVALUATION***

| INDUSTRIAL TRAINING (CE-712) MARKS FROM ORGANIZATION (BATCH 2018-2022) TRAINING JULY-AUG 2021 | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | *REFER TO THE BOTTOM OF THE SHEET FOR RUBRICS | | | | | | | | | | | |
| | | | EVALUATION PARAMETERS | | | | | | | | | | | |
| | | | Technical Quality of work (25) | | | | | Attendance, Discipline, Involvement (15) | | | | Interest shown by student to gain knowledge of latest technologies to solve engineering problems related to environment or society (10) | | | TOTAL |
| S.No. | Roll No. | Name of Student | Knowledge and ability to apply basic science and civil engineering concepts (PO1) | Knowledge of civil engineering practices (PO2) | Ability to design/suggest solutions to practical civil engineering problems (PO3) | Ability to conduct investigations using different techniques analyse the data to achieve desired results (PO4) | Application of appropriate skills/resources/ concepts to solve technical problems (PO5) | a Regularity /attendance in work and commitment to professional ethics, rules and responsibilities of organization with discipline (PO8) | Role as an individual and as a team member in the organization (PO9) | Evaluate the societal/legal/cultural issues at work and understanding the responsibility of professional engineering practice (PO6) | Ability to communicate and maintain documentation and records (PO10) | Understanding of effect of civil engineering projects/solutions on society and environment (PO7) | Managing and planning project work or task assigned (PO11) | Understanding of importance of and preparation and ability to Engage in independent and life- long learning (PO12) | |
| | | | 5 | 5 | 5 | 5 | 5 | 4 | 4 | 4 | 3 | 4 | 3 | 3 | 50 |
| 1 | 18BT010101 | AADARSH | 4.5 | 4 | 4.5 | 4.5 | 4.5 | 3.5 | 4 | 4 | 3 | 3 | 2.5 | 2.5 | 44.5 |
| 2 | 18BT010102 | AAKANKSHA | 5 | 5 | 5 | 5 | 5 | 4 | 4 | 4 | 3 | 4 | 3 | 3 | 50 |
| 3 | 18BT010103 | AARTI | 4 | 4 | 4 | 4 | 4 | 3 | 3 | 3 | 3 | 3 | 3 | 2 | 40 |
| 4 | 18BT010104 | ABHINAV MINHAS | 4 | 4 | 4 | 4 | 4 | 3 | 3 | 3 | 3 | 3 | 3 | 2 | 40 |
| 5 | 18BT010105 | ABHISHEK THAKUR | 5 | 5 | 5 | 5 | 5 | 4 | 4 | 4 | 3 | 4 | 3 | 3 | 50 |
| 6 | 18BT010106 | AKSHAT GUPTA | 5 | 5 | 5 | 4 | 5 | 4 | 4 | 4 | 3 | 4 | 3 | 3 | 49 |
| 7 | 18BT010107 | AMAN DEEP | 4 | 4 | 4 | 4 | 4 | 3 | 3 | 3 | 2 | 4 | 3 | 3 | 41 |

***Fig. B.3.3.6 PO ATTAINMENT FOR INDUSTRIAL TRAINING EVALUATION (ORGANIZATION)***

| INDUSTRIAL TRAINING (CE-712) INTERNAL EVALUATION SHEET (BATCH 2018-2022) TRAINING JULY-AUG 2021 | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| S.No. | Roll No. | Name of Student | Group No. | I. Identification of the engineering problem in training work allotted | Technical knowledge used for execution of work | Technical and Management skills gained | Training Report | Diary/Record of work maintenance | Presentation and communication skills (PO 10) | TOTAL |
| | | | | (PO2, PO7) | (PO3, PO 5) | (PO 11, PO 12) | (PO 10) | (PO 4, PO 10) | (PO 10) | |
| | | | | 10 | 10 | 10 | 10 | 10 | 10 | 60 |
| 1 | 18BT010101 | AADARSH | 17 | 8 | 9 | 9 | 8 | 8 | 7 | 49 |
| 2 | 18BT010102 | AAKANKSHA | 26 | 10 | 9 | 9 | 10 | 10 | 10 | 58 |
| 3 | 18BT010103 | ARTI | 1 | 4 | 4 | 4 | 6 | 7 | 5 | 30 |
| 4 | 18BT010104 | ABHINAV MINHAS | 2 | 8 | 7 | 6 | 5 | 7 | 7 | 40 |
| 5 | 18BT010105 | ABHISHEK THAKUR | 3 | 5 | 5 | 4 | 6 | 7 | 5 | 32 |
| 6 | 18BT010106 | AKSHAT GUPTA | 25 | 9 | 9 | 9 | 10 | 10 | 9 | 56 |
| 7 | 18BT010107 | AMAN DEEP | 35 | 8 | 9 | 7 | 8 | 8 | 7 | 47 |
| 8 | 18BT010109 | ANIKET JAMWAL | 4 | 5 | 5 | 6 | 6 | 6 | 6 | 34 |
| 9 | 18BT010110 | ANSHUMAN SHARMA | 16 | 7 | 9 | 9 | 9 | 8 | 8 | 50 |

***Fig. B.3.3.7 PO ATTAINMENT FOR INDUSTRIAL TRAINING EVALUATION (DEPARTMENT)***

**3.3.2. Provide results of evaluation of each PO & PSO (40)**

**SESSION 2021-22**

| | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PO8 | PO9 | PO10 | PO11 | PO12 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **C101** | | | | | | | | | 1.10 | 1.90 | 1.50 | 1.30 |
| **C102** | 2.70 | 2.40 | 0.90 | 1.90 | | | | - | 1.20 | | | 2.30 |
| **C103** | 1.50 | 2.00 | 1.00 | | | 1.00 | | 1.50 | | | | 1.00 |
| **C104** | 1.20 | 0.80 | 0.80 | 1.50 | | | | | | | | 0.80 |
| **C105** | 2.80 | 2.80 | 2.80 | | 2.80 | | | | | | | 2.80 |
| **C106** | 0.80 | 1.00 | 1.20 | 0.90 | 1.00 | | | | | | | 1.00 |
| **C107** | | | 1.10 | | | 1.50 | 1.60 | | | | | 0.87 |
| **C108** | | | | | | | | | 1.00 | 2.00 | 1.20 | 1.00 |
| **C109** | 1.30 | | | 1.10 | | | | | 1.20 | | | 0.80 |
| **C110** | 2.90 | 2.90 | 2.90 | | 2.90 | | | | | | | 2.90 |
| **C111** | | | | | | | | | 1.00 | 1.90 | 1.50 | 1.20 |
| **C112** | 2.70 | 2.10 | 0.90 | 1.00 | - | | | | 0.90 | | | 2.20 |
| **C113** | 2.20 | 0.80 | 0.90 | | 0.70 | 0.90 | 1.10 | | | | | 0.70 |
| **C114** | 1.00 | 0.80 | 0.80 | 0.90 | | 0.30 | 0.60 | | | | 1.00 | 0.90 |
| **C115** | | | | | | | | | | | | |
| **C116** | 2.90 | 1.90 | 1.80 | 1.00 | 1.40 | | 1.00 | | | | | 1.90 |
| **C117** | | | 1.00 | | | | 0.90 | | 0.90 | | | 0.90 |
| **C118** | 1.20 | 1.00 | 1.10 | 1.10 | 1.00 | | | | 1.20 | | 1.00 | 0.90 |
| **C119** | 1.50 | 1.50 | 0.90 | 2.20 | | 2.70 | | 0.90 | 1.80 | | | 0.90 |
| **C201** | 2.83 | 2.33 | 2.00 | 2.33 | 2.00 | 2.83 | 2.83 | 2.83 | 2.00 | 2.00 | 2.83 | 2.00 |
| **C202** | 1.00 | 1.83 | 2.00 | 1.33 | 1.83 | 3.00 | 3.00 | 3.00 | 2.00 | 2.00 | 3.00 | 2.00 |
| **C203** | 3.00 | 2.67 | 2.17 | 2.67 | 2.17 | 3.00 | 3.00 | 3.00 | 2.00 | 2.00 | 3.00 | 2.00 |
| **C204** | 3.00 | 2.50 | 2.33 | 2.50 | 2.33 | 3.00 | 3.00 | 3.00 | 2.00 | 2.00 | 3.00 | 2.00 |
| **C205** | 3.00 | 2.50 | 2.33 | 2.67 | 2.33 | 3.00 | 2.83 | 2.83 | 2.00 | 2.00 | 3.00 | 2.00 |
| **C206** | 2.83 | 2.33 | 2.00 | 2.33 | 2.00 | 2.83 | 2.83 | 2.83 | 2.00 | 2.00 | 2.83 | 2.00 |
| **C207** | 2.00 | 1.67 | 1.17 | 1.67 | 1.17 | 2.00 | 2.00 | 2.00 | 1.33 | 1.33 | 2.00 | 1.33 |
| **C210** | 3.00 | 2.60 | 2.00 | 2.60 | 2.00 | 3.00 | 3.00 | 3.00 | 2.00 | 2.00 | 3.00 | 2.00 |
| **C211** | 3.00 | 2.50 | 2.00 | 2.50 | 2.00 | 3.00 | 3.00 | 3.00 | 2.00 | 2.00 | 3.00 | 2.00 |
| **C212** | 3.00 | 2.60 | 2.40 | 2.60 | 2.40 | 3.00 | 3.00 | 3.00 | 2.00 | 2.00 | 3.00 | 2.00 |
| **C213** | 3.00 | 2.60 | 1.17 | 2.66 | 3.00 | - | - | - | 1.17 | - | 2.00 | 2.33 |
| **C214** | 1.00 | 1.83 | 2.00 | 1.33 | 1.83 | 3.00 | 3.00 | 3.00 | 2.00 | 2.00 | 3.00 | 2.00 |
| **C215** | 3.00 | 2.50 | 2.50 | 2.50 | 2.17 | 3.00 | 3.00 | 3.00 | 2.00 | 2.00 | 3.00 | 2.00 |
| **C216** | 2.80 | 2.20 | 1.80 | 2.20 | 1.80 | 2.80 | 2.80 | 2.80 | 2.00 | 2.00 | 2.80 | 2.00 |
| **C217** | 3.00 | 2.50 | 2.33 | 2.67 | 2.33 | 3.00 | 2.83 | 2.83 | 2.00 | 2.00 | 3.00 | 2.00 |
| **C218** | 3.00 | 2.67 | 2.17 | 2.67 | 2.17 | 3.00 | 3.00 | 3.00 | 2.00 | 2.00 | 3.00 | 2.00 |
| **C222** | 3.00 | 2.50 | 2.00 | 2.50 | 2.00 | 3.00 | 3.00 | 3.00 | 2.00 | 2.00 | 3.00 | 2.00 |
| **C223** | 3.00 | 2.60 | 2.40 | 2.60 | 2.40 | 3.00 | 3.00 | 3.00 | 2.00 | 2.00 | 3.00 | 2.00 |
| **C224** | 3.00 | 2.60 | 2.40 | 2.60 | 2.40 | 3.00 | 3.00 | 3.00 | 2.00 | 2.00 | 3.00 | 2.00 |

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **C301** | 3.00 | 2.50 | 2.50 | 2.50 | 2.17 | 3.00 | 3.00 | 3.00 | 2.00 | 2.00 | 3.00 | 2.00 |
| **C302** | 3.00 | 2.50 | 2.50 | 2.50 | 2.17 | 3.00 | 3.00 | 3.00 | 2.00 | 2.00 | 3.00 | 2.00 |
| **C304** | 2.83 | 2.33 | 2.17 | 2.33 | 2.17 | 2.83 | 3.00 | 3.00 | 2.00 | 2.00 | 2.83 | 2.00 |
| **C305** | 2.83 | 2.33 | 2.00 | 2.33 | 2.00 | 2.83 | 2.83 | 2.83 | 2.00 | 2.00 | 2.83 | 2.00 |
| **C310** | 2.80 | 2.20 | 1.80 | 2.20 | 1.80 | 2.80 | 2.80 | 2.80 | 2.00 | 2.00 | 2.80 | 2.00 |
| **C311** | 2.80 | 2.20 | 1.80 | 2.20 | 1.80 | 2.80 | 2.80 | 2.80 | 2.00 | 2.00 | 2.80 | 2.00 |
| **C312** | 3.00 | 2.50 | 2.25 | 2.50 | 2.25 | 3.00 | 3.00 | 3.00 | 2.00 | 2.00 | 3.00 | 2.00 |
| **C313** | 3.00 | 2.67 | 2.17 | 2.67 | 2.17 | 3.00 | 3.00 | 3.00 | 2.00 | 2.00 | 3.00 | 2.00 |
| **C315** | 2.83 | 2.33 | 2.00 | 2.33 | 2.00 | 2.83 | 2.83 | 2.83 | 2.00 | 2.00 | 2.83 | 2.00 |
| **C316** | 2.83 | 2.33 | 2.00 | 2.33 | 2.00 | 2.83 | 2.83 | 2.83 | 2.00 | 2.00 | 2.83 | 2.00 |
| **C318** | 3.00 | 2.50 | 2.50 | 2.50 | 2.17 | 3.00 | 3.00 | 3.00 | 2.00 | 2.00 | 3.00 | 2.00 |
| **C320** | 2.83 | 2.33 | 2.00 | 2.33 | 2.00 | 2.83 | 2.83 | 2.83 | 2.00 | 2.00 | 2.83 | 2.00 |
| **C323** | 3.00 | 2.50 | 2.25 | 2.50 | 2.25 | 3.00 | 3.00 | 3.00 | 2.00 | 2.00 | 3.00 | 2.00 |
| **C324** | - | 1.50 | - | 1.50 | - | 1.70 | 1.50 | 1.30 | 1.60 | 1.50 | - | 1.60 |
| **C401** | 3.00 | 2.50 | 2.17 | 2.67 | 2.17 | 3.00 | 3.00 | 3.00 | 2.00 | 2.00 | 3.00 | 2.00 |
| **C402** | 3.00 | 2.25 | 2.00 | 2.50 | 2.00 | 3.00 | 3.00 | 3.00 | 2.00 | 2.00 | 3.00 | 2.00 |
| **C403** | 2.80 | 2.20 | 1.80 | 2.20 | 1.80 | 2.80 | 2.80 | 2.80 | 2.00 | 2.00 | 2.80 | 2.00 |
| **C404** | 3.00 | 2.25 | 2.00 | 2.50 | 2.00 | 3.00 | 3.00 | 3.00 | 2.00 | 2.00 | 3.00 | 2.00 |
| **C405** | 2.83 | 2.33 | 2.00 | 2.33 | 2.00 | 2.83 | 2.83 | 2.83 | 2.00 | 2.00 | 2.83 | 2.00 |
| **C408** | 3.00 | 3.00 | 3.00 | 3.00 | 3.00 | 3.00 | 3.00 | 3.00 | 3.00 | 3.00 | 3.00 | 2.00 |
| **C409** | 3.00 | 3.00 | 2.90 | 2.80 | 2.80 | 2.80 | 3.00 | 2.80 | 2.80 | 2.60 | 3.00 | 2.80 |
| **C410** | 2.80 | 2.20 | 1.80 | 2.20 | 1.80 | 2.80 | 2.80 | 2.80 | 2.00 | 2.00 | 2.80 | 2.00 |
| **C411** | - | 2.20 | 2.22 | 2.03 | 2.38 | 2.96 | 2.12 | 2.76 | 2.96 | 2.66 | 2.76 | 2.80 |
| **DA*** | **2.18** | **1.86** | **1.60** | **1.81** | **1.71** | **2.22** | **2.18** | **2.28** | **1.56** | **1.68** | **2.22** | **1.55** |
| **IDA*** | **2.20** | **2.10** | **1.80** | **2.10** | **1.90** | **2.00** | **2.10** | **2.00** | **2.10** | **2.10** | **2.00** | **2.20** |
| **TA*** | **2.18** | **1.91** | **1.64** | **1.87** | **1.75** | **2.18** | **2.17** | **2.23** | **1.67** | **1.76** | **2.17** | **1.68** |

**DA: Direct Attainment, IDA: Indirect Attainment (Alumni, Exit Surveys)*

*TA: Total Attainment = 0.8 DA + 0.2 IDA*

***Table B.3.3.2.1 PO ATTAINMENT RESULT (2021-2022)***

| Item (information to be provided cumulatively for all the shifts with explicit headings, wherever applicable) | CAY | CAYm1 | CAYm2 |
|---|---|---|---|
| | **2021-22** | **2020-21** | **2019-20** |
| Sanctioned intake of the program(N) | **67** | **64** | **60** |
| Total number of students admitted in first year minus number of students migrated to other programs/ institution plus no. of students migrated to this program(N1) | 67 | 63 | 61 |
| Number of Students admitted in 2nd year in the same batch via lateral entry(N2) | - | 7 | 8 |
| Separate division students, if applicable (N3) | **-** | - | **-** |
| Total number of students admitted in the program ( N1+ N2+ N3) | ***67*** | ***70*** | ***69*** |

***Table B.4a***

*CAY* *Current Academic Year*

*CAYm1* *Current Academic Year minus1 = Current Assessment Year*

*CAYm2* *Current Academic Year minus2 = Current Assessment Year minus 1*

*LYG* *Last Year Graduate*

*LYGm1* *Last Year Graduate minus 1*

*LYGm2* *Last Year Graduate minus 2*

| Year of Entry | N1+N2+N3 (As defined Above) | Number of Students who have successfully graduated without Backlogs in any semester/year of study (without Backlog means no compartment or failures in any semester/year of study) | | | |
|---|---|---|---|---|---|
| | | I Year | II Year | III Year | IV Year |
| **CAY (2021-22)** | **67** | 17 | - | - | - |
| **CAYm1 (2020-21)** | **70 (63+7+0)** | 51 | 22+7 | | -- |
| **CAYm2 (2019-20)** | **69 (61+8+0)** | 35 | 35+7 | 33+6 | - |
| **CAYm3 (2018-19)** | **66 (60+6+0)** | 30 | 30+6 | 30+5 | 30+5 |
| **CAYm4 (LYG) (2017-18)** | **72 (61+11+0)** | 48 | 44+10 | 44+10 | 44+10 |
| **CAYm5 (LYGM1) (2016-17)** | **74 (58+16+0)** | 34 | 27+13 | 23+12 | 23+12 |
| **CAYm6 (LYGm2) (2015-16)** | **74 (62+12+0)** | 37 | 34+10 | 33+10 | 31+8 |

***Table B.4b***

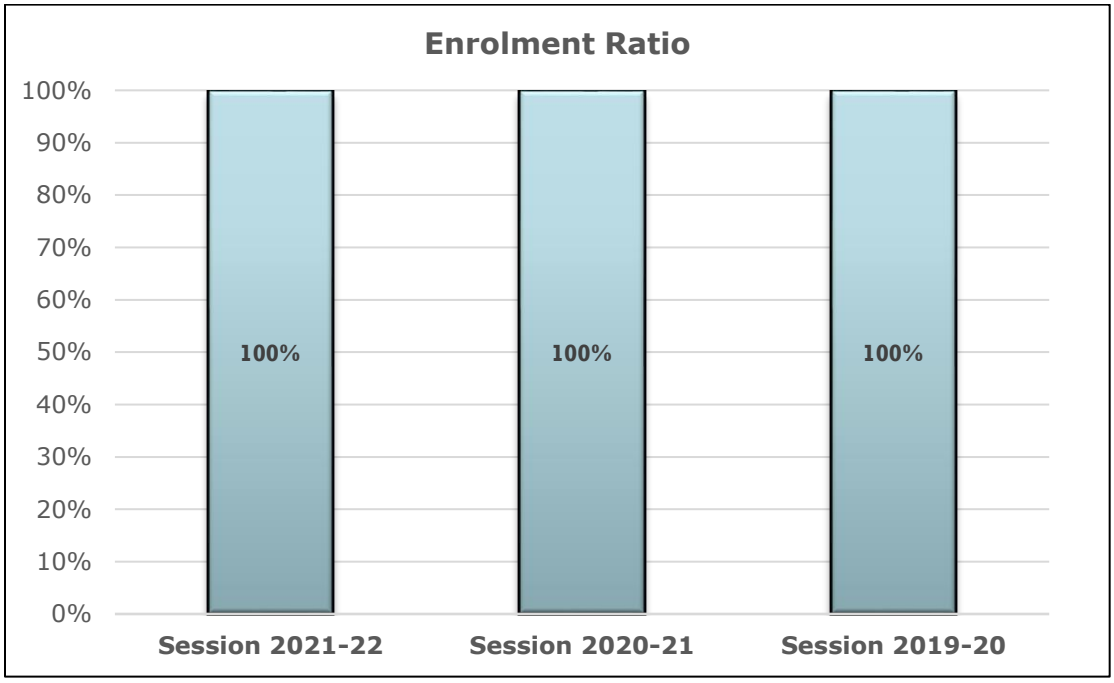
| Year of Entry | N1+N2+N3 (As defined Above) | Number of Students who have successfully graduated | | | |
|---|---|---|---|---|---|
| | | I Year | II Year | III Year | IV Year |
| **CAY (2021-22)** | **67** | 17 | - | - | - |
| **CAYm1 (2020-21)** | **70 (63+7+0)** | 63 | 22+7 | - | - |
| **CAYm2 (2019-20)** | **69 (61+8+0)** | 60 | 60+7 | 42+6 | - |
| **CAYm3 (2018-19)** | **66 (60+6+0)** | 58 | 57+6 | 56+5 | 55+5 |
| **CAYm4 (LYG) (2017-18)** | **72 (61+11+0)** | 60 | 59+11 | 59+11 | 59+11 |
| **CAYm5 (LYGM1) (2016-17)** | **74 (58+16+0)** | 52 | 50+16 | 50+16 | 50+16 |
| **CAYm6 (LYGm2) (2015-16)** | **74 (62+12+0)** | 60 | 60+12 | 60+12 | 58+12 |

***Table B.4c***

### 4.1. Enrolment Ratio (20)

| Year of Entry | N1 | N | Enrolment Ratio = N1/N | Percentage | Marks |
|---|---|---|---|---|---|
| **CAY (2021-22)** | 67 | 60 | 1.12 | 100% | 20 |
| **CAYm1 (2020-21)** | 64 | 60 | 1.07 | 100% | 20 |
| **CAYm2 (2019-20)** | 60 | 60 | 1.00 | 100% | 20 |
| **AVERAGE** | | | | | **20** |

***Table B.4.1***



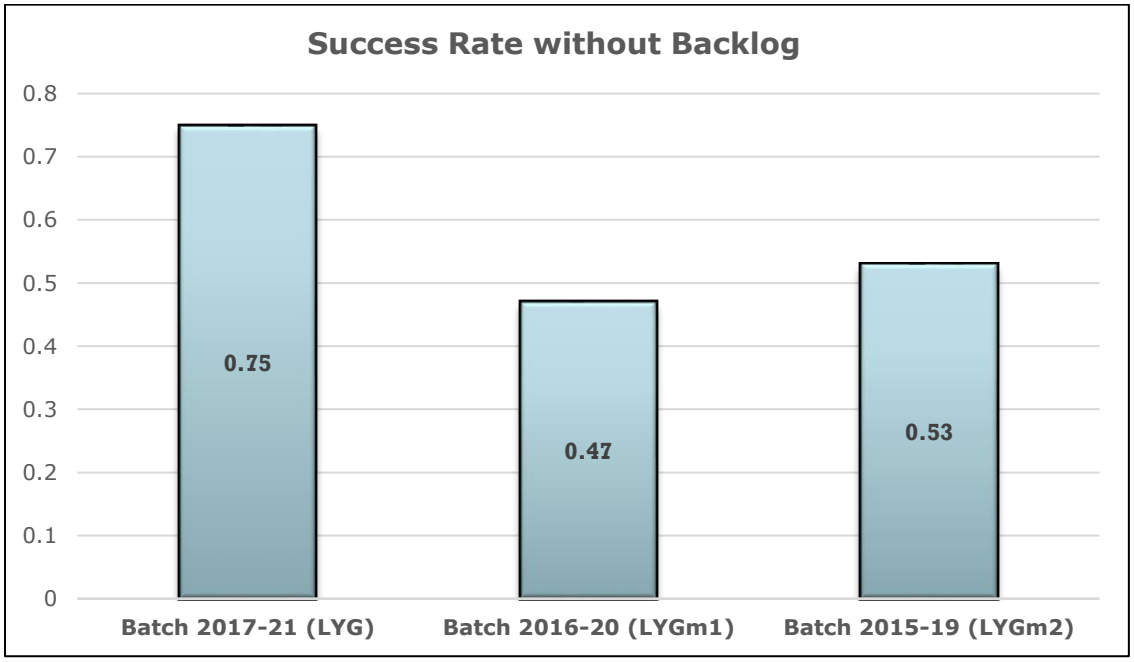
### 4.2.1. Success rate without backlogs in any semester/year of study (25)

*SI= (Number of students who have graduated from the program without backlog)/ (Number of students admitted in the first year of that batch and admitted in 2nd year via lateral entry and separate division, if applicable)*

*Average SI = Mean of Success Index (SI) for past three batches Success rate without backlogs in any year of study = 25 × Average SI*

| **Item** | CAYm4 (LYG) **(2017-21) 2021 graduated** | CAYm5 (LYGm1) **(2016-20) 2020 graduated** | CAYm5 (LYGm2) **(2015-19) 2019 graduated** |
|---|---|---|---|
| Number of Students admitted in the corresponding First Year + Admitted in 2nd Year via lateral entry and separate division, if applicable | 72 (61+11+0) | 74 (58+16+0) | 74 (62+12+0) |
| Number of Students who have graduated without backlogs in the stipulated period | 44+10 | 23+12 | 31+8 |
| **Success Index (SI)** | **0.75** | **0.47** | **0.53** |
| ***Average SI*** | ***0.58*** | | |

***Table B.4.2.1***



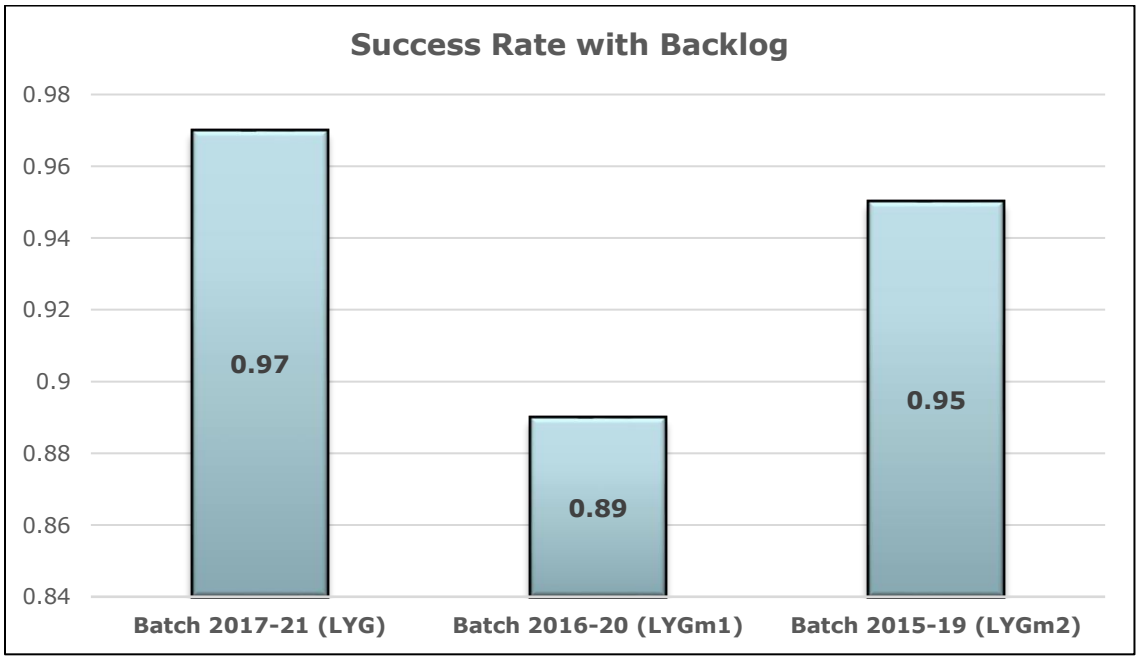
### 4.2.2. Success rate with backlog in stipulated period of study (15)

*SI= (Number of students who graduated from the program in the stipulated period of course duration)/ (Number of students admitted in the first year of that batch and admitted in 2nd year via lateral entry and separate division, if applicable)*

*Average SI = mean of Success Index (SI) for past three batches Success rate = 15 × Average SI*

| **Item** | CAYm4 (LYG) **(2017-18) 2021 graduated** | CAYm5 (LYGm1) **(2016-20) 2020 graduated** | CAYm6 (LYGm2) **(2015-19) 2019 graduated** |
|---|---|---|---|
| Number of Students admitted in the corresponding First Year + Admitted in 2nd Year via lateral entry and separate division, if applicable | 72 (61+11+0) | 74 (58+16+0) | 74 (62+12+0) |
| Number of Students who have graduated in the stipulated period | 59+11 | 50+16 | 58+12 |
| Success Index (SI) | **0.97** | **0.89** | **0.95** |
| **Average Success Index** | **0.936** | | |

***Table B.4.2.2***



### 4.3. Academic Performance in Third Year (15)

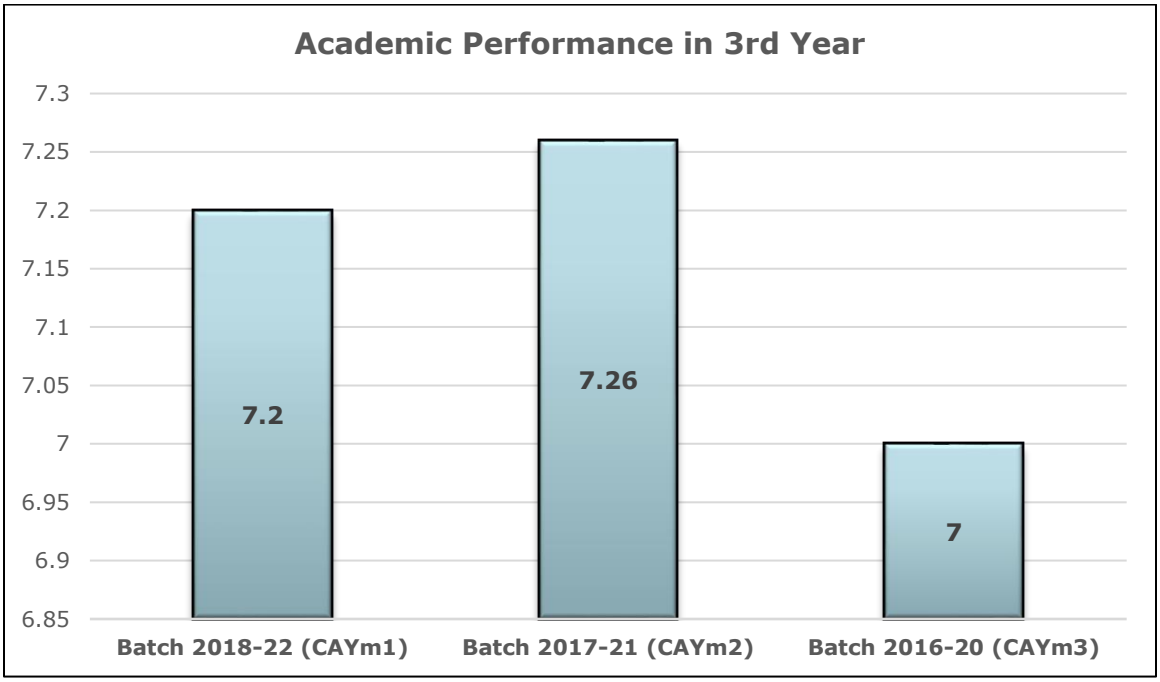
*Academic Performance = 1.5 * Average API (Academic Performance Index)*

*API = ((Mean of 3rd Year Grade Point Average of all successful Students on a 10 point scale) or (Mean of the percentage of marks of all successful students in Third Year/10)) x (number of successful students/number of students appeared in the examination)*

*Successful students are those who are permitted to proceed to the final year.*

| **Academic Performances** | CAYm1 (2020-21) **(Batch 2018-22)** | CAYm2 (2019-20) **(Batch 2017-21)** | CAYm3 (2018-19) **(Batch 2016-20)** |
|---|---|---|---|
| Means of CGPA or Mean Percentage of all successful students(X) | **7.20** | **7.26** | **7** |
| Total no. of successful students (Y) | 66 | 72 | 74 |
| Total no. of students appeared in the examination (Z) | 66 | 72 | 74 |
| API= X (Y/Z) | **7.20** | **7.26** | **7** |
| **Average API=(AP1 + AP2 +AP3)/3** | **7.15** | | |

***Table B.4.3***



### 4.4. Academic Performance in Second Year (15)

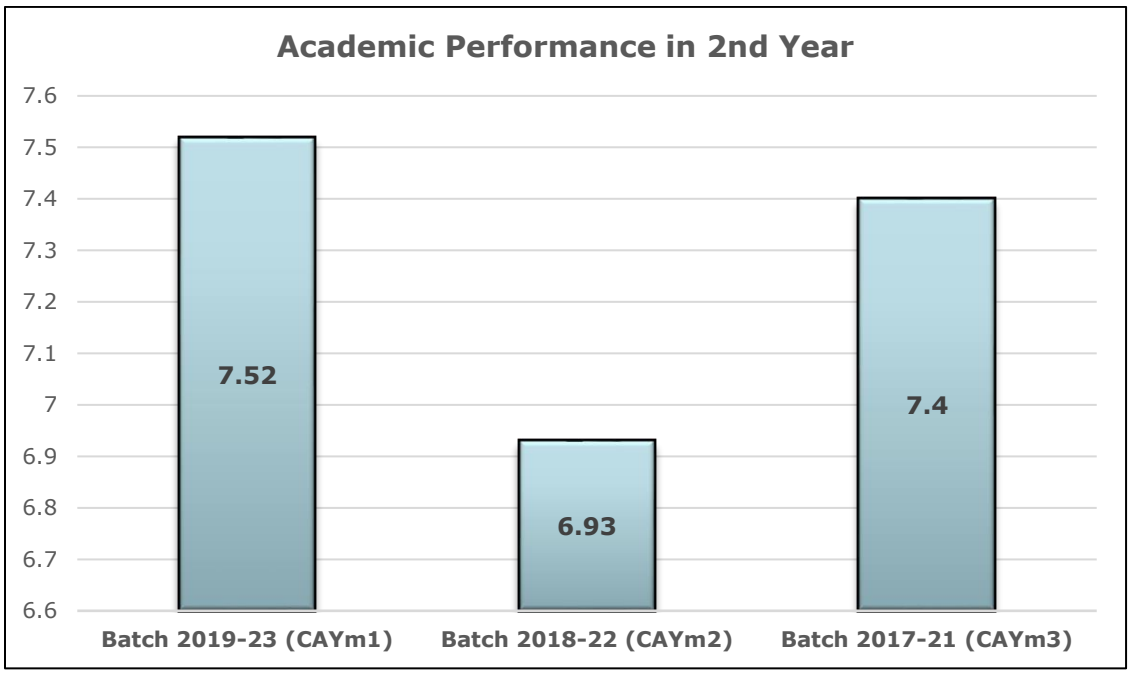
*Academic Performance Level = 1.5 * Average API (Academic Performance Index)*

*API = ((Mean of 2nd Year Grade Point Average of all successful Students on a 10 point scale) or (Mean of the percentage of marks of all successful students in Second Year/10)) x (number of successful students/number of students appeared in the examination)*

*Successful students are those who are permitted to proceed to the Third year.*

| **Academic Performances** | CAYm1 (2020-21) **(Batch 2019-23)** | CAYm2 (2019-20) **(Batch 2018-22)** | CAYm3 (2018-19) **(Batch 2017-21)** |
|---|---|---|---|
| Means of CGPA or Mean Percentage of all successful students(X) | 7.52 | 6.93 | 7.21 |
| Total no. of successful students (Y) | 69 | 63 | 72 |
| Total no. of students appeared in the examination (Z) | 69 | 63 | 72 |
| API=×(Y/Z) | **7.52** | **6.93** | **7.4** |
| Average API=(AP1 + AP2 +AP3)/3 | **7.28** | | |

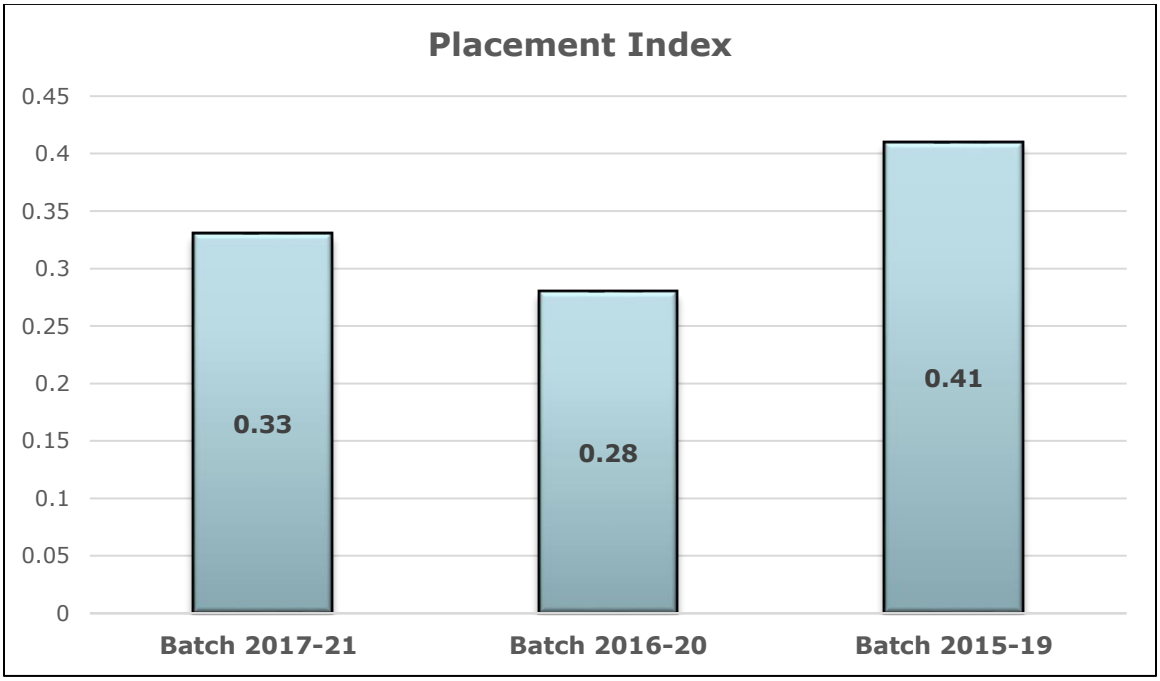
***Table B.4.4***



**4.5. Placement, Higher Studies and Entrepreneurship (40)**

| Item | CAYm1 (2020-21) (Batch 2017-21) | CAYm2 (2019-20) (Batch 2016-20) | CAYm3 (2018-19) (Batch 2015-19) |
|---|---|---|---|
| Total no. of Final Year Students (N) | 72 | 74 | 74 |
| No. of students placed in companies or Government Sector(X) | 7 | 10 | 9 |
| No of Students admitted to higher studies with valid qualifying scores (GATE or equivalent State or National Level Tests, GRE, AMAT etc.) (Y) | 17 | 11 | 21 |
| No of Students turned entrepreneur in engineering /technology (Z) | 0 | 0 | 0 |
| X+Y+Z = | 24 | 21 | 30 |
| **Placement Index: (X+Y+Z)/N** | **0.33** | **0.28** | **0.41** |
| **Average placement=(P1+P2+P3)/3** | **0.34** | | |

***Table B.4.5***



**4.5 a. Provide the placement data in the below mentioned format with the name of the program and the assessment year:**

**Session: CAYm1: 2020-2021 (Batch 2017-21)**

| S.No | Name of Student Placed | Roll No. | Name of Employer/ Institute |
|---|---|---|---|
| 1 | Abhishek Chandel | 17BT010103 | Tidong Hydro Power Project Kinnaur, Himalaya Construction Company |
| 2 | Rahul Kashyap | 17BT010139 | Apprentice at SJVNL |
| 3 | Rahul Guleria | 17BT010141 | Apprentice at SJVNL |
| 4 | Rohit Thakur | 17BT010145 | FP India Project Management Consultancy Services Pvt. Ltd. |
| 5 | Saurabh | 17BT010149 | Infosys |
| 6 | Shubham Kaushal | 17BT010156 | HPPTCL, AE |
| 7 | Amit Kumar | 18BTL010102 | Aimil Ltd. |
| **S.No** | **Name of Student gone for Higher Studies** | **Roll No.** | **Name of Institute** |
| 1 | Aman Kumar | 17BT010108 | NIT Rourkela |
| 2 | Anish Pandit | 17BT010111 | NIT Hamirpur |
| 3 | Anita Verma | 17BT010112 | NIT Hamirpur |
| 4 | Ayush Gaurav | 17BT010114 | NIT Hamirpur |
| 5 | Chandesh | 17BT010116 | NIT Hamirpur |
| 6 | Kartikey Sen | 17BT010121 | NIT Jalandhar |
| 7 | Khushwant | 17BT010122 | Thapar University Patiala |
| 8 | Muhammad Farooq | 17BT010126 | NIT Kurukshetra |
| 9 | Mukesh Sharma | 17BT010127 | IIT Guwahati |
| 10 | Nitin Gaud | 17BT010133 | NIT Hamirpur |
| 11 | Nitin Thakur | 17BT010134 | IIT Mandi |
| 12 | Shivangi Chaudhary | 17BT010152 | NIT Hamirpur |
| 13 | Sumit Pathak | 17BT010157 | NIT Hamirpur |
| 14 | Sachin Sharma | 17BT040144 | NIT Hamirpur |
| 15 | Devshri Vats | 18BTL010103 | NIT Jalandhar |
| 16 | Harsha | 18BTL010104 | NIT Hamirpur |
| 17 | Rohit Sharma | 18BTL010110 | Shoolini University |

***Table B.4.5 a1***

**Session: CAYm1: 2019-2020 (Batch 2016-20)**

| S.No | Name of Student Placed | Roll No. | Name of Employer/ Institute |
|---|---|---|---|
| 1 | Akshay Kumar | 1602614007 | HPPCL, AE |
| 2 | Aastha Sharma | 1602614001 | Pie Infocomm Pvt Ltd Lucknow |
| 3 | Shaswat Kapoor | 1602614048 | Pie Infocomm Pvt Ltd Lucknow |
| 4 | Vaishali | 1602614056 | Pie Infocomm Pvt Ltd Lucknow |
| 5 | Pooja Kumari | 1603616035 | Apprentice at SJVNL |
| 6 | Umesh Sharma | 1603616055 | Institute of Road Traffic Education, Faridabad |
| 7 | Anita Thakur | 17BTL010101 | Apprentice at SJVNL |
| 8 | Avedan Kumar | 17BTL010102 | Junior Engineer, Dept. of Agriculture, HP |
| 9 | Swati Sharma | 17BTL010112 | Apprentice at SJVNL |
| 10 | Vikaram Sharma | 17BTL010113 | JE, HPPWD |
| | | | |

| S.No | Name of Student gone for Higher Studies | Roll No. | Name of Institute |
|---|---|---|---|
| 1 | Anurag Chaudhary | 1602614013 | NIT Jalandhar |
| 2 | Diksha Kumari | 1602614017 | JUIT Waknaghat |
| 3 | Rahul Sharma | 1602614032 | Thapar University |
| 4 | Rishav Kaundal | 1602614035 | PEC Chandigarh |
| 5 | Robin Bhardwaj | 1602614036 | NIT Hamirpur |
| 6 | Saurav Chandel | 1602614044 | GNDU Amritsar |
| 7 | Shelly Thakur | 1602614049 | PEC Chandigarh |
| 8 | Vishal Pun | 1602614055 | HPU Shimla |
| 9 | Akhil | 1604714004 | NIT Hamirpur |
| 10 | Anurag Chaudhary | 1602614013 | NIT Jalandhar |
| 11 | Diksha Kumari | 1602614017 | JUIT Waknaghat |

***Table B.4.5 a2***

**Session: CAYm1: 2018-2019 (Batch 2015-19)**

| S.No | Name of Student Placed | Roll No. | Name of Employer/ Institute |
|---|---|---|---|
| 1 | Abhishek | 10BTD5010283 | AE, HPPWD |
| 2 | Aditya Sharma | 10BTD5010286 | Intern, SmartBeings Inc, Bangalore |
| 3 | Akash Sharma | 10BTD5010289 | Dharamshala Smart City Limited |
| 4 | Akshay Pathania | 10BTD5010291 | AutoCAD DESIGNER, Pie Infocomm Ltd. |
| 5 | Dimpal Sharma | 10BTD5010299 | Billing Engineer, DKS Constructions Mandi |
| 6 | Pankaj Kumar | 10BTD5010319 | Site Engineer, Arch-En-Design |
| 7 | Shivam | 10BTD5010332 | AutoCAD DESIGNER, Pie Infocomm Ltd. |
| 8 | Hanita Kumari | 1612613103 | SJVN Limited |
| 9 | Sachin Kumar | 1612613108 | Junior Engineer, Dept of Agriculture, HP |
| **S.No** | **Name of Student gone for Higher Studies** | **Roll No.** | **Name of Institute** |
| 1 | Aakriti Sharma | 10BTD5010280 | Guru Nanak Dev Engineering College, Ludhiana |
| 2 | Aditi Sharma | 10BTD5010285 | Indian Institute of Technology Kanpur |
| 3 | Anshul Parmar | 10BTD5010293 | Punjab Engineering College, Chandigarh |
| 4 | Ashish Chakotra | 10BTD5010296 | NIT Hamirpur |
| 5 | Gaurav Sharma | 10BTD5010301 | PEC University Chandigarh |
| 6 | Kartik Chadha | 10BTD5010308 | Thapar Institute of Engineering and Technology Patiala |
| 7 | Keshav Kumar | 10BTD5010309 | PEC Chandigarh |
| 8 | Mayank Thakur | 10BTD5010312 | IIT Mandi |
| 9 | Navneet | 10BTD5010315 | IIT Mandi |
| 10 | Pallavi Bansal | 10BTD5010318 | NIT Hamirpur |
| 11 | Rishabh Sharma | 10BTD5010326 | IIT Mandi |
| 12 | Rishabh Sharma | 10BTD5010326 | IIT Mandi |
| 13 | Romani Choudhary | 10BTD5010329 | NIT Srinagar |
| 14 | Romani Choudhary | 10BTD5010329 | NIT Srinagar |
| 15 | Vipan Kumar | 10BTD5010338 | NIT Hamirpur |
| 16 | Vipan Kumar | 10BTD5010338 | NIT Hamirpur |
| 17 | Vishal | 10BTD5010339 | NIT Hamirpur |

| | | | |
|---|---|---|---|
| 18 | Vishal | 10BTD5010339 | NIT Hamirpur |
| 19 | Astha Sharma | 20BTD5010050 | Delft University Netherlands |
| 20 | Arun Kumar | 1612613101 | IIT MANDI |
| 21 | Pushkar Sharma | 1612613107 | JUIT WAKNAGHAT |

***Table B.4.5 a3***

## 4.6. Professional Activities (20)

### 4.6.1. Professional societies/chapters and organizing engineering events (5)

#### 4.6.1.1 Institute of Engineers

Institution has got the membership of Institute of Engineer on 24th Dec 2020. A total of around 100 students of B.Tech Civil Engineering are members of Student Chapter (established on 13th April 2021) of the same. The details of activities carried under Institution of Engineers Student Chapter of Civil Engineering are as follows:

| S.No | Event Details | Date | Participants |
|---|---|---|---|
| 1 | Workshop on New Trends in Civil Engineering under Institution of Engineers | 21/12/21 | 1st – 4th year B.Tech CE members of ISTE |
| 2 | Workshop on Smart Technologies in Civil Engineering | 7/5/2022 | |

***Table B.4.6.1a***

#### 4.6.1.2 ISTE

Institution is a member of Indian Society for Technical Education since year 2013. The students participate in different activities held under the ISTE Student Chapter of JNGEC Sundernagar. A total of 115 students students of Dept of Civil Engineering are enrolled in the ISTE student chapter and some students are also part of the main student committee of the same. The details are as below:

| S.No | Student Details | Year | Batch | Role |
|---|---|---|---|---|
| **ISTE Student Committee 2021- 2022** | | | | |
| 1 | Aditya Sharma (1901011003) | 3rd | 2019-2023 | Vice-President |
| 2 | Dheeraj Kumar (20010101029) | 2nd | 2020-2024 | Member |
| 3 | Yashik (21010101067) | 1st | 2021-2025 | Member |

***Table B.4.6.1b***

#### 4.6.1.3 Civil Engineering Society (CES)

Civil Engineering Society was started in the Department of Civil Engineering under the guidance of HOD and faculty; in which around 120 students of Civil engineering from 1st to 4th year had registered in 2019 and currently around 90 students are registered. The society was inaugurated by worthy Director/Principal JNGEC Sundernagar in October 2019 The main objective of the CES is to enhance the technical skills through some technical and co-curricular events.

- The team of Civil Engineering Society is as follows:

| Civil Engineering Society Composition/Team | | |
|---|---|---|
| **S.No.** | **Name** | **Designation** |
| **2021-2022** | | |
| 1 | Dr. Madhu Sharma | Chairman |
| 2 | Mr. Prashant Thakur | Faculty Incharge |
| 3 | Ms. Surabhi | Faculty Coordinator |
| 4 | Prashant Chambyal | President |
| 5 | Aditya Sharma | Vice President |
| 6 | Karan Minhas | Vice President |
| 7 | Amit Kumar Dogra | Alumni Secretary |
| 8 | Ritul Msmta | Web Secretary |
| 9 | Ritik Dhiman | Poster Design Secretary |
| 10 | Jyoti Sharma | Newsletter Design Secretary |
| **2019-2020** | | |
| 1 | Dr. S.P. Guleria | Chairman |
| 2 | Ms. Madhu Sharma | Faculty Incharge |
| 3 | Ms. Surabhi | Faculty Coordinator |
| 4 | Shashwat | President |
| 5 | Manay Sharma | Vice President |
| 6 | Rahul Thakur | Vice President |
| 7 | Kartikey S. Sen | Alumni Secretary |
| 8 | Saurabh | Web Secretary |
| 9 | Rahul Kashyap | Poster Design Secretary |
| 10 | Vaibhav Gupta | Newsletter Design Secretary |

***Table B.4.6.1c***

- The events conducted under Civil Engineering Society are as follows:

| S.No | Name of Event | Date |
|---|---|---|
| 1 | Logo making competition | 10/10/2019 |
| 2 | Essay competition on Plastic Waste Free Society | 19/10/2019 |
| 3 | Photography competition | 18/10/2019 to 24/10/2019 |
| 4 | Diwali celebration with CES inauguration | 24/10/2019 |
| 5 | Shaheedi Diwas | 23/03/2021 |
| 6 | Yoga Day | 21/06/2022 |

***Table B.4.6.1d***

**4.6.2. Publication of technical magazines, newsletters, etc. (5)**

Reflexia is institute magazine published and released each year which comprises of technical and curricular articles by students.

The students of Dept of Civil Engineering hold various positions in the Institute Reflexia Committee every year. The details of students of Civil Engineering are in the editorial team of the magazine are as below:

| S.No | Student Details | Year | Batch | Role |
|---|---|---|---|---|
| **Reflexia 2022** | | | | |
| 1 | Aakanksha (18BT010102) | 4th | 2018-2022 | Managing Editors |
| 2 | Aarti Rangray (18BT010103) | 4th | 2018-2022 | Managing Editors |
| 3 | Rittul Mamta (1901011042) | 3rd | 2019-2023 | Executive Designer |
| 4 | Jyoti (1901041022) | 3rd | 2019-2023 | Executive Editor |
| 5 | Akshit Sharma (20010101007) | 2nd | 2020-2024 | Executive Member |
| 6 | Dheeraj Kumar (20010101029) | 2nd | 2020-2024 | Executive Member |
| **Reflexia 2021** | | | | |
| 1 | Aakanksha (18BT010102) | 3rd | 2018-2022 | Executive Editor |
| 2 | Aarti(18BT010103) | 3rd | 2018-2022 | Executive Editor |
| 3 | Rittul Mamta (1901011042) | 2nd | 2019-2023 | Executive Designer |
| 4 | Akshit Sharma (20010101007) | 1st | 2020-2024 | Executive Member |
| 5 | Nitika Anand (20010101043) | 1st | 2020-2024 | Executive Member |
| **Reflexia 2019** | | | | |
| 1 | Aakanksha (18BT010102) | 2nd | 2018-22 | Executive Editor |
| 2 | Aarti (18BT010103) | 2nd | 2018-22 | Executive Editor |
| 3 | Rittul Mamta (1901011042) | 1st | 2019-2023 | Executive Member |

***Table B.4.6.2***

The department has also constituted a committee for publishing departmental newsletter 'Columns'.

**4.6.3 Participation in inter-institute events by students of the program of study (10)**

**TECHNICAL EVENTS**

| S.No | Student Details | Year | Batch | Details | Name of Event | Location |
|---|---|---|---|---|---|---|
| 1 | Umesh Sharma | 4th | 2016-20 | Secured 2nd position and cash prize | Startup 2019- A Hackathon cum Startup Awareness Event held on 19/08/2019 to 21/08/ 2019 | RGGEC Nagrota Bagwan |
| 2 | Deepak | 4th | 2016-20 | | | |
| 3 | Kartik | 4th | 2016-20 | | | |
| 4 | Rahul | 3rd | 2017-21 | Participated in contest | | |
| 5 | Rohit Thakur | 3rd | 2017-21 | | | |
| 6 | Umesh Sharma | 4th | 2016-20 | Attended | Technical Exhibition at Techfest (Techshila | RGGEC Nagrota Bagwan |
| 7 | Deepak | 4th | 2016-20 | | | |
| 8 | Kartik | 4th | 2016-20 | | | |

| | | | | | | |
|---|---|---|---|---|---|---|
| | | | | | 2019) held on 1/11/2019 to 2/11/2019 | |
| 9 | Akshik Sharma | 3rd | 2017-21 | Attended technical event | Srijan 2020, organized by Nirman Club at IIT Mandi from 21/02/2020 - 23/02-2020 | IIT Mandi |
| 10 | Aman Kumar | 3rd | 2017-21 | | | |
| 11 | Anil Kumar | 3rd | 2017-21 | | | |
| 12 | Anish Pandit | 3rd | 2017-21 | | | |
| 13 | Anita Verma | 3rd | 2017-21 | | | |
| 14 | Arpit Sharma | 3rd | 2017-21 | | | |
| 15 | Ayush Gaurav | 3rd | 2017-21 | | | |
| 16 | Bhuvnesh Sharma | 3rd | 2017-21 | | | |
| 17 | Chandesh Palsara | 3rd | 2017-21 | | | |
| 18 | Diksha Chaudhary | 3rd | 2017-21 | | | |
| 19 | Khushwant Singh | 3rd | 2017-21 | | | |
| 20 | Manay Sharma | 3rd | 2017-21 | | | |
| 21 | Manish Kaushal | 3rd | 2017-21 | | | |
| 22 | Manthan Sharma | 3rd | 2017-21 | | | |
| 23 | Muhammad Farooq | 3rd | 2017-21 | | | |
| 24 | Mukesh Sharma | 3rd | 2017-21 | | | |
| 25 | Naresh Kumar | 3rd | 2017-21 | | | |
| 26 | Nirmal Thakur | 3rd | 2017-21 | | | |
| 27 | Nitin Kumar | 3rd | 2017-21 | | | |
| 28 | Nitin Thakur | 3rd | 2017-21 | | | |
| 29 | Priyanka Chaudhary | 3rd | 2017-21 | | | |
| 30 | Priyanka Kumari | 3rd | 2017-21 | | | |
| 31 | Rahul | 3rd | 2017-21 | | | |
| 32 | Rahul | 3rd | 2017-21 | | | |
| 33 | Rahul Guleria | 3rd | 2017-21 | | | |
| 34 | Rahul Thakur | 3rd | 2017-21 | | | |
| 35 | Rajat Sen | 3rd | 2017-21 | | | |
| 36 | Rohit Chandel | 3rd | 2017-21 | | | |
| 37 | Rohit Thakur | 3rd | 2017-21 | Attended technical event from 21/02/2020 - 23/02-2020 | Srijan 2020, organized by Nirman Club at IIT Mandi | IIT Mandi |
| 38 | Sahil Mehra | 3rd | 2017-21 | | | |
| 39 | Saurabh | 3rd | 2017-21 | | | |
| 40 | Shivangi Choudhary | 3rd | 2017-21 | | | |
| 41 | Shivansh Bhardwaj | 3rd | 2017-21 | | | |
| 42 | Simank Chandel | 3rd | 2017-21 | | | |
| 43 | Sourav Kumar Rana | 3rd | 2017-21 | | | |
| 44 | Shubham Kaushal | 3rd | 2017-21 | | | |
| 45 | Sumit Pathak | 3rd | 2017-21 | | | |
| 46 | Sunidhi Thakur | 3rd | 2017-21 | | | |
| 47 | Tanam Swarup Mahajan | 3rd | 2017-21 | | | |
| 48 | Yashwant Singh | 3rd | 2017-21 | | | |
| 49 | Sachin Sharma | 3rd | 2017-21 | | | |
| 50 | Amit Kumar | 3rd | 2017-21 | | | |
| 51 | Harshlata Sharma | 3rd | 2017-21 | | | |
| 52 | Aakanksha | 2nd | 2018-22 | | | |
| 53 | Aarti | 2nd | 2018-22 | | | |
| 54 | Akshat Gupta | 2nd | 2018-22 | | | |
| 55 | Aniket Jamwal | 2nd | 2018-22 | | | |
| 56 | Arju | 2nd | 2018-22 | | | |
| 57 | Chetan Kumar | 2nd | 2018-22 | | | |

| | | | | | | |
|---|---|---|---|---|---|---|
| 58 | Jagriti Arora | 2nd | 2018-22 | | | |
| 59 | Karan Kumar | 2nd | 2018-22 | | | |
| 60 | Kranti Veer Singh | 2nd | 2018-22 | | | |
| 61 | Muskan | 2nd | 2018-22 | | | |
| 62 | Prerna Chauhan | 2nd | 2018-22 | | | |
| 63 | Prince Kumar | 2nd | 2018-22 | | | |
| 64 | Rahul Sharma | 2nd | 2018-22 | | | |
| 65 | Rahul Thakur | 2nd | 2018-22 | Attended technical event | Srijan 2020, organized by Nirman Club at IIT Mandi from 21/02/2020 - 23/02-2020 | IIT Mandi |
| 66 | Raksha Sharma | 2nd | 2018-22 | | | |
| 67 | Rishav | 2nd | 2018-22 | | | |
| 68 | Rohit Thakur | 2nd | 2018-22 | | | |
| 69 | Rubeen Kumar | 2nd | 2018-22 | | | |
| 70 | Saksham Thakur | 2nd | 2018-22 | | | |
| 71 | Tanvi Chauhan | 2nd | 2018-22 | | | |
| 72 | Tanya Thakur | 2nd | 2018-22 | | | |
| 73 | Trannum | 2nd | 2018-22 | | | |
| 74 | Vaibhav Sharma | 2nd | 2018-22 | | | |
| 75 | Vaibhav Thakur | 2nd | 2018-22 | | | |
| 76 | Vishal Sharma | 2nd | 2018-22 | | | |
| 77 | Mridul | 2nd | 2018-22 | | | |
| 78 | Aman Kumar | 4th | 2017-21 | Attended Training Program | Training Program Disaster Resilient Building Construction Practices from 4/3/2021 - 6/3/2021 | CBRI Roorkee |
| 79 | Anil Kumar | 4th | 2017-21 | | | |
| 80 | Arpit Sharma | 4th | 2017-21 | | | |
| 81 | Manay Sharma | 4th | 2017-21 | | | |
| 81 | Manthan Sharma | 4th | 2017-21 | | | |
| 82 | Muhammad Farooq | 4th | 2017-21 | | | |
| 83 | Mukesh Sharma | 4th | 2017-21 | | | |
| 84 | Naresh Kumar | 4th | 2017-21 | | | |
| 85 | Nitin Kumar | 4th | 2017-21 | | | |
| 86 | Nitin Thakur | 4th | 2017-21 | | | |
| 87 | Rahul | 4th | 2017-21 | | | |
| 88 | Rahul | 4th | 2017-21 | | | |
| 89 | Rajat Sen | 4th | 2017-21 | | | |
| 90 | Ruchit Chauhan | 4th | 2017-21 | | | |
| 91 | Shivansh Bhardwaj | 4th | 2017-21 | | | |
| 92 | Sourav Rana | 4th | 2017-21 | | | |
| 93 | Sachin Sharma | 4th | 2017-21 | | | |
| 94 | Amit Kumar | 4th | 2017-21 | | | |
| 95 | Rajeshwar Prashar | 4th | 2017-21 | | | |
| 96 | Rohit Sharma | 4th | 2017-21 | | | |
| 97 | Ritulesh Mohan | 4th | 2018-22 | Attended Training Program | Online Student Training Program on "Entrepreneurial Career Orientation for Civil engineering and Allied Disciplines" on 28/10/2021 – 29/10/2021 | organised by NITTTR Chandigarh and held at JNGEC Sundernagar through online mode |
| 98 | Rubeen Kumar | 4th | 2018-22 | | | |
| 99 | Aarti | 4th | 2018-22 | | | |
| 100 | Saksham Thakur | 4th | 2018-22 | | | |
| 101 | Sandeep | 4th | 2018-22 | | | |
| 102 | Roop Kumar | 4th | 2018-22 | | | |
| 103 | Prerna Chauhan | 4th | 2018-22 | | | |
| 104 | Vishal Sharma | 4th | 2018-22 | | | |
| 105 | Sonam Rohaun | 4th | 2018-22 | | | |
| 106 | Aakanksha | 4th | 2018-22 | | | |

***Table B.4.6.3a***

## SPORTS EVENTS

| S.No | Student Details | Year | BATCH | Details |
|---|---|---|---|---|
| **HPTU Annual Sports Meet, Laureate Institute of Pharmacy Dehra: March 2022** | | | | |
| 1 | Rahul Kashyap | 17BTL010108 | 2017-21 | Volleyball |
| 2 | Ranjeet Negi | 17BTL010109 | 2016-20 | |
| 3 | Ajay Kumar | 17BT010106 | 2017-21 | Badminton |
| 4 | Vaishali | 1602614056 | 2016-20 | |
| 5 | Shelly | 1602614049 | 2016-20 | |
| 6 | Tamanna | 18BT010155 | 2018-22 | |
| 7 | Mukul Thakur | 17BT010128 | 2017-21 | Basketball |
| 8 | Anurag Chaudhary | 1602614013 | 2016-20 | |
| 9 | Indu Shekhar | 17BT010119 | 2017-21 | Kabaddi |
| 10 | Vijender | 18BT010162 | 2018-22 | |
| 11 | Keshav | 1602614024 | 2016-20 | |
| 12 | Ritin Dogra | 18BT010140 | 2018-22 | |
| 13 | Rahul Thakur | 18BT010136 | 2018-22 | |
| 14 | Vikaram Sharma | 17BTL010113 | 2016-20 | |
| 15 | Sahil Chauhan | 1603614040 | 2016-20 | |
| 16 | Diwakar Sewal | 17BTL010103 | 2016-20 | |
| 17 | Nitin Maan | 1901011029 | 2019-23 | Volleyball |
| 18 | Rajat | 1901011039 | 2019-23 | |
| 19 | Rittul Manta | 1901011042 | 2019-23 | |
| 20 | Ajay Kumar | 17BT010106 | 2017-21 | Badminton |
| 21 | Mukul Thakur | 17BT010128 | 2017-21 | Basketball |
| 22 | Kartikey | 17BT010121 | 2017-21 | |
| 23 | Vishal Pun | 1602614055 | 2016-20 | |
| 24 | Anurag Chaudhary | 1602614013 | 2016-20 | |
| 25 | Ashutosh Sharma | 1602614014 | 2016-20 | |
| 26 | Indu Shekhar | 17BT010119 | 2017-21 | Kabaddi |
| 27 | Vijender | 18BT010162 | 2018-22 | |
| 28 | Keshav | 1602614024 | 2016-20 | |
| 29 | Ritin Dogra | 18BT010140 | 2018-22 | |
| 30 | Vivek Lohmor | 1901011059 | 2019-23 | |

| PARAKRAM, JUIT Waknaghat, Solan: October 2019 | | | | |
|---|---|---|---|---|
| 1 | Ajay Kumar | 17BT010106 | 2017-21 | Badminton |
| 2 | Mukul Thakur | 17BT010128 | 2017-21 | |
| 3 | Kartikey | 17BT010121 | 2017-21 | |
| 4 | Vishal Pun | 1602614055 | 2016-20 | Basketball |
| 5 | Anurag Chaudhary | 1602614013 | 2016-20 | |
| 6 | Ashutosh Sharma | 1602614014 | 2016-20 | |
| 7 | Indu Shekhar | 17BT010119 | 2017-21 | |
| 8 | Vijender | 18BT010162 | 2018-22 | Kabaddi |
| 9 | Keshav | 1602614024 | 2016-20 | |
| 10 | Ritin Dogra | 18BT010140 | 2018-22 | |
| **Rann-Neeti, IIT Mandi: October 2019** | | | | |
| 1 | Ajay Kumar | 17BT010106 | 2017-21 | Badminton |
| 2 | Mukul Thakur | 17BT010128 | 2017-21 | |
| 3 | Kartikey | 17BT010121 | 2017-21 | |
| 4 | Vishal Pun | 1602614055 | 2016-20 | Basketball |
| 5 | Anurag Chaudhary | 1602614013 | 2016-20 | |
| 6 | Ashutosh Sharma | 1602614014 | 2016-20 | |
| 7 | Indu Shekhar | 17BT010119 | 2017-21 | |
| 8 | Vijender | 18BT010162 | 2018-22 | Kabaddi |
| 9 | Keshav | 1602614024 | 2016-20 | |
| 10 | Ritin Dogra | 18BT010140 | 2018-22 | |

***Table B.4.6.3b***

**OTHER EVENTS**

| S.No | Student Details | BATCH | Name of Event | Location |
|---|---|---|---|---|
| 1 | Aakarsh Guleria | 2020-24 | NCC BEE Certificate Camp | Pandoh, Dec 2021 |
| 2 | Ashutosh Vohra | 2020-24 | | |
| 3 | Anamika Rana | 2020-24 | | |
| 4 | Anamika | 2020-24 | | |
| 5 | Suraj | 2020-24 | | |
| 6 | Nikhil Sharma | 2020-24 | | |
| 7 | Himanshu Naik | 2020-24 | | |
| 8 | Ayush Chaudhary | 2019-23 | | |
| 9 | Vaibhav Chaudhary | 2019-23 | | |
| 10 | Manthan Sharma | 2017-21 | Annual Training Camp, Pandoh | Pandoh, November 2019 |
| 11 | Prashant Chambyal | 2018-22 | Unnat Bharat Abhiyan | Survey of Chamukha, |
| 12 | Prashant Dhiman | 2018-22 | | |

| | | | | |
|---|---|---|---|---|
| 13 | Aniket | 2018-22 | | Thalla, Derdu, Kapahi and Thathar villages 28/02/2020 – 01/03/2020 |
| 14 | Aakanksha | 2018-22 | | |
| 15 | Muskan | 2018-22 | | |
| 16 | Shivam | 2018-22 | | |
| 17 | Tushar | 2018-22 | | |
| 18 | Pratiksha | 2018-22 | | |
| 19 | Payal | 2018-22 | | |
| 20 | Akshit Sharma | 2020-24 | NSS Volunteers | Swatch Bharat Abhiyan: 2/10/2021 Human Rights Day(10/12/202) Blood Donation Camp (29/12/21) Vaccination Drive (30/12/21) SEVEN DAY SPECIAL CAMP (N.S.S. UNIT J.N.G.E.C.) 24-12-21 to 30-12-21 and other events held by NSS Unit JNGEC Sundernagar |
| 21 | Dheeraj kumar | 2020-24 | | |
| 22 | Gaurav Kumar | 2020-24 | | |
| 23 | Muskan | 2021-22 | | |
| 24 | Nidhi Verma | 2020-24 | | |
| 25 | Nikhil Kumar | 2020-24 | | |
| 26 | Nitika | 2020-24 | | |
| 27 | Pallvi Kumari | 2020-24 | | |
| 28 | Parul Thakur | 2021-25 | | |
| 29 | Riya Thakur | 2020-24 | | |
| 30 | Rohit Thakur | 2019-23 | | |
| 31 | Sahil Kumar | 2020-24 | | |
| 32 | Tanisha Gautam | 2020-24 | | |
| 33 | Vikas Kashyap | 2021-25 | | |
| 34 | Aarti | 2018-22 | | |
| 35 | Aman Soni | 2019-23 | | |
| 36 | Amisha Sharma | 2019-23 | | |
| 37 | Arju | 2018-22 | | |
| 38 | Balbir | 2019-23 | | |
| 39 | Bhim Singh | 2019-23 | | |
| 40 | Jagriti Arora | 2018-22 | | |
| 41 | Jyoti | 2019-23 | | |
| 42 | Muskan | 2018-22 | | |
| 43 | Payal | 2019-23 | | |
| 20 | Pratiksha | 2019-23 | | |
| 21 | Prashant Chambyal | 2018-22 | NSS Student President | |
| 22 | Aakanksha | 2018-22 | | |
| 23 | Aakanksha | 2018-22 | Won 1st prize at Institute level and participated in State level competition | State Level Poetry Competition under Golden Jubilee Events held on 15/12/2021 |
| 24 | Aniket Jamwal | 2018-22 | Won 1st prize at Inter College sports Meet 2022 in Volleyball | |
| 25 | Prince Kumar | 2018-22 | | |
| 26 | Nitin | 2019-23 | | |
| 27 | Rajat | 2019-23 | | |

| | | | | |
|---|---|---|---|---|
| 28 | Dainik Jyoti | 2019-23 | | JNGEC Sundernagar held on 01-01 2022 to 03-01-2022 |
| 29 | Himanshu | 2020-24 | | |
| 30 | Ayush | 2021-25 | | |
| 31 | Mohammad Jabir | 2021-25 | | |
| 32 | Aman Soni | 2019-23 | Won 1st prize at Inter College sports Meet 2022 in Chess (Boys) | |
| 33 | Garima | 2021-25 | Won 1st prize at Inter College sports Meet 2022 in Chess (Girls) | |

***Table B.4.6.3c***

## 5. FACULTY INFORMATION AND CONTRIBUTIONS

**Session 2021-2022**

| Name of the faculty member | Qualification | | | Association with the institution | Designation | Date of which designated as Professor/Associate Professor | Date of joining the institution | Department | Specialization | Academic Research | | | Currently Associated (Y/N) Date of Leaving (In case Currently Associated is "N") | Nature of association |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Degree (highest degree) | University | Year of attaining Higher Degree | | | | | | | Research Paper Publications (in nos) | PH.D. Guidance (in Nos.) | Faculty Receiving PH.D. during the Assessment Year (YES/NO) | | |
| Dr. S. P. Guleria | Ph. D., MBA | NIT Hamirpur, NITTTR | 2015 | 2011 | HOD in Civil Engg., Director-principal, JNGEC | 18/02/2021 | 15/09/2011 | Civil Engg | Construction Technology & Management, Geotechnical Engg. | - | - | No | Yes | Regular |
| Dr Madhu Sharma | Ph. D. | Thapar University (both) | 2021 | 2013 | OIC, Civil Engg.,, Assistant Professor | - | 28/03/2013: Contract 02/06/2017 regular | Civil Engg | Structural Engineering (Civil Engineering) | - | - | No | Yes | Regular |
| Ms. Bedatrayee Saha | M. E. | Bengal Engg. & Sc. University, WB, | 2006 | 2013 | Assistant Professor | - | 22/03/2013 Contract 02/06/2017 regular | Civil Engg | Environmental Engg. (Civil Engg.) | - | - | No | Yes | Regular |
| Ms. Surabhi | M.Tech, B.tech | JUIT Waknaghat, (B.Tech &M.Tech) | 2013 | 2016 | Assistant Professor | - | 15/02/2016 Contract, 25/04/2019 regular | Civil Engg | Structural Engineering (Civil Engineering) | - | - | No | yes | Regular |
| Dr. Vivek | Ph. D., MTech | NIT Hamirpur | 2020 | 2016 | Assistant Professor | - | 9/02/2016 Contract, 25/04/2019 regular | Civil Engg | Highway Engineering, Geotechnical Engg. (Civil Engineering) | 04 | - | yes | yes | Regular |
| Mr. Kapil Dev | Phd pursuing, M.E. | North maharashtra Univer | 2014 | 2016 | Assistant Professor | - | 9/02/2016 Contract, | Civil Engg | Construction Technology & | 01 | - | No | yes | Regular |

| | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | sity, Jalgaon | | | | | 25/04/2019 regular 9 | | Management | | | | | |
| Mr. Prashant Thakur | M.Tech | NITTTR, Chandigarh | 2018 | 2020 | Assistant Professor | - | 23/01/2020, 22/04/2022 regular | Civil Engg | Construction Technology & Management | - | - | No | yes | Regular |
| Mr. Sandeep Chaudhary | M. A., M. Phil, MBA | Sri Venkataswara University | 2009 | 2011 | Assistant Professor(Management) | - | 19.09.2011, 13/08/2021 regular | Applied Sc. & humanities | Economics(Management) | - | - | No | Yes | Regular |
| Mr. Chetan Sharma | M.Tech | HPTU, PTU | 2010 | 2011 | Lecturer, Assistant Professor | - | 29.08.2011, 23/02/2022 regular | Mech. Engg. | Production Engg. | - | - | No | yes | Regular |
| Ms. Rita Rana | M. Sc. | Karnataka university | 2012 | 2014 | Lecturer, Assistant Professor | ----- | 02.09.2014, 04/12/2021regular | Applied Sc. & humanities | Maths | ___ | ___ | No | Yes | Regular |

***Table 5.1.a***

**Session 2020-21**

| Name of the faculty member | Qualification | | | Association with the institution | Designation | Date of which designated as Professor/Associate Professor | Date of joining the institution | Department | Specialization | Academic Research | | | Currently Associated (Y/N) Date of Leaving (In case Currently Associated is (" No) | Nature of association |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Degree (highest degree) | University | Year of attaining Higher Degree | | | | | | | Research Paper Publications (in nos) | PH.D. Guidance (in Nos.) | Faculty Receiving PH.D. during the Assessment Year (YES/NO) | | |
| Dr. S. P. Guleria | Ph. D., MBA | NIT Hamirpur, NITTTR | 2015 | 2011 | HOD in Civil Engg., Director-principal, JNGEC | 18/02/2021 | 15/09/2011 | Civil Engg | Construction Technology & Management, Geotechnical Engg. | - | - | No | Yes | Regular |
| Ms. Madhu Sharma | Ph. D. | Thapar University (both) | 2021 | 2013 | OIC, Civil Engg.,, Assistant Professor | - | 28/03/2013: Contract 02/06/2017 regular | Civil Engg | Structural Engineering (Civil Engineering) | 01 | - | No | Yes | Regular |
| Ms. Bedatrayee Saha | M. E. | Bengal Engg. & Sc. University, WB, | 2006 | 2013 | Assistant Professor | - | 22/03/2013 Contract 02/06/2017 regular | Civil Engg | Environmental Engg. (Civil Engg.) | - | - | No | Yes | Regular |

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ms. Surabhi | M.Tech, B.tech | JUIT Waknaghat, (B.Tech &M.Tech) | 2013 | 2016 | Assistant Professor | - | 15/02/2016 Contract, 25/04/2019 regular | Civil Engg | Structural Engineering (Civil Engineering) | - | - | No | yes | Regular |
| Dr. Vivek | Ph. D., MTech | NIT Hamirpur | 2020 | 2016 | Assistant Professor | - | 9/02/2016 Contract, 25/04/2019 regular | Civil Engg | Highway Engineering, Geotechnical Engg. (Civil Engineering) | 01 | - | yes | yes | Regular |
| Mr. Kapil Dev | Phd pursuing, M.E. | Northmaharashtra University, Jalgaon | 2014 | 2016 | Assistant Professor | - | 9/02/2016 Contract, 25/04/2019 regular | Civil Engg | Construction Technology & Management | 01 | - | No | yes | Regular |
| Mr. Prashant Thakur | M.Tech | NITTTR, Chandigarh | 2018 | 2020 | Assistant Professor | - | 23/01/2020 contract, | Civil Engg | Construction Technology & Management | - | - | No | yes | Regular |
| Mr. Sandeep Chaudhary | M. A., M. Phil, MBA | Sri Venkataswarya University | 2009 | 2011 | Lecturer | - | 19/09/2011 | Applied Sc. & humanities | Economics | - | - | No | Yes | Contract |
| Mr. Vinay Sharma | M. Phil. | VM, Tamilnadu | 2007 | 2018 | Assistant Professor | - | 27/07/2018 | Applied Sc. & humanities | Fluid Dynamics | - | - | No | yes | Regular |

***Table 5.1.b***

**Session 2019-20**

| Name of the faculty member | Qualification | | | Association with the institution | Designation | Date of which designated as Professor/Associate Professor | Date of joining the institution | Department | Specialization | Academic Research | | | Currently Associated (Y/N) Date of Leaving (In case Currently Associated is (" No" ) | Nature of association |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Degree (highest degree) | University | Year of attaining Higher Degree | | | | | | | Research Paper Publications (in nos) | PH.D. Guidance (in Nos.) | Faculty Receiving PH.D. during the Assessment Year (YES/NO) | | |
| Dr. S. P. Guleria | Ph. D., MBA | NIT Hamirpur, NITTTR | 2015 | 2012 | HOD in Civil Engg. | 18/02/2021 | 15/09/2011 | Civil Engg | Construction Technology & Management, Geotechnical Engg. | 3 | - | No | Yes | Regular |

| | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ms. Madhu Sharma | Ph. D. (pursuing), M. E. | Thapar University (both) | 2011 | 2013 | OIC, Civil Engg.,,Assistant Professor | - | 28/03/2013: Contract 02/06/2017 regular | Civil Engg | Structural Engineering (Civil Engineering) | 2 | - | No | Yes | Regular |
| Ms. Bedatrayee Saha | M. E. | Bengal Engg. & Sc. University, WB, | 2006 | 2013 | Assistant Professor | - | 22/03/2013 Contract 02/06/2017 regular | Civil Engg | Environmental Engg. (Civil Engg.) | - | - | No | Yes | Regular |
| Ms. Surabhi | M.Tech, B.tech | JUIT Waknaghat, (B.Tech &M.Tech) | 2013 | 2016 | Assistant Professor | - | 15/02/2016 Contract, 25/04/2019 regular | Civil Engg | Structural Engineering (Civil Engineering) | - | - | No | yes | Regular |
| Dr. Vivek | Ph. D., MTech | NIT Hamirpur | 2020 | 2016 | Assistant Professor | - | 9/02/2016 Contract, 25/04/2019 regular | Civil Engg | Highway Engineering, Geotechnical Engg. (Civil Engineering) | 8 | - | yes | yes | Regular |
| Mr. Kapil Dev | Phd pursuing, M.E. | North maharashtra University, Jalgaon | 2014 | 2016 | Assistant Professor | - | 9/02/2016 Contract, 25/04/2019 regular 9 | Civil Engg | Construction Technology & Management | 1 | - | No | yes | Regular |
| Mr. Prashant Thakur | M.Tech | NITTTR, Chandigarh | 2018 | 2020 | Assistant Professor | - | 23/01/2020 | Civil Engg | Construction Technology & Management | - | - | No | yes | Regular |
| Mr. Sandeep Chaudhary | M. A., M. Phil, MBA | Sri Venkataswarya University | 2009 | 2011 | Lecturer | - | 19.09.2011 | Applied Sc. & humanities | Economics | - | - | No | Yes | Contract |
| Mr. Chetan Sharma | M.Tech | HPTU, PTU | 2010 | 2011 | Lecturer, Assistant Professor | - | 29.08.2011, 04/06/,2019 | Mech. Engg. | Production Engg. | - | - | No | yes | Regular |
| Mr. Deepak Thakur | B.Tech & GATE | HPU | 2012 | 2014 | Lecturer, Assistant professor | - | 20.01.2014 | Mech. Engg. | - | - | - | No | Yes | contract |
| Mr. Vinay Sharma | M. Phil. | VM, Tamilnadu | 2007 | 2018 | Assistant Professor | - | 27/07/2018 | Applied Sc. & humanities | Fluid Dynamics | - | - | No | yes | Regular |

***Table 5.1.c***

**5.1. Student-Faculty Ratio (SFR) (20)**

| Year | 2021-22 | 2020-21 | 2019-2020 |
|---|---|---|---|
| 2nd year | 60(regular) +08 (lateral entry) =68 | 60(regular) +08 (lateral entry) =68 | 60(regular) +06 (lateral entry) =66 |
| 3rd year | 60(regular) +08 (lateral entry) =68 | 60(regular) +06 (lateral entry) =66 | 60(regular) +12 (lateral entry) =72 |
| 4th year | 60(regular) +06 (lateral entry) =66 | 60(regular) +12 (lateral entry) =72 | 60(regular) +16 (lateral entry) =76 |
| UG1 | 68 +68+66= 202 | 68+66+72 = 206 | 66+72+76=214 |
| No. of Faculty in the Department **(F)** | **F1 = 7 nos.** | **F2= 7 nos.** | **F3=7 nos.** |
| Student Faculty Ratio (SFR) | **SFR1=S1/F1 = 202/7 = 28.86** | **SFR2= S2/F2= 206/7 = 29.43** | **SFR3=S3/F3 = 214/7 = 30.57** |
| Average SFR | **SFR=(SFR1+SFR2+SFR3)/3 = (28.86+29.43+30.57)/3= 29.62** | | |

**5.1.1. Provide the information about the regular and contractual faculty as per the format mentioned below:**

| Year | Total number of regular faculty in the department | Total number of contractual faculty in the department |
|---|---|---|
| **CAY 2021-2022** | 06 | 01 |
| **CAY 2020-2021** | 06 | 01 |
| **CAYm1 2019-2020** | 06 | 01 |

**5.2. Faculty Cadre Proportion (25)**

***F1****: Number of Professors required = 1/9 x Number of Faculty required to comply with 20:1 Student-Faculty ratio based on no. of students (N) as per 5.1*

***F2:*** *Number of Associate Professors required = 2/9 x Number of Faculty required to comply with 20:1 Student-Faculty ratio based on no. of students (N) as per 5.1*

***F3:*** *Number of Assistant Professors required = 6/9 x Number of Faculty required to comply with 20:1 Student-Faculty ratio based on no. of students (N) as per 5.1*

| Years | Professors | | Associate Professors | | Assistant Professors | |
|---|---|---|---|---|---|---|
| | Required F1 | Available | Required F2 | Available | Required F3 | Available |
| **2021-2022** | 1/9*(180/20) = 1.0 | 01 | 2/9*(180/20) = 2.0 | 0 | 6/9*(180/20) = 6.0 | 06 |
| **2020-2021** | 1/9*(180/20) = 1.0 | 01 | 2/9*(180/20) = 2.0 | 0 | 6/9*(180/20) = 6.0 | 06 |

| | | | | | | |
|---|---|---|---|---|---|---|
| **2019-2020** | 1/9*(180/20) = 1.0 | 01 | 2/9*(180/20) = 2.0 | 0 | 6/9*(180/20) = 6.0 | 06 |
| **Average Numbers** | **RF1 =01** | **AF1 = 01** | **RF2 = 02** | **AF2 = 0** | **RF3 = 06** | **AF3 = 06** |

$$\text{Cadre ratio marks} = [\left(\frac{AF_1}{RF_1}\right) + \left(\frac{AF_2}{RF_2}\right) 0.6 + \left(\frac{AF_3}{RF_3}\right) 0.4] * 12.5$$

$$= [\left(\frac{1}{1}\right) + \left(\frac{0}{2}\right) 0.6 + \left(\frac{6}{6}\right) 0.4] * 12.5 = 17.5 \text{ limited to 25}$$

### 5.3. Faculty Qualification (25)

*FQ =2.5 x [(10X +6Y)/F)] where x is no. of regular faculty with Ph.D., Y is no. of regular faculty with M. Tech. F is no. of regular faculty required to comply 1:20 Faculty Student ratio (no. of faculty and no. of students required are to be calculated as per 5.1)*

| Session | X | Y | F | FQ |
|---|---|---|---|---|
| **2021-22** | 3 | 4 | 202/20=10.1 say 11 | 2.5*[(10*3) + (6*4)/11] = 12.27 |
| **2020-21** | 3 | 4 | 206/20=10.3 say 11 | 2.5*[(10*3) + (6*4)/11] = 12.27 |
| **2019-2020** | 1 | 6 | 214/20=10.7 say 11 | 2.5*[(10*1) + (6*6)/11] = 10.45 |
| **Average Assessment** | (12.27 +12.27+10.45)/3 = 11.66 | | | |

### 5.4. Faculty Retention (25)

**No. of faculty members in 2019-20= 7, 2020-21= 7, 2021-22= 7**

| Items | Marks | Marks Obtained CAY | Marks Obtained CAY*m1* | Marks Obtained CAY*m2* |
|---|---|---|---|---|
| >=90%of required Faculty members retained during the period of assessment keeping CAym2 as base year | 25 | 20 | 20 | 20 |
| >=75%of required Faculty members retained during the period of assessment keeping CAym2 as base year | 20 | | | |
| >=60%of required Faculty members retained during the period of assessment keeping CAym2 as base year | 15 | | | |
| >=50%of required Faculty members retained during the period of assessment keeping CAym2 as base year | 10 | | | |
| >=50%of required Faculty members retained during the period of assessment keeping CAym2 as base year | 0 | | | |

According to Faculty Cadre Proportion (5.2), we have calculated the no. of required faculties for the all 3 base years that was found to be (1+2+6) = 9 nos. (avg.) and the actual no. of faculty available was (7+7+7)/3 =7 (avg.), so the faculty retention obtained 7÷ 9 = 77.77%.

**5.6. Faculty as participants in Faculty development/training activities/STTPs (15)**

| **Name of the faculty** | **Name of the FDP/Training/STC etc. mentioning no. of days, venue, organized by, funded by, any other details (year wise all)** | | |
|---|---|---|---|
| | **2019-2020** | **2020-2021** | **2021-2022** |
| Dr. S. P. Guleria | 1. Workshop on Latest Trends in Civil Engineering organised by Dept. of Civil Engineering on 7th Sep 2019 sponsored by TEQIP-III<br>2. Faculty Development Program on "Life Skill Development from 02-01-2020 to 11-01-2020 at JNGEC Sundernagar, sponsored by TEQIP-III<br>3. Online orientation workshop on incorporation of universal human values in Technical Education (Webinar) from 19th April to 20th April 2020 organised by AICTE | | |
| Dr. Madhu Sharma | 1. Workshop on Latest Trends in Civil Engineering organised by Dept. of Civil Engineering on 7th Sep 2019 sponsored by TEQIP-III<br>2.Faculty Development Program on "Life Skill Development from 02-01-2020 to 11-01-2020 at JNGEC Sundernagar, sponsored by TEQIP-III<br>3.Webinar on Advances in Building Technology organised by CBRI Roorkee from 1st to 5th June 2020 | 1. Training Program on Hill Area Environment and Development with Focus on Earthquakes, Landslides and Floods from 21st – 23rd October 2020 by National Institute of Disaster Management, Ministry of Home Affairs, Govt. of India in collaboration with Himachal Pradesh State Disaster Management Authority, Govt. of Himachal Pradesh | 1. AICTE FDP on Disaster Resilience infrastructure from 9-13 Aug 2021by UIT HPU Shimla<br>2.AICTE FDP on Advanced construction technology from 20-24 sep 2021 by GJSCCET MR SPTU<br>3.Refresher course on Revitalizing lifestyle through yoga from 4-18 Oct 2021 by Teaching training centre Ramanujan College<br>4.Training Program on Spatial planning for block Panchayat Development for state of Himachal Pradesh from 3-5 March 2022, SIRD Shimla, NIRD, Delhi.<br>5. FDP on Advanced Pedagogy from25th July to 5th August, |

| | | | |
|---|---|---|---|
| | | | 2022 by NITTTR Bhopal |
| Ms. Bedatrayee Saha | 1.Workshop on Latest Trends in Civil Engineering organised by Dept. of Civil Engineering on 7th Sep 2019 spnsored by TEQIP-III<br>2.Faculty Development Program on "Life Skill Development from 02-01-2020 to 11-01-2020 at JNGEC Sundernagar, sponsored by TEQIP-III.<br>3. Leveraging Digital Initiatives Of NMEICT, MHRD and Online Examination During COVID-19(webinar) from 23rd to 24th May 2020 organised by HPTU Hamirpur, NPIU NEW Delhi, Dr. Babasaheb Ambedkar Technological University, Maharashtra.<br>4.Webinar on Advances in Building Technology organised by CBRI Roorkee from 1st to 5th June 2020<br>5. FDP on Recent Advancements in Civil Engg, from 24/06/2020-26/06/2020, by Deptt. Of Civil Engg. KPRIET, Coimbatore | 1. Webinar on Sustainable Buildings and Future Technologies from 13/07/2020-17/07/2020 by CBRI Roorkee<br>2. AICTE Sponsored Online Short-Term Training Program DISASTER MANAGEMENT AND MITIGATION (Phase -I) from August 03 - 08 2020 by Department of Civil Engineering, Dr. N.G.P. Institute of Technology<br>3. 2 weeks Short Term Training Program INDUCTION PROGRAM PHASE I", 10-08-2020 to 21-08-2020 by NITTTR Bhopal<br>4. Webinar on Advanced Course on Green Building Materials from 26/04/21-28/04/2021 by CBRI Roorkee<br>5. Webinar on Advances in rapid construction, from 27/05/2021 & 28/05/2021 by CBRI Roorkee<br>6. FDP on Thrust areas of Research in Civil Engg. (phase II) from 14/06/2021-19/06/2021 by Deptt. Of Civil Engg. KPRIET, Coimbatore | 1.ATAL FDP on Disaster Resilience Infrastructure from 9/8/21 to 13/8/21 by UIT, HPU Shimla<br>2. One-week AICTE QIP Sponsored STC on Energy Efficient and Innovative Building Construction Practices from 23/08/2021-28/08/2021 by NITTTR Chandigarh<br>3.1 week FDP on Water Resource Management from 07/03/2022-11/03/2022 by NITTTR Chandigarh |
| Ms. Surabhi | 1.Workshop on Latest Trends in Civil Engineering organised by Dept. of Civil Engineering on 7th Sep 2019 spnsored by TEQIP-III<br>2.Faculty Development Program on "Life Skill Development from 02-01-2020 to 11-01-2020 at JNGEC Sundernagar, sponsored by TEQIP-III<br>3.Leveraging Digital Initiatives Of NMEICT, MHRD and Online Examination During COVID-19(webinar) from 23rd to 24th May 2020 organised by HPTU | 1.Training Program on Hill Area Environment and Development with Focus on Earthquakes, Landslides and Floods from 21st – 23rd October 2020 National Institute of Disaster Management, Ministry of Home Affairs, Govt. of India in collaboration with Himachal Pradesh State Disaster Management | 1.ATAL FDP on Disaster Resilience Infrastructure from 9/8/21 to 13/8/21 by UIT, HPU Shimla<br>2.Workshop Innovative Solutions for Sustainable Constructions in Civil Engineering from 4/10/21 to 9/10/21 by JUIT Waknaghat<br>3.Conference on Structures, Material and Construction from 12/11/21 to |

| | | | |
|---|---|---|---|
| | Hamirpur, NPIU NEW Delhi, Dr. Babasaheb Ambedkar Technological University, Maharashtra.<br>4.Webinar on Advances in Building Technology organised by CBRI Roorkee from 1st to 5th June 2020<br>5. Webinar on "Concrete: The Modern Era" organised by Department of Civil Engineering, KPR Institute of Engineering and Technology on 04.06.2020. | Authority, Govt. of Himachal Pradesh<br>2.FDP on Thrust Areas of Research in Civil Engineering from 31/5/21 to 4/6/21 by Dr.N.G.P. IT, Coimbatore in association with Indian Concrete Institute, Coimbatore. | 13/11/21 by JUIT Waknaghat<br>4.Training Program on Spatial Planning for Block Panchayat Development from 3/3/22 to 5/3/22by SIRD Shimla, NIRD, Delhi.<br>5. FDP on Advanced Pedagogy from 25th July to 5th August, 2022 by NITTTR Bhopal |
| Dr. Vivek | 1.Workshop on Latest Trends in Civil Engineering organised by Dept. of Civil Engineering on 7th Sep 2019 sponsored by TEQIP-III<br>2.Faculty Development Program on "Life Skill Development from 02-01-2020 to 11-01-2020 at JNGEC Sundernagar, sponsored by TEQIP-III | 1. Workshop on AICTE-STTP on Empowering the moral values, ethics and behavioral attitude in teaching skills among teachers (phase-III) from 19-04-21 to 24-04-21 by NITTTR | 1. FDP on Advanced Pedagogy from 25th July to 5th August, 2022 by NITTTR Bhopal |
| Mr. Kapil | 1.Workshop on Latest Trends in Civil Engineering organised by Dept. of Civil Engineering on 7th Sep 2019 spnsored by TEQIP-III<br>2.Faculty Development Program on "Life Skill Development from 02-01-2020 to 11-01-2020 at JNGEC Sundernagar, sponsored by TEQIP-III | 1. Training Program on Early Warning and Communications for Disaster Risk Reduction and Resilience from 9th to 11th Dec 2020 by Mahatma Gandhi State Institute of Public Administration, Punjab in collaboration with NIDM. | 1. FDP on Recent Advances in sustainable construction materials from 15- 17 July 2021 by CSIR-CBRI.<br>2. ATAL FDP on GIS and REMOTE sensing from 20-24 sep. 2021.<br>3. FDP on Advanced Pedagogy from 25th July to 5th August, 2022 by NITTTR BHOPAL |
| Mr. Prashant Thakur | 1. Leveraging Digital Initiatives Of NMEICT, MHRD and Online Examination During COVID-19(webinar) from 23rd to 24th May 2020 organised by HPTU Hamirpur, NPIU NEW Delhi, Dr. Babasaheb Ambedkar Technological University, Maharashtra.<br>2. Webinar on Advances in Building Technology organised by CBRI Roorkee from 1st to 5th June 2020 | | 1. Training Program on Spatial planning for block Panchayat development for state of Himachal Pradesh from 3-5th March 2022 by NIRDP.<br>2. FDP on GIS and REMOTE sensing (ATAL) from 20-24 sep. 2021.<br>3. FDP on Advanced Pedagogy from 25th July to 5th August, 2022 by NITTTR BHOPAL |

| Name of the Faculty | Max. 5 per Faculty | | |
|---|---|---|---|
| | 2019-2020 | 2020-2021 | 2021-2022 |
| Dr. S. P. Guleria | 5 | - | - |

| | | | |
|---|---|---|---|
| Dr. Madhu Sharma | 5 | 3 | 5 |
| Ms. Bedatrayee Saha | 5 | 5 | 5 |
| Ms. Surabhi | 5 | 5 | 5 |
| Dr. Vivek | 5 | 5 | 5 |
| Mr. Kapil | 5 | 3 | 5 |
| Mr. Prashant | 5 | - | 5 |
| **Sum** | **35** | **21** | **30** |
| RF=number of Faculty required to comply with 20:1 Student –Faculty ratio as per 5.1 | **30.57** | **29.43** | **28.86** |
| Avg. assessment= 3 * (sum/(0.5RF)) | **3*(35/ (0.5*30.57)) = 6.87** | **3*(21/ (0.5*29.43)) = 4.28** | **3*(30/ (0.5*28.86= 6.24** |
| Average assessment over three years (Marks limited to 15) = (6.87+4.28+6.24)/3 = 5.80 | | | |

**5.7. Research and Development for 2019-2020, 2020-2021, 2021-2022 (30)**

**5.7.1. Academic Research (10)**

**All relevant details shall be mentioned.**

**2019-2020**

| **Name of the faculty** | **Name of the research Paper** | **Name of Conference Proceeding/Journal/Book Chapters** |
|---|---|---|
| Dr. S.P. Guleria | Stabilization of soil with lime and waste plastic strips | International Conference on Geoenvironment and Sustainability held at IIT Delhi 17th to 19th February 2020, Proceedings ID-125, 207-214, Feb., 2020 |
| Dr. Vivek | Effect of chemical treatment on the durability behavior of coir geotextiles. | Journal of Natural Fibers. doi: 10.1080/15440478.2020.1839622 |
| | Effect of Chemical Treatment of the Coir Geotextiles on the Interface Properties of Sand–/Clay–Coir Geotextile Interface. | Journal of The Institution of Engineers (India): Series A. doi: 10.1007/s40030-018-0348-x |
| | Application potential of treated coir geotextiles in unpaved roads. | Journal of Natural Fibers. doi: 10.1080/15440478.2019.1578718 |
| | A New Model to Evaluate Percent-Time-Spent-Following on Two-Lane Highways. | Transportation Research (Springer), vol 45.,doi.org/10.1007/978-981-32-9042-6 , pp 377-387 (Book Chapter) |
| Ms. Madhu Sharma | Modelling of flexural response of simply supported RC skew slab | CURRENT SCIENCE, VOL. 118, NO. 12, 25 JUNE 2020 |

**2020-2021**

| **Name of the faculty** | **Name of the research Paper** | **Name of Conference Proceeding/Journal/Book Chapters** |
|---|---|---|
| Dr. Vivek | Bearing ratio behaviour of sand overlying clay with treated coir geotextiles at the interface. | Journal of Natural Fibers, doi: 10.1080/15440478.2021.1952135, , 2021 |
| Dr. Madhu Sharma | Behaviour of simply supported RC skew slabs stiffened with shallow beams | Advances in structural Engineering, 2021 https://doi.org/10.1177/13694332211022071 |

| | | |
|---|---|---|
| Mr. Kapil Dev | Effect of Catchment on seasonal variation of physical parameters of water quality in Kuntbhayog Lake, Himachal Pradesh, India | Indian Water Works Association, 2021 |

**2021-2022**

| Name of the faculty | Name of the research Paper | Name of Conference Proceeding/Journal/Book Chapters |
|---|---|---|
| Dr. Vivek | Improvement in the performance of two layered model pavement with treated coir geotextile at the interface | Journal of Industrial Textiles., 2022 |
| | Investigation on Tensile Strength Characterization of Untreated and Surface Treated Coir Geotextiles. | Journal of Industrial Textiles., 2022 |
| | Study on bearing capacity of unpaved roads reinforced with coir geotextiles using finite element method (FEM). | Journal of Natural Fibers, 2022 |
| | Studies of modulus of resilience on unpaved roads reinforced with untreated/treated coir geotextiles . | Journal of Natural Fibers, 2022 |
| Mr. Kapil Dev | Limnological studies of water column properties of kuntbhoyag Lake, Mandi District Himachal Pradesh India | Ecology, Environment and Conservation EM international, 2022 |

| Name of the faculty | Research paper Publications | PhD Guided/Awarded | Book /Book Chapter |
|---|---|---|---|
| Dr. S. P. Guleria | 01 | - | 01 |
| Dr. Madhu Sharma | 02 | PhD awarded in 2021 | - |
| Ms. Bedatrayee Saha | - | - | - |
| Ms. Surabhi | - | - | - |
| Dr. Vivek | 08 | 01 (co guide) | 01 |
| Mr. Kapil | 02 | - | - |

**5.7.2. Sponsored Research (5)**

*Funded research:*
*(Provide a list with Project Title, Funding Agency, Amount and Duration)*
*Funding amount (Cumulative during last three academic years starting from CAYm1):*
*Amount > 20 Lacs – 5 Marks*
*Amount >= 16 Lacs and <= 20 lacs – 4 Marks*
*Amount >= 12 Lacs and < 16 lacs – 3 Marks*
*Amount >= 8 Lacs and < 12 lacs – 2 Marks*
*Amount >= 4 Lacs and < 8 lacs – 1 Mark*
*Amount < 4 Lacs – 0 Mark*

| Name of the faculty | Project Detail in Brief | Funding Agency | Amount in INR (Cumulative during last three academic | Duration |
|---|---|---|---|---|

| | | | years starting from 2016-17) | |
|---|---|---|---|---|
| Dr. Madhu Sharma | 1. Behavior of cement content in under water concreting (2019) | TEQIP III | Rs. 27, 829/- | 3 months |
| Ms. Surabhi | 1. Soil Stabilization using cement and Flyash (2019) | TEQIP III | Rs. 7,600/- | 3 months |
| | 2.Study of self-curing concrete (2019) | TEQIP III | Rs. 32,000/- | 3 months |
| Dr. Vivek | 1. Potential of various waste materials in Concrete technology (2019) | TEQIP III | Rs. 13,084/- | 3 months |
| | 2.Potential of nanoparticles in unpaved roads(2019) | TEQIP III | Rs. 40,630/- | 3 months |
| Mr. Kapil Dev | 1.Water Quality assessment of different lakes (2019) | TEQIP III | Rs. 78,234/- | 3 months |
| | 2.Quality of water like physical tests biological & chemical tests on different lakes (2019) | TEQIP III | Rs. 75,084/- | 3 months |

**5.7.3. Development activities (10)**

1. Various instructional materials like Laboratory Manuals, general guidelines (Dos & Don'ts) for laboratories for all the laboratories has been prepared.
2. Charts with diagrams regarding information of different earthquake resistant structures, philosophy of earthquake hazard, guidelines to build different earthquake resistant structures have been prepared.
3. Advance equipment like Universal Testing Machine in geotechnical Lab has been used in Ph.D research work for research scholar co-guided by faculty member.

**5.7.4 Consultancy (from Industry) (5)**

| S.No. | Project Title | Funding Agency | Amount | Duration |
|---|---|---|---|---|
| 1 | Testing of Soil samples | BRSC&PD Division, BBMB Sundernagar | Rs. 24,150/- | 1 month (Feb 2022) |
| 2 | Testing of Paver Blocks | Hill View Co-operative Housing Society Ltd., Una, HP | Rs. 1000/- | 1 month (April 2022) |
| 3 | Construction of 40 mtrs. Span PSC box girder bridge (Proof checking of structural drawings & design calculation) | HPPWD, Karsog Division | Rs. 1,05,028/- | 1 year (September 2020- Feb 2021) |

**5.8. Faculty Performance Appraisal and Development System (FPADS) (30)**

Faculty is recruited as per the prescribed norms by Himachal Pradesh Public service Commission, Govt. of H.P. and is recruited from all fields of specialization. Faculty members are specialized in diversified areas of Civil Engineering like Structural Engg., Construction Management & Technology, Environmental Engg., Transportation Engg. Faculty members have good research exposure and have published research papers in reputed journals and presented papers in national and international conferences in India. Other than teaching load, the faculty also participates in various Development Programs, Short Term Training Courses (1 week/2 weeks) and Summer Training Courses to upgrade their knowledge in latest field of Engg. & Research throughout India. Faculties are also actively participated in Masons Training workshop as Master trainers, expert lectures in HP Forest Training Institute, Appropriate technology research, development and promotion centre for future benefits for community & society in Civil Engg. & Research field. Faculties have also given duties in state Govt. works other than own department like Election Work in 2019. Faculties also share their expertise in various consultancy works in different projects like Quality Assurance Work, Testing of samples, Proof Checking of Bridge components and Renovation work of Airport. Faculty members are members of various institute level committees (Planning & Development committee, Procurement committee, institutional NBA committee, Library committee, Civil works, TEQIP member, T& P member, AICTE committee) and involved in various institute level works. Faculty is also actively involved in various other works like student feedback, technical events, sports events, cultural programs. Faculty also takes keen interest in developing central library facility by recommending latest books for the benefit of students and faculty. Faculties are procuring advanced machineries/equipments in the department for best performance of experiments, projects and research works. Students are guided by faculties to prepare working models for research studies and technical events. Faculty members of Educational Institutions today have to perform a variety of tasks pertaining to diverse roles. In addition to instruction, faculty members need to innovate and conduct research for their self-renewal, keep abreast with changes in technology, and develop expertise for effective implementation of curricula. The assessment is based on a well-defined system for faculty appraisal for all the assessment years.

**(i) Faculty Self-Assessment (performance appraisal) –** A format prescribed by Directorate of Technical Education, Govt. Of H.P., is being provided which the faculty has to fill once in every year. In the format the faculty has to provide the details of his/her teaching load (in hrs./weeks) per semester for all semesters for the particular assessment year, pass percentages in each courses taught in all semesters, extra -curricular activities performed in department, at institute level, at community/society level, Short term courses/trainings/development Programs attended, Seminars/workshop/conference arranged and expert lectures delivered at any training Programs/ workshops/conferences, research work. The above-mentioned details provided by individual faculties are assessed by Head of the Department and recommendations are given by HOD. Further, the filled-up format is assessed by Head of the institution (Director/Principal) & recommendation is provided by Director/Principal.

Performance appraisal is a formal method of evaluation of the performance of the faculty and staff. It is designed to increase the efficacy of the teachers aiding them in the career development. Performance appraisal system has multiple steps as follows:

a) Annual confidential report (regular faculty) and work and conduct (contractual faculty) is filled by individual faculty members.

b) HOD/Officer-In-Charge assesses regular and contractual faculty members on following basis in addition to core teaching job assigned:

**Regular faculty members**

i. Comment on self appraisal provided by the faculty.
ii. Accomplishment of planned work.
iii. Quality of work output.
iv. Accomplishment of exceptional work/unforeseen tasks performed.
v. Knowledge of Law and Rules.
vi. Ability to coordinate with superiors and subordinates.
vii. Sense of responsibility.
viii. Communication skills.
ix. Sincerity and devotion to duty.
x. Behaviour with general public.
xi. Overall assessment.

**Contractual faculty members**

i. Amenability of discipline.
ii. Capacity to impart training.
iii. Work and conduct.
iv. Quality of work.
v. Status of manners.
vi. Status of power of working with others.
vii. Status of punctuality and regularity.
viii. Sense of responsibility.
ix. Quickness in the disposal of work.
x. Intelligence and understanding.

c) The service & conduct and overall performance of the employee is assessed and recommended by Director-cum-Principal/ Head of the Institute.

d) Further, overall performance of the employee is assessed and recommended by Director, Technical Education (i.e. Head of the Department).

e) Finally, the ACR of regular employee are accepted by Principal Secretary/Secretary, Technical Education to the Government of Himachal Pradesh.

(**ii) Feedbacks from Students –** In every semester, feedback from students is sought at institute level. The feedback is provided to HOD in each department and HOD further shares the feedback of individual faculty in person with giving suggestions for improvements. Beside this, faculty members also discuss face to face in the class about any problems/difficulties faced by students during the teaching.

**Implementation and effectiveness:**

(i) From the self-assessment process where the faculty provides all the details of his/her performed works including teaching in the prescribed format. While filling the form he/she can analyse his/her shortcomings in which he/she has to improve further. The faculty in future becomes attentive so as not to repeat the same thing again. It also helps him/her to cover the subject effectively in the coming semesters and to perform any work in efficient manner. The performance appraisal system is applicable to all the employees as institute comes under the domain of state government.

a. Regular employees are promoted /re-designated after the departmental promotional committee has thoroughly gone through their ACR's.
b. The probation period of regular employees can be extended for more than two years if their performance is not found satisfactory.
c. In case, there are any discrepancies in the work assigned to the faculty and staff, head of institute has power to issue explanation/warning letter.
d. Services of contractual employees are renewed on the basis of their satisfactory work and conduct.

(ii) From the feedback from students, he/she can improve the teaching style or incorporate any other methods/skills in his/her teaching style for better performance and understanding of students.

**5.9. Visiting/Adjunct/Emeritus Faculty etc. (10)**

| S. No. | Activities | Semester/year | Duration | 2019-2020 | 2020-2021 | 2021-2022 |
|---|---|---|---|---|---|---|
| 1 | Employability Class | 3rd year | 1. From 27 Jan 2020 to 11th march 2020= 18 lectures @ 3 hrs. = **54 hrs.** by CL Educate Ltd. New Delhi | 102 hrs. | NIL | NIL |
| | | 2nd and 3rd year | 2. From 19/08/2019 to 11/09/2019 **48 hrs**. by KOAK Education | | | |
| 2 | GATE Class | 4th year students | 1. From 15th Nov 2019 to 24th Jan 2020= **250 hrs.** by M/s Gate Academy Pvt. Ltd, Bangalore | 250 hrs. | NIL | NIL |

| 3 | Lectures by visiting faculty from eminent institutions | Students | Date | Duration |
|---|---|---|---|---|
| **Session 2019-2020** | | | | |
| 3.1 | Emerging Research Areas in the field of Civil Engineering by Dr. Rajneesh Sharma, Assistant Professor (CE), School of Engineering, IIT Mandi, Kamand | 3rd year | 31/08/2019 | 2 hrs |
| 3.2 | Seismic zonations considering various earthquake hazards by Dr. Naveen James, Asstt. Prof. & Head Department of Civil Engineering, IIT Ropar | 4th year & 3rd year | 07/09/2019 | 2 hrs |
| 3.3 | Multi- disciplinary approach for Geotechnical Engineering problems' by Dr. Uday Kala, Assistant Professor, School of engineering, IIT Mandi. | 4th year & 3rd year | 07/09/2019 | 2 hrs |
| 3.4 | Geosynthetics application in civil engineering By Dr. Rakesh Kumar Dutta, Professor (Dept. of CE), NIT Hamirpur, H.P. | 4th year & 3rd year | 07/09/2019 | 2 hrs |
| 3.5 | Workshop on Industry Readiness Program (Soft skills & Resume making) on 20/09/2019 by Dr. Neha Kaushik Asstt. Prof., IIT Mandi | 4th year | 20/09/2019 | 2 hrs. |
| 3.6 | Expert lecture on Probability & statistics | 2nd year | 05/10/2019 | 4 hrs. |
| 3.7 | Placement Talk under Finishing School 2020 organized by Training and Placement Cell JNGEC in collaboration with Career and Guidance centre, PEC Chandigarh | 3rd year, 4 students from 2nd & 4th year | 13/02/2020 & 14/02/2020 | 12 hrs |
| 3.8 | Webinar on Landslide Monitoring by using sensor & wireless Technique by Dr. Uday Kala, Assistant Professor, School of Engg., IIT Mandi | 4th year | 18/06/2020 | 2 hrs. |
| **Session 2020-2021** | | | | |
| 3.9 | Webinar on National Education Policy (NEP 2020) - a road map for its implementation by Prof. SP Bansal, VC, HPTU and Prof. Kulbhushan Chandel, Dean Academics, HPTU | All CE students | 13/10/2020 | 2 hrs. |
| 3.10 | Webinar on Emerging Construction systems by Prof. Naveen Kwatra, Professor, Department of Civil Engineering, Thapar University Patiala | 4th year & 3rd year | 20/10/2020 | 2 hrs. |
| 3.12 | Webinar on National Education Policy (NEP 2020)- Effective Governance and Leadership for Higher Education by Prof. Shyam L. Kaushal, Professor, HPUBS Shimla | All CE students | 26/02/2021 | 2 hrs. |

| | | | | |
|---|---|---|---|---|
| 3.13 | Webinar on National Education Policy (NEP 2020) by Prof. SP Bansal, VC, HPTU and Prof. Kulbhushan Chandel, Dean Academics, HPTU | All CE students | 03/03/2021 | 2 hrs. |
| 3.14 | Webinar on Use of trenchless technologies for underground pipeline renewal by Dr. Vinayak Kaushal, Asst Prof., University of Texas | 4th year & 3rd year | 08/06/2021 | 2 hrs. |
| **Session 2021-2022** | | | | |
| 3.15 | 2-days online Training Program on Entrepreneurship Career Orientation for Civil Engineering and Allied Disciplines by NITTTR Chandigarh | 4th year | 28/10/21 – 29/10/2021 | 12 hrs. |
| 3.16 | Expert lecture on Sustainable Construction and Infrastructure Engineering by Dr. Vinayak Kaushal, Assistant Professor of Instruction, University of Texas, Arlington, USA | 4th year & 3rd year | 10/12/21 | 2 hrs. |
| 3.17 | Expert lecture on Construction and Infrastructure Engineering and Management by Dr. Mohammad Najafi, Associate Professor Dept. of Civil Engineering and Director of Center for Underground Infrastructure Research and Education (CUIRE), at the University of Texas at Arlington, USA. | 4th year & 3rd year | 18/12/21 | 2 hrs. |
| 3.18 | Expert lecture on Processing of natural fibres in Reinforced Composites by Dr. Pawan Kumar Rakesh Assistant Professor and Associate Dean (Research & Consultancy), NIT Uttarakhand | 3rd year | 12/4/2022 | 2 hrs. |
| 3.19 | Expert lecture on Mathematical Modelling of Biological Transportation Phenomenon by Dr. Dharmendra Tripathi, Assistant Professor and Associate Dean (Faculty welfare and student welfare), NIT Uttarakhand | 3rd year | 12/4/2022 | 2 hrs. |
| 3.20 | Workshop on Idea to Business Plan by Mr. Raj Bhat, IIT Mandi | All CE students | 4/6/2022 | 2 hrs. |

| **4** | **INDUSTRY INTERACTION** | **Semester/year** | **Date** | **Duration** |
|---|---|---|---|---|
| **Session 2020-2021** | | | | |
| 4.1 | Webinar on Durability of Concrete by Mr. Vikrant Malhotra, GM Technical, JK Cement | 2nd year | 29/08/2020 | 2 hrs. |

| | | | | |
|---|---|---|---|---|
| 4.2 | Webinar on Solar Energy Initiative by Dr. Vikrant Sharma, Deputy Director, National Institute of Solar Energy, Gurgaon. | 3rd year | 06/10/2020 | 2 hrs. |
| 4.3 | Webinar on Mental Health and Effective Stress Management by CRC Sundernagar | 2nd year | 07/10/2020 to 08/10/2020 | 6 hrs. |
| 4.4 | Webinar on Maintaining career stress in times of COVID-19 by Dr. Pawnish Kumar, District Program Officer Zonal Hospital Mandi | 4th year & 3rd year | 21/10/2020 | 2 hrs. |
| 4.5 | Webinar on Bentley's STUDENT SERVER by Mr. Rominder Singh Bedi, Business Manager Innovative Systel and Mr.Lalit Negi, Implementation Engineer, Bentley Systems | 3rd year | 23/10/2020 | 3 hrs. |
| 4.6 | Webinar on Rohtang Tunnel Project by Rajesh Arora, Project manager Rohtang Tunnel/ Banihal Quazigund Tunnel | 4th year & 3rd year | 17/05/2021 | 2 hrs. |
| 4.7 | Webinar on A guidance program on career opportunities from B.Tech by Anand Kumar,Sr. faculty member, ACE Engineering academy | 4th year & 3rd year | 25/05/2021 | 2 hrs. |
| 4.8 | Webinar on Bye laws and regulations in building planning by Er. Pradeep Thakur, Town Planner | 2nd year | 30/05/2021 | 2 hrs. |
| **Session 2021-2022** | | | | |
| 4.9 | Knowledge sharing session on 4D Project management using Bentley Synchro4D software by Mr. Gaurav Kumar Chawla, CEO, GKC Consultants OPC Pvt. Ltd. | 4th year | 10/11/2021 | 2 hrs. |
| 4.10 | Expert Lecture on Specifications and tender by Ms. Prerna Gautam, Junior Engineer, HPPWD Sundernagar | 4th year | 18/12/2021 | 2 hrs. |
| 4.11 | Seminar on Career Opportunities after Engineering by Mr. Anish Singh Rajput, ACE Engineering Academy | 4th year | 20/12/21 | 2 hrs. |
| 4.12 | Expert Lecture on LEAP by Dr. Hitesh Shrimali, IIT Mandi | 2nd year | 09/02/2022 | 2 hrs. |
| 4.13 | Webinar on Patents and Designs in Intellectual Property by Mr. Nitish Agarwal, Examiner of Patents and Designs in Intellectual Property office DPIIT, Ministry of Commerce and industry | All CE students | 16/3/2022 | 2 hrs. |
| 4.14 | Expert Lecture on New Technology & Instruments used in Survey by Mr. Mayank rana, AIMIL Ltd., Chandigarh | 2nd year | 6/4/2022 | 2 hrs. |
| 4.15 | Webinar on Geotech (Civil Engineering) by Mr. Pavan Kumar Duggi Reddy, Faculty member ACE Academy | 3rd year | 9/4/2022 | 2 hrs. |
| 4.16 | Expert lecture on Awareness of Fire Safety and prevention and evacuation by Mr. Dinesh Sagar, Fire officer, BBMB colony Sundernagar | 1st year | 4/5/2022 | 2 hrs. |

| 5. | Teaching Assistantship by Mr. Mahipal Kulariya, Ph.D. Research Scholar, IIT Mandi | | | |
|---|---|---|---|---|
| | **Session 2020-2021** | | | |
| **S. No.** | **Class /sem taught** | **Subject** | **Duration** | **Session** |
| 5.1 | 3rd yr./6th sem | Concrete Technology | 1 hr/week, total =5hrs. | May 2021 |
| 5.2 | 2nd yr./4th sem | Structural Analysis-I | 1 hr/week, total =4.5+4.5=9 hrs. | June –July 2021 |
| | **Session 2021-2022** | | | |
| 5.3 | 3rd yr./5th sem | Structural Analysis- II | 1 hr/week, total =5+2+7.5=14.5 hrs. | Oct 2021- Dec 2021 |
| 5.4 | 3rd yr./6th sem | Concrete Technology | 1 hr/week, total =5 hrs. | April – May 2022 |
| 5.5 | 2nd yr./4th sem | Structure Analysis-I | 1 hr/week, total =10 hrs. | May-July 2022 |
| | **Sum total (1+2+3+4+5)** | | | **102+250+60+ 37+43.5=492.5 hrs** |

## 6. Facilities and Technical Support

### 6.1. Adequate and well-equipped laboratories and technical manpower (30)

| ENVIRONMENTAL ENGG. LABORATORY | | | | | | | |
|---|---|---|---|---|---|---|---|
| Sr No | Name of the Laboratory | No. of students per setup (Batch Size) | Name of the Important equipment | Weekly utilization status (all the courses for which the lab is utilized) | Technical Manpower support | | |
| | | | | | Name of the technical staff | Designation | Qualification |
| 1 | Environmental Engg. lab | 35 | pH meter (1) | 4 HOURS | Cheena Chadda | Lab Technician | Diploma +AMIE in Civil Engg. |
| 2 | Environmental Engg. lab | 35 | Conductivity meter (1) | 4 HOURS | Cheena Chadda | Lab Technician | Diploma +AMIE in Civil Engg. |
| 3 | Environmental Engg. lab | 35 | DO meter (1) | 4 HOURS | Cheena Chadda | Lab Technician | Diploma +AMIE in Civil Engg. |
| 4 | Environmental Engg. lab | 35 | Digital Titrator (1) | 4 HOURS | Cheena Chadda | Lab Technician | Diploma +AMIE in Civil Engg. |
| 5 | Environmental Engg. lab | 18 | Turbidity Meter (2) | 4 HOURS | Cheena Chadda | Lab Technician | Diploma +AMIE in Civil Engg. |
| 6 | Environmental Engg. lab | 35 | TSS Analyser(1) | 4 HOURS | Cheena Chadda | Lab Technician | Diploma +AMIE in Civil Engg. |
| 7 | Environmental Engg. lab | 35 | COD Analysis System (1) | 4 HOURS | Cheena Chadda | Lab Technician | Diploma +AMIE in Civil Engg. |
| 8 | Environmental Engg. lab | 35 | Residual Chlorine Apparatus (1) | 4 HOURS | Cheena Chadda | Lab Technician | Diploma +AMIE in Civil Engg. |
| 9 | Environmental Engg. lab | 35 | MPN Coliform complete set (1) | 4 HOURS | Cheena Chadda | Lab Technician | Diploma +AMIE in Civil Engg. |
| 10 | Environmental Engg. lab | 18 | Colorimeter apparatus (2) | 4 HOURS | Cheena Chadda | Lab Technician | Diploma +AMIE in Civil Engg. |
| 11 | Environmental Engg. lab | 35 | Sludge Volume index (complete Set) (1) | 4 HOURS | Cheena Chadda | Lab Technician | Diploma +AMIE in Civil Engg. |
| 12 | Environmental Engg. lab | 35 | BOD meter (1) | 4 HOURS | Cheena Chadda | Lab Technician | Diploma +AMIE in Civil Engg. |
| 13 | Environmental Engg. lab | 35 | Jar test Apparatus (1) | 4 HOURS | Cheena Chadda | Lab Technician | Diploma +AMIE in Civil Engg. |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 14 | Environmental Engg. lab | 35 | Portable UV-visible Spectrophoto meter (1) | 4 HOURS | Cheena Chadda | Lab Technician | Diploma +AMIE in Civil Engg. |
| 15 | Environmental Engg. lab | 35 | Complete drinking water quality testing kit (1) | 4 HOURS | Cheena Chadda | Lab Technician | Diploma +AMIE in Civil Engg. |
| 16 | Environmental Engg. lab | 35 | Water distillation apparatus (1) | 4 HOURS | Cheena Chadda | Lab Technician | Diploma +AMIE in Civil Engg. |
| 17 | Environmental Engg. lab | 35 | Portable Bacteriological Kit (1) | 4 HOURS | Cheena Chadda | Lab Technician | Diploma +AMIE in Civil Engg. |
| 18 | Environmental Engg. lab | 35 | Lab based Refrigerator for sample preservation (1) | 4 HOURS | Cheena Chadda | Lab Technician | Diploma +AMIE in Civil Engg. |
| 19 | Environmental Engg. lab | 35 | Laboratory Microscope (achromatic) (1) | 4 HOURS | Cheena Chadda | Lab Technician | Diploma +AMIE in Civil Engg. |
| 20 | Environmental Engg. lab | 35 | Portable Thermo Hygrometer (1) | 4 HOURS | Cheena Chadda | Lab Technician | Diploma +AMIE in Civil Engg. |
| 21 | Environmental Engg. lab | 35 | Research grade DO/BOD Meter(1) | 4 HOURS | Cheena Chadda | Lab Technician | Diploma +AMIE in Civil Engg. |
| 22 | Environmental Engg. lab | 35 | Research grade pH/ORP/ISE and EC/TDS/Resistivity/Salinity Meter (1) | 4 HOURS | Cheena Chadda | Lab Technician | Diploma +AMIE in Civil Engg. |
| 23 | Environmental Engg. lab | 35 | Mini Titrator For Measuring Titratable Acidity | 4 HOURS | Cheena Chadda | Lab Technician | Diploma +AMIE in Civil Engg. |
| 24 | Environmental Engg. lab | 35 | water quality meter / analyzers | 4 HOURS | Cheena Chadda | Lab Technician | Diploma +AMIE in Civil Engg. |

**CONCRETE LAB**

| **Sr No** | **Name of the Laboratory** | **No. of students per setup (Batch Size)** | **Name of the Important equipment** | **Weekly utilization status (all the courses for which the lab is utilized)** | **Technical Manpower support** | | |
|---|---|---|---|---|---|---|---|
| | | | | | **Name of the technical staff** | **Designation** | **Qualification** |
| 1 | Concrete lab | 3 | Vicat apparatus (12) | 4 HOURS | Cheena Chadda | Lab Technician | Diploma +AMIE in Civil Engg. |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 2 | Concrete lab | 4 | Le – chateleir apparatus (8) | 4 HOURS | Cheena Chadda | Lab Technician | Diploma +AMIE in Civil Engg. |
| 3 | Concrete lab | 4 | Slump test apparatus (8) | 4 HOURS | Cheena Chadda | Lab Technician | Diploma +AMIE in Civil Engg. |
| 4 | Concrete lab | 17 | Compaction factor apparatus (2) | 4 HOURS | Cheena Chadda | Lab Technician | Diploma +AMIE in Civil Engg. |
| 5 | Concrete lab | 35 | EDI compression testing machine 2000 kn. & CTM (1) | 4 HOURS | Cheena Chadda | Lab Technician | Diploma +AMIE in Civil Engg. |
| 6 | Concrete lab | 35 | Flexure test attachment (1) | 4 HOURS | Cheena Chadda | Lab Technician | Diploma +AMIE in Civil Engg. |
| 7 | Concrete lab | 35 | Mortar mixture capacity 4.75 ltr. (1) | 4 HOURS | Cheena Chadda | Lab Technician | Diploma +AMIE in Civil Engg. |
| 8 | Concrete lab | 35 | High speed stirrer with dispersior cap. & baffle (1) | 4 HOURS | Cheena Chadda | Lab Technician | Diploma +AMIE in Civil Engg. |
| 9 | Concrete lab | 35 | Jaw crusher three phase(1) | 4 HOURS | Cheena Chadda | Lab Technician | Diploma +AMIE in Civil Engg. |
| 10 | Concrete lab | 35 | Vee Bee consistometer (1) | 4 HOURS | Cheena Chadda | Lab Technician | Diploma +AMIE in Civil Engg. |
| 11 | Concrete lab | 35 | Heat of hydration (1) | 4 HOURS | Cheena Chadda | Lab Technician | Diploma +AMIE in Civil Engg. |
| 12 | Concrete lab | 35 | Air permeability apparatus(1) | 4 HOURS | Cheena Chadda | Lab Technician | Diploma +AMIE in Civil Engg. |
| 13 | Concrete lab | 35 | Compression testing machine (1000KN) electrically operated single gauge(1) | 4 HOURS | Cheena Chadda | Lab Technician | Diploma +AMIE in Civil Engg. |
| 14 | Concrete lab | 12 | Rebound hammer (3) | 4 HOURS | Cheena Chadda | Lab Technician | Diploma +AMIE in Civil Engg. |
| 15 | Concrete lab | 35 | Ultrasonic pulse velocity testing instrument | 4 HOURS | Cheena Chadda | Lab Technician | Diploma +AMIE in Civil Engg. |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | | | (1) | | | | |
| 16 | Concrete lab | 35 | Vibration machine with butten digital timer (1) | 4 HOURS | Cheena Chadda | Lab Technician | Diploma +AMIE in Civil Engg. |
| 17 | Concrete lab | 35 | Concrete mixer drum type 1 cu feet (1) | 4 HOURS | Cheena Chadda | Lab Technician | Diploma +AMIE in Civil Engg. |
| 18 | Concrete lab | 35 | Longitudinal compresso-meter for modulus of Elasticity(1) | 4 HOURS | Cheena Chadda | Lab Technician | Diploma +AMIE in Civil Engg. |
| 19 | Concrete lab | 35 | Drying shrinkage and moisture movement (1) | 4 HOURS | Cheena Chadda | Lab Technician | Diploma +AMIE in Civil Engg. |
| 20 | Concrete lab | 35 | Cement autoclave (1) | 4 HOURS | Cheena Chadda | Lab Technician | Diploma +AMIE in Civil Engg. |
| 21 | Concrete lab | 35 | Permeability apparatus (1) | 4 HOURS | Cheena Chadda | Lab Technician | Diploma +AMIE in Civil Engg. |
| 22 | Concrete lab | 35 | Tensile Strength Testing Machine (1) | 4 HOURS | Cheena Chadda | Lab Technician | Diploma +AMIE in Civil Engg. |
| 23 | Concrete lab | 35 | Compressor (1) | 4 HOURS | Cheena Chadda | Lab Technician | Diploma +AMIE in Civil Engg. |
| 24 | Concrete lab | 35 | V-Funnel Apparatus (1) | 4 HOURS | Cheena Chadda | Lab Technician | Diploma +AMIE in Civil Engg. |
| 25 | Concrete lab | 35 | UTM (1) | 4 HOURS | Cheena Chadda | Lab Technician | Diploma +AMIE in Civil Engg. |
| **SURVEYING LABORATORY** | | | | | | | |
| **Sr No** | **Name of the Laboratory** | **No. of students per setup (Batch Size)** | **Name of the Important equipment** | **Weekly utilization status (all the courses for which the lab is utilized)** | **Technical Manpower support** | | |
| | | | | | **Name of the technical staff** | **Designation** | **Qualification** |
| 1 | Surveying lab | 4 | Transit Vernier Theodolite& stand (10) | 6 HOURS | Cheena Chadda | Lab Technician | Diploma +AMIE in Civil Engg. |
| 2 | Surveying lab | 6 | Auto level With Stand (6) | 6 HOURS | Cheena Chadda | Lab Technician | Diploma +AMIE in Civil Engg. |

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| 3 | Surveying lab | 5 | Dumpy Level with Stand (8) | 6HOURS | Cheena Chadda | Lab Technician | Diploma +AMIE in Civil Engg. |
| 4 | Surveying lab | 5 | Total Station (8) | 6 HOURS | Cheena Chadda | Lab Technician | Diploma +AMIE in Civil Engg. |
| 5 | Surveying lab | 35 | Digital Planimeter (1) | 6 HOURS | Cheena Chadda | Lab Technician | Diploma +AMIE in Civil Engg. |
| 6 | Surveying lab | 2 | Ranging Rods5m,4m (24) | 6 HOURS | Cheena Chadda | Lab Technician | Diploma +AMIE in Civil Engg. |
| 7 | Surveying lab | 4 | Plane Table (10) | 6 HOURS | Cheena Chadda | Lab Technician | Diploma +AMIE in Civil Engg. |
| 8 | Surveying lab | 4 | Surveying Chain 20m,30m (10) | 6 HOURS | Cheena Chadda | Lab Technician | Diploma +AMIE in Civil Engg. |
| 9 | Surveying lab | 3 | Levelling Staff3M,4m (15) | 6 HOURS | Cheena Chadda | Lab Technician | Diploma +AMIE in Civil Engg. |
| 10 | Surveying lab | 4 | Surveyor Compass and Tripod Stand (10) | 6 HOURS | Cheena Chadda | Lab Technician | Diploma +AMIE in Civil Engg. |
| 11 | Surveying lab | 9 | Juna SA hand held GPS (4) | 4 HOURS | Cheena Chadda | Lab Technician | Diploma +AMIE in Civil Engg. |
| 12 | Surveying lab | 18 | Clinometer (2) | 6 HOURS | Cheena Chadda | Lab Technician | Diploma +AMIE in Civil Engg. |
| 13 | Surveying lab | 18 | Hand level (2) | 6 HOURS | Cheena Chadda | Lab Technician | Diploma +AMIE in Civil Engg. |
| 14 | Surveying lab | 18 | Cyclon Ghat Tracer(2) | 6 HOURS | Cheena Chadda | Lab Technician | Diploma +AMIE in Civil Engg. |
| 15 | Surveying lab | 18 | Digital theodolite (2) | 6 HOURS | Cheena Chadda | Lab Technician | Diploma +AMIE in Civil Engg. |
| 16 | Surveying lab | 18 | Sextant (2) | 6 HOURS | Cheena Chadda | Lab Technician | Diploma +AMIE in Civil Engg. |
| 17 | Surveying lab | 18 | Pantagraph (2) | 6 HOURS | Cheena Chadda | Lab Technician | Diploma +AMIE in Civil Engg. |
| 18 | Surveying lab | 35 | DGPS(1) | 6 HOURS | Cheena Chadda | Lab Technician | Diploma +AMIE in Civil Engg. |
| 19 | Surveying lab | 18 | Digital Auto Level(2) | 6 HOURS | Cheena Chadda | Lab Technician | Diploma +AMIE in Civil Engg. |
| 20 | Surveying lab | 18 | Digital Theodolite (2) | 6 HOURS | Cheena Chadda | Lab Technician | Diploma +AMIE in Civil Engg. |

| HIGHWAY ENGG. LABORATORY | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Sr No** | **Name of the Laboratory** | **No. of students per setup (Batch Size)** | **Name of the Important equipment** | **Weekly utilization status (all the courses for which the lab is utilized)** | **Technical Manpower support** | | |
| | | | | | **Name of the technical staff** | **Designation** | **Qualification** |
| 1 | Highway Engg. lab | 18 | Aggregate Impact Testing Machine (2) | 4 HOURS | Cheena Chadda | Lab Technician | Diploma +AMIE in Civil Engg. |
| 2 | Highway Engg. lab | 18 | Los Angeles Abrasion Testing Machine (2) | 4 HOURS | Cheena Chadda | Lab Technician | Diploma +AMIE in Civil Engg. |
| 3 | Highway Engg. lab | 35 | Dorry Abrasion (1) | 4 HOURS | Cheena Chadda | Lab Technician | Diploma +AMIE in Civil Engg. |
| 4 | Highway Engg. lab | 35 | Deval Attrition (1) | 4 HOURS | Cheena Chadda | Lab Technician | Diploma +AMIE in Civil Engg. |
| 5 | Highway Engg. lab | 18 | Crushing value apparatus (2) | 4 HOURS | Cheena Chadda | Lab Technician | Diploma +AMIE in Civil Engg. |
| 6 | Highway Engg. lab | 18 | Universal penetrometer (2) | 4 HOURS | Cheena Chadda | Lab Technician | Diploma +AMIE in Civil Engg. |
| 7 | Highway Engg. lab | 35 | Ductility Machine (1) | 4 HOURS | Cheena Chadda | Lab Technician | Diploma +AMIE in Civil Engg. |
| 8 | Highway Engg. lab | 35 | Saybolt Viscometer (1) | 4 HOURS | Cheena Chadda | Lab Technician | Diploma +AMIE in Civil Engg. |
| 9 | Highway Engg. lab | 18 | Ring & Ball apparatus (2) | 4 HOURS | Cheena Chadda | Lab Technician | Diploma +AMIE in Civil Engg. |
| 10 | Highway Engg. lab | 35 | Cleveland flash & fire apparatus (1) | 4 HOURS | Cheena Chadda | Lab Technician | Diploma +AMIE in Civil Engg. |
| 11 | Highway Engg. lab | 18 | Thickness gauge (2) | 4 HOURS | Cheena Chadda | Lab Technician | Diploma +AMIE in Civil Engg. |
| 12 | Highway Engg. lab | 35 | Marshall stability apparatus(1) | 4 HOURS | Cheena Chadda | Lab Technician | Diploma +AMIE in |

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| | | | | | | | Civil Engg. |
| 13 | Highway Engg. lab | 35 | Water bath(1) | 4 HOURS | Cheena Chadda | Lab Technician | Diploma +AMIE in Civil Engg. |
| 14 | Highway Engg. lab | 35 | Buoyancy balance(1) | 4 HOURS | Cheena Chadda | Lab Technician | Diploma +AMIE in Civil Engg. |
| 15 | Highway Engg. lab | 35 | Benkelman beam(1) | 4 HOURS | Cheena Chadda | Lab Technician | Diploma +AMIE in Civil Engg. |
| 16 | Highway Engg. lab | 35 | Cannon manning cum cannon Fenske viscometer (1) | 4 HOURS | Cheena Chadda | Lab Technician | Diploma +AMIE in Civil Engg. |
| 17 | Highway Engg. lab | 35 | Digital CBR (1) | 4 HOURS | Cheena Chadda | Lab Technician | Diploma +AMIE in Civil Engg. |
| 18 | Highway Engg. lab | 35 | Skid Resistance Test (1) | 4 HOURS | Cheena Chadda | Lab Technician | Diploma +AMIE in Civil Engg. |
| 19 | Highway Engg. lab | 35 | Humidity and Temperature Control Chamber (1) | 4 HOURS | Cheena Chadda | Lab Technician | Diploma +AMIE in Civil Engg. |
| 20 | Highway Engg. lab | 35 | Fibre thickness gauge | 4 HOURS | Cheena Chadda | Lab Technician | Diploma +AMIE in Civil Engg. |
| **GEOTECHNICAL ENGG.LABORATORY** | | | | | | | |
| **Sr No** | **Name of the Laboratory** | **No. of students per setup (Batch Size)** | **Name of the Important equipment** | **Weekly utilization status (all the courses for which the lab is utilized)** | **Technical Manpower support** | | |
| | | | | | **Name of the technical staff** | **Designation** | **Qualification** |
| 1 | Geotechnical Engg. lab | 7 | Liquid limit apparatus (5) | 4 HOURS | Cheena Chadda | Lab Technician | Diploma +AMIE in Civil Engg. |
| 2 | Geotechnical Engg. lab | 6 | Plastic limit apparatus (6) | 4 HOURS | Cheena Chadda | Lab Technician | Diploma +AMIE in Civil Engg. |
| 3 | Geotechnical Engg. lab | 7 | Hydrometer (5) | 4 HOURS | Cheena Chadda | Lab Technician | Diploma +AMIE in Civil Engg. |
| 4 | Geotechnical Engg. lab | 5 | Pycnometer (8) | 4 HOURS | Cheena Chadda | Lab Technician | Diploma +AMIE in |

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| | | | | | | | Civil Engg. |
| 5 | Geotechnical Engg. lab | 18 | Motorized sieve shaker (2) | 4 HOURS | Cheena Chadda | Lab Technician | Diploma +AMIE in Civil Engg. |
| 6 | Geotechnical Engg. lab | 18 | Sand pouring cylinder small (2) | 4 HOURS | Cheena Chadda | Lab Technician | Diploma +AMIE in Civil Engg. |
| 7 | Geotechnical Engg. lab | 35 | Core drilling machine (1) | 4 HOURS | Cheena Chadda | Lab Technician | Diploma +AMIE in Civil Engg. |
| 8 | Geotechnical Engg. lab | 35 | Infrared moisture meter (1) | 4 HOURS | Cheena Chadda | Lab Technician | Diploma +AMIE in Civil Engg. |
| 9 | Geotechnical Engg. lab | 35 | Triaxial outfit motorized (complete set) (1) | 4 HOURS | Cheena Chadda | Lab Technician | Diploma +AMIE in Civil Engg. |
| 10 | Geotechnical Engg. lab | 35 | Direct shear apparatus (complete set) (1) | 4 HOURS | Cheena Chadda | Lab Technician | Diploma +AMIE in Civil Engg. |
| 11 | Geotechnical Engg. lab | 35 | Cone penetrometer (set)(1) | 4 HOURS | Cheena Chadda | Lab Technician | Diploma +AMIE in Civil Engg. |
| 12 | Geotechnical Engg. lab | 35 | Lab. CBR apparatus (set)(1) | 4 HOURS | Cheena Chadda | Lab Technician | Diploma +AMIE in Civil Engg. |
| 13 | Geotechnical Engg. lab | 35 | Hydraulic sample ejector (complete set) (1) | 4 HOURS | Cheena Chadda | Lab Technician | Diploma +AMIE in Civil Engg. |
| 14 | Geotechnical Engg. lab | 35 | Speedy moisture meter (1) | 4 HOURS | Cheena Chadda | Lab Technician | Diploma +AMIE in Civil Engg. |
| 15 | Geotechnical Engg. lab | 35 | Proctor compaction apparatus (2) | 4 HOURS | Cheena Chadda | Lab Technician | Diploma +AMIE in Civil Engg. |
| 16 | Geotechnical Engg. lab | 18 | Sand pouring cylinder small (2) | 4 HOURS | Cheena Chadda | Lab Technician | Diploma +AMIE in Civil Engg. |
| 17 | Geotechnical Engg. lab | 12 | Specific gravity bottle (3) | 4 HOURS | Cheena Chadda | Lab Technician | Diploma +AMIE in Civil Engg. |
| 18 | Geotechnical Engg. lab | 35 | Standard penetration test (SPT) apparatus (1) | 4 HOURS | Cheena Chadda | Lab Technician | Diploma +AMIE in Civil Engg. |

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| 19 | Geotechnical Engg. lab | 35 | Load frame motorized (1) | 4 HOURS | Cheena Chadda | Lab Technician | Diploma +AMIE in Civil Engg. |
| 20 | Geotechnical Engg. lab | 35 | Universal automatic compactor (1) | 4 HOURS | Cheena Chadda | Lab Technician | Diploma +AMIE in Civil Engg. |
| 21 | Geotechnical Engg. lab | 35 | Sand pouring cylinder (large) (1) | 4 HOURS | Cheena Chadda | Lab Technician | Diploma +AMIE in Civil Engg. |
| 22 | Geotechnical Engg. lab | 35 | Hydraulic extruder (1) | 4 HOURS | Cheena Chadda | Lab Technician | Diploma +AMIE in Civil Engg. |
| 23 | Geotechnical Engg. lab | 35 | Hydrometer glass jar (1) | 4 HOURS | Cheena Chadda | Lab Technician | Diploma +AMIE in Civil Engg. |
| 24 | Geotechnical Engg. lab | 35 | Three gang bench consolidometer (1) | 4 HOURS | Cheena Chadda | Lab Technician | Diploma +AMIE in Civil Engg. |
| 25 | Geotechnical Engg. lab | 35 | Universal Permeameter (1) | 4 HOURS | Cheena Chadda | Lab Technician | Diploma +AMIE in Civil Engg. |
| 26 | Geotechnical Engg. lab | 35 | Universal testing machine (1) | 4 HOURS | Cheena Chadda | Lab Technician | Diploma +AMIE in Civil Engg. |

**ROCK MECHANICS LABORATORY**

| **Sr No** | **Name of the Laboratory** | **No. of students per setup (Batch Size)** | **Name of the Important equipment** | **Weekly utilization status (all the courses for which the lab is utilized)** | **Technical Manpower support** | | |
|---|---|---|---|---|---|---|---|
| | | | | | **Name of the technical staff** | **Designation** | **Qualification** |
| 1 | Rock Mechanics lab | 35 | Automatic Compression Testing Machine 2000 KN (1) | 4 HOURS | Cheena Chadda | Lab Technician | Diploma +AMIE in Civil Engg. |
| 2 | Rock Mechanics lab | 35 | Cutting and Polishing Machine (1) | 4 HOURS | Cheena Chadda | Lab Technician | Diploma +AMIE in Civil Engg. |
| 3 | Rock Mechanics lab | 35 | Rock Bolt Pull Out Test Apparatus (1) | 4 HOURS | Cheena Chadda | Lab Technician | Diploma +AMIE in Civil Engg. |
| 4 | Rock Mechanics lab | 35 | Rock Permeability Apparatus(1) | 4 HOURS | Cheena Chadda | Lab Technician | Diploma +AMIE in Civil Engg. |

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| 5 | Rock Mechanics lab | 35 | Rock Toughness Tester(1) | 4 HOURS | Cheena Chadda | Lab Technician | Diploma +AMIE in Civil Engg. |
| 6 | Rock Mechanics lab | 35 | Triaxial test Equipment(1) | 4 HOURS | Cheena Chadda | Lab Technician | Diploma +AMIE in Civil Engg. |
| 7 | Rock Mechanics lab | 35 | Digital Point load test Apparatus(1) | 4 HOURS | Cheena Chadda | Lab Technician | Diploma +AMIE in Civil Engg. |
| 8 | Rock Mechanics lab | 35 | Brazillian Test Apparatus(1) | 4 HOURS | Cheena Chadda | Lab Technician | Diploma +AMIE in Civil Engg. |
| 9 | Rock Mechanics lab | 35 | Slake Durability Apparaus(1) | 4 HOURS | Cheena Chadda | Lab Technician | Diploma +AMIE in Civil Engg. |
| 10 | Rock Mechanics lab | 35 | Concrete test rebound hammer(2) | 4 HOURS | Cheena Chadda | Lab Technician | Diploma +AMIE in Civil Engg. |
| 11 | Rock Mechanics lab | 35 | Post hole digger(2) | 4 HOURS | Cheena Chadda | Lab Technician | Diploma +AMIE in Civil Engg. |

**SOFTWARE LABORATORY**

| **Sr No** | **Name of the Laboratory** | **No. of students per setup (Batch Size)** | **Name of the Important equipment** | **Weekly utilization status (all the courses for which the lab is utilized)** | **Technical Manpower support** | | |
|---|---|---|---|---|---|---|---|
| | | | | | **Name of the technical staff** | **Designation** | **Qualification** |
| 1 | Software lab | 1 (student per software) | *STAAD.Pro CONNECT Edition* | 4 HOURS | Cheena Chadda | Lab Technician | Diploma +AMIE in Civil Engg. |
| 2 | Software lab | 1 (student per software) | STAAD Foundation Advance | 4 HOURS | Cheena Chadda | Lab Technician | Diploma +AMIE in Civil Engg. |
| 3 | Software lab | 1 (student per software) | STAAD Advance Concrete Design | 4 HOURS | Cheena Chadda | Lab Technician | Diploma +AMIE in Civil Engg. |
| 4 | Software lab | 1 (student per software) | Open roads | 4 HOURS | Cheena Chadda | Lab Technician | Diploma +AMIE in Civil Engg. |

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| 5 | Software lab | 1 (student per software) | Openflows WaterGEMS | 4 HOURS | Cheena Chadda | Lab Technician | Diploma +AMIE in Civil Engg. |
| 6 | Software lab | 1 (student per software) | OpenFlows SewerGEMS | 4 HOURS | Cheena Chadda | Lab Technician | Diploma +AMIE in Civil Engg. |
| 7 | Software lab | 1 (student per software) | OpenFlows StormCAD | 4 HOURS | Cheena Chadda | Lab Technician | Diploma +AMIE in Civil Engg. |
| 8 | Software lab | 1 (student per software) | Microstation | 4 HOURS | Cheena Chadda | Lab Technician | Diploma +AMIE in Civil Engg. |
| 9 | Software lab | 35 (student per software) | ATENA | 4 HOURS | Cheena Chadda | Lab Technician | Diploma +AMIE in Civil Engg. |

Software lab is equipped with 38 no PCs. (Bentley academic subscription Program consisting of *STAAD.Pro CONNECT Edition* ,STAAD Foundation Advance ,STAAD Advance Concrete Design, Open roads ,Openflows WaterGEMS, OpenFlows SewerGEMS, OpenFlows StormCAD ,Microstation)

***Table B.6.1***

**6.2. Additional facilities created for improving the quality of learning experience in laboratories (25)**

| Sr. No. | Facility Name | Details | Reason (s) for creating facility | Utilization | Areas in which students are expected to have enhanced learning | Relevance to Pos/ PSOs |
|---|---|---|---|---|---|---|
| 1 | ACC Knowledge center | Department has established the Knowledge center by ACC, this laboratory is used to demonstrate the various construction material and activities to the students | To get practical exposure to the students | Used to prepare technical projects | Material and construction practices | PO4, PO8, PO9, PO10, PO12 |
| 2 | Lab Manuals | Lab manual are kept in the lab which are referred by the students during the time when experiment to be performed | To be referred by students for developing scientific reasoning abilities, | During lab hours in every semester | • Students will enhance their learning to keep their record in well proper manner | PO4, PO8, PO9, PO10, PO12 |

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| | | The details like materials, equipment to be used, procedure to be followed, need for experiment, observations, results and recommended standards values are mentioned in the lab manual for the smooth and efficient leering of the students. | increasing understanding of the complexity and ambiguity of empirical work, developing practical skills, increasing understanding of the nature of engineering. | | • Students will enhance their learning in proper writing and illustration skills.<br>Students will enhance their learning to relate the theoretical and technical knowledge | |
| 3 | California Bearing Ratio Test Apparatus | It measures the strength of subgrade soil and highway sub base and subgrade via a penetration test. | Used in projects and consultancy work | 2-4 hours per semester in Highway Lab | Students will enhance their learning in to understand the relative bearing ratio and expansion characteristics under known surcharge weight of base, sub base and sub grade soils for the design of roads in Highway Engg. | PO4, PO12 |
| 4 | Universal Testing Machine (Concrete) | The machine is used to determine the compressive and tensile strength of materials. | Used in projects and consultancy work | 2-5 hours per semester in concrete Lab | Students will enhance their learning in to understand the concept of tensile strength, compressive strength, and shear strength and to perform bend test along other important laboratory tests in concrete technology. | PO4, PO 12 |
| 5 | Unconfined Compression Strength testing apparatus | It measures the ability of the soil to resist forces imposed on it or the maximum stress that a sample can withstand under | Used in projects by final year students | 2-5 hours per semester in Geotech | Students will enhance their learning to understand the concept for maximum axial | PO4, PO 12 |

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| | | specified loading conditions. | | nical Lab | compressive stress that a cohesive soil specimen can bear under zero confining stress in Geotech. Engg | |
| 6 | Compression Testing Machine (Rock Mechanics) | The machine is used to determine the compressive strength of materials. | Used in projects and consultancy work | 2-4 hours per semester in Rock Mechanics Lab | Students will enhance their learning to understand the concept *for* maximum compressive load or stress that a material can resist before fracturing. | PO4, PO 12 |
| 7 | Universal testing machine (Geotech) | Calculation the wide width tensile strength, bearing capacity | Not included in syllabus | 2-6 hours per semester in Geotechnical Lab | Characterization of material in Geotechnical Field | PO4, PO 12 |
| 8 | Standard penetration test (SPT) apparatus | This apparatus is used for subsurface exploration drilling test performed worldwide. | Not included in syllabus | 2-6 hours per semester in Geotechnical Lab | Exploration Technique in Geotechnical Field | PO 4, PO 12 |
| 9 | Three-bench consolidometer | This apparatus is used to determine the rate and magnitude of settlement in soils | Used in projects by final year students | 24 -48 hours per semester in Geotechnical Lab | Students will enhance their learning to understand the rate and magnitude of soil consolidation when the soil is restrained laterally and loaded axially | PO 4, PO 12 |

***Table B.6.2***

**6.3. Laboratories: Maintenance and overall ambiance (10)**

1. Department has enough labs which are used for all the years on a timetable basis to meet the curriculum requirements.
2. Labs are equipped with sufficient machinery and equipments and licensed software
3. Faculty members have been assigned as lab incharges for different labs. All the labs are maintained and monitored by lab technician under the guidance of concerned faculty regularly.
4. Students are advised to keep every equipment in place in the proper manner.
5. After practicals, proper cleanliness of lab is done regularly.
6. Wide range of tests on construction materials in different labs are performed for project work, research work and consultancy work.
7. Special attention is given to the safety of the students during the use of the lab. Students have to comply with a set of instructions while working in labs as per safety and codal standards.
8. Software and hardware in laboratory are updated regularly.
9. A record of utilisation of labs and lab equipments by students are maintained in each lab. Entry registers and equipment utilization registers and maintained in each lab for this purpose.
10. Students/ faculty/staff/ other personnels from other departments of Institute or outside the Institute are permitted to use the labs after approval from lab incharge and HOD.
11. A stock register is maintained with all equipment details recorded timely.
12. Issue register is maintained to record the issue details of equipment's/facilities in and out of the laboratories
13. As per requirement, minor repairs/ services are carried out from time to time by technical representative of equipment supplier/manufacturer.
14. The consumables in laboratories are purchased from time to time.
15. Information is displayed in all the laboratories regarding list of equipments, list of experiments, time table, free lab slots, some standards/specifications etc.

**6.4. Project laboratory (5)**

All the laboratories are used by students of the department for the completion of their projects. Some machinery and equipments in labs are also used for consultancy projects. We have some other equipment and projects for the demonstration purpose for student's i.e. Euler's buckling load apparatus, Unsymmetrical bending apparatus, Two hinged apparatus, Apparatus to verify moment area method for deflection, Curved member apparatus, Maxwell reciprocal theorem, Three hinge apparatus, Redundant joint apparatus.

Some major equipment like UTM, CBR, UCS, Consolidometer, CTM, FTM, Direct Shear Machine, Spectrophotometer, DGPS, concrete permeability etc. are used by students for their project works.

The department has licensed version of software's i.e. *STAAD.Pro CONNECT Edition*, MX roads, and STAAD Foundation Advance, OpenflowsWaterGEMS, OpenFlowsSewerGEMS, OpenFlows StormCAD ATENA Software, which are also used by students for projects.

**6.5. Safety measures in laboratories (10)**

The following safety measures installed or taken care in the laboratory for smooth functioning of lab work.

| Sr. No | Name of the Laboratory | Safety measures |
|---|---|---|
| 1 | All Labs | General guidelines for safety practices (Dos/Don'ts) displayed in the lab |
| | | Gloves used for sample preparations |
| | | Hand washing soap/liquid kept in the lab |
| | | Fire extinguisher installed outside Lab |
| | | First Aid Box |
| | | Proper lighting |
| | | Proper water connection for cleaning of accessories and hand |

***Table B.6.3***

## 7. CONTINUOUS IMPROVEMENT

### 7.1. Actions taken based on the results of evaluation of each of the POs & PSOs (20)

**POs & PSOs Attainment Levels and Actions for improvement –**

**Session 2021-2022**

| POs | Target Level* | Attainment level | Observations |
|---|---|---|---|
| **1.** *Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.* | | | |
| **PO 1** | **2.18** | **2.74** | **80%** |
| **Actions/Improvement**<br>1. Additional remedial/improvement classes to be conducted to improve the mathematical fundamental basics and to introduce civil engineering fundamental basics.<br>2. More problems will be given for practice regarding application of basic sciences | | | |
| **2.** *Identify, formulate, review research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.* | | | |
| **PO2** | **1.91** | **2.45** | **78%** |
| **Actions/Improvement**<br>1. The practical approach of teaching to be adapted<br>2. Focus on literature review in seminar and research work in Project work<br>3. Assignment / tasks pertaining to real engineering problems/ field surveys etc. to be adopted | | | |
| **3.** *Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations.* | | | |
| **PO3** | **1.64** | **2.17** | **76%** |
| **Actions/Improvement**<br>1. More design classes to be taught in tutorial classes using different process/technique so that with the help of these techniques' society gets benefited by safe and healthy structures<br>2.Participation of students in real life problems of society by assigning them project or assignment.<br>3. Selecting project/ seminar topics giving solution to engineering problems. | | | |
| **4.** *Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions.* | | | |
| **PO4** | **1.87** | **2.42** | **77%** |
| **Actions/Improvements**<br>1. More focus concentrated on the practical approach used in the laboratory to investigate different civil engineering concepts so as to reach appropriate conclusions.<br>2. Enhancement of analytical skills of students through project work/seminar<br>3. Involvement of students in consultancy projects related to testing, drafting, design etc. | | | |
| **5.** *Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modeling to complex engineering activities with an understanding of the limitations.* | | | |

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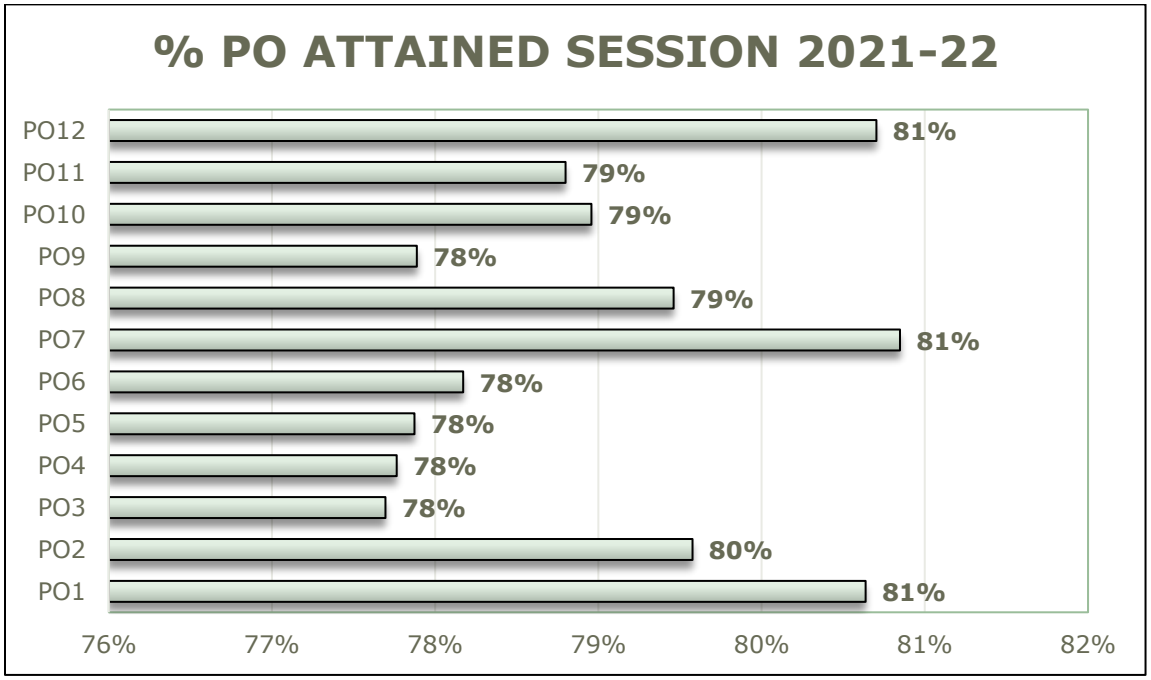
| **PO5** | **1.75** | **2.28** | **77%** |
| **Actions/Improvements**<br>1. Workshops to be conducted to give hands-on experience to students and faculty.<br>2. Expert lectures / industrial interaction/ industry exposure provided to students.<br>3. Motivation to students to participate in technical training Programs like Spoken Tutorial, NPTEL, other courses being organized by organizations and institutes. | | | |
| **6.** *Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional engineering practice.* | | | |
| **PO6** | **2.18** | **2.79** | **78%** |
| **Actions/Improvements**<br>1. Technical talk on safety concerned required in Civil engineering, legal and environmental issues challenges in construction practice were discussed for the professional development.<br>2. Industrial Training/Industrial project inculcates these skills<br>3. Observation of responsibilities of engineers through industrial visits. | | | |
| **7.** *Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development*. | | | |
| **PO7** | **2.17** | **2.78** | **78%** |
| **Actions/Improvements**<br>1. The expert lecture conducted for the development and usage of changes in technology and application of these technologies for the benefit of society and environment through sustainable approach.<br>2. More examples on the subject to be practiced by students in classes concerning environment<br>3. More problems/ real life situations given for practice in projects/ other courses.<br>4. Encouraging students to participate in activities related to benefit of society. e.g. NSS/Unnat Bharat Abhiyan etc<br>5. Some courses/lectures focus on environmental sciences, protection of environment, measures to be adopted for disaster management. | | | |
| **8.** *Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.* | | | |
| **PO8** | **2.23** | **2.87** | **78%** |
| **Actions/Improvements**<br>1. Workshops/ lectures for development of life skills/ethics<br>2. Focus on realizing the importance of Codes/Standards for design, planning of civil engineering solutions through cases studies, lectures etc.<br>3. Some courses focus on human values, moral and ethics to be followed for social development of students | | | |
| **9.** *Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.* | | | |
| **PO9** | **1.67** | **2.14** | **78%** |
| **Actions/Improvements**<br>1. Problems/ case studies/ project given to the students in groups to check their performance in the diverse team.<br>2. Industrial Training gives exposure to plan and manage work in group and individually | | | |
| **10.** *Communicate effectively on complex engineering activities with the engineering community and with society at large, such as, being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions.* | | | |
| **PO10** | **1.76** | **2.27** | **78%** |
| **1. Actions/Improvements** | | | |

| | | | |
|---|---|---|---|
| 1. A specified format and guidelines of seminar /project work/ lab files and industrial training are given to students to prepare the reports so as to teach them the documentation process and parameters of the effective presentations as per the concerned subject. Faculty guide them for the same.<br>2. Regular presentations are conducted in theory courses, projects, seminars, industrial training to improve communication skills.<br>3. More focus on the employment classes / soft skills to enhance the communication of students and prepare them to perform better in the industrial world.<br>4. More practice is motivated in communication subjects in the first year | | | |
| **11.** *Demonstrate knowledge and understanding of the engineering and management principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments.* | | | |
| **PO11** | **2.17** | **2.81** | **77%** |
| **Actions/Improvements**<br>1. More practical problems to be given to students individually or in the team for the execution of the seminar and project work to motivate by using their technical and management skills.<br>2. Some courses are specifically designed for focusing on principles of management, economics etc. | | | |
| **12.** *Recognize the need for and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change.* | | | |
| **PO12** | **1.68** | **2.13** | **79%** |
| **Actions/Improvements**<br>1. More focus to on hands-on experience in classes, laboratories, project, seminar, and industrial training so that students will be able to about new types of equipment, their application and to understand the new technology for their lifelong learning.<br>2. Industrial visits, lectures by industrial and research experts. | | | |

***Table B.7.1.a***



**7.2. Academic Audit and actions taken thereof during the period of Assessment (10)**

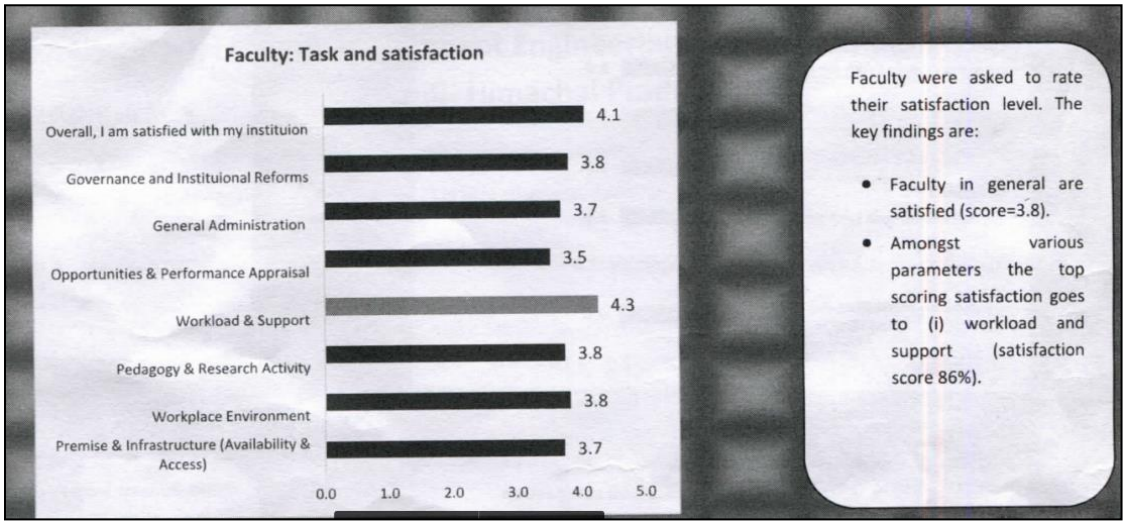
The following agencies are visiting and conducting audit:

**Affiliation Team of Himachal Pradesh Technical University Hamirpur, Himachal Pradesh**

A committee of academic experts appointed/nominated from university visits the institute every year that carries out the academic audit for the coming academic year on a prescribed "Proforma-D" devised by Himachal Pradesh Technical University Hamirpur, Himachal Pradesh.

**NPIU AUDIT**

NPIU online web-based student, faculty and staff satisfaction survey is carried out once in a year, which is mandatory activity under TEQIP for assessing the performance of the institution. Every student, faculty and staff give their feedback through a link available in college website. The report is then forwarded to college and steps are taken further for the improvement. The sample report is attached for an example:



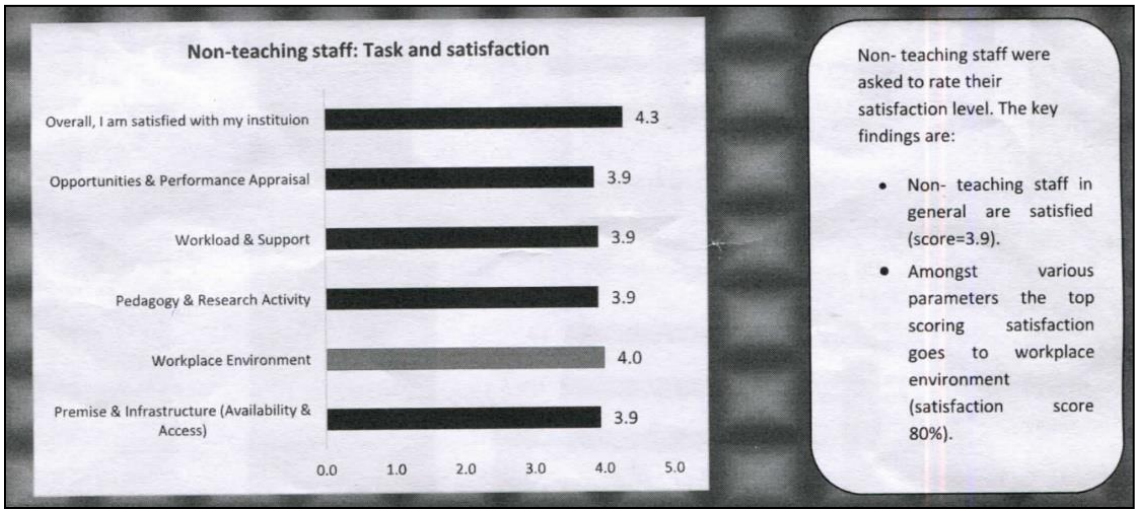




***Fig. B.7.2 NPIU Audit Feedback***

**Departmental/Internal academic system**

The Department of Civil Engineering of JNGEC Sundernagar adopts various strategies and method for the smooth functioning of academic session throughout the year for the proper. The department of Civil Engineering takes various steps before and after the commencement of classes.

- **Prior to commencement of the classes**

- The HOD of the department of Civil Engineering conducts a meeting with all the faculty members and teaching load is assigned to each faculty member for the coming session.
- All the faculty members prepare lesson plans, course outcomes to achieve the best practices to attained the Co's with PO's.
- Meetings are conducted to regulate the academic activities in department.

- **After the commencement of the classes**

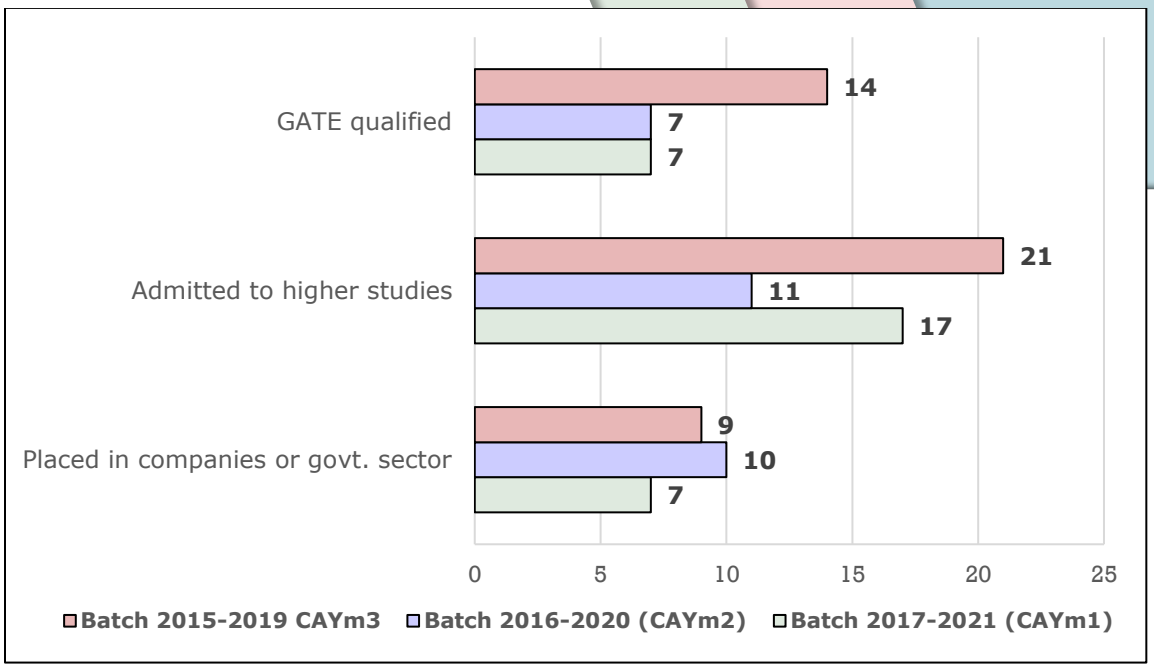
Formats for evaluation of students are prepared checked from time to time like Question paper/ assignments/rubrics for evaluation of project, seminar, industrial training etc. Department committee is constituted to:

- Evaluate the question paper of midterm examination.
- Evaluate the assignments
- Finalize the process of evaluation of Industry training /Industrial Project
- Finalize the rubrics and process of evaluation of Project /Seminar

**7.3. Improvement in Placement, Higher Studies and Entrepreneurship (10)**

| **Item** | CAYm1 (2020-21) **(Batch 2017-2021)** | CAYm2 (2019-20) **(Batch 2016-20)** | CAYm3 (2018-19) **(Batch 2015-19)** |
|---|---|---|---|
| Total no. of Final Year Students (N) | 72 | 74 | 74 |
| No. of students placed in companies or Government Sector | 7 | 10 | 9 |
| No of Students admitted to higher studies | 17 | 11 | 21 |
| No of GATE qualified students | 7 | 7 | 14 |

***Table B.7.3***




### 7.4. Improvement in the quality of students admitted to the program (10)

| Item | | CAY 2019-2020 | CAYm1 2018-2019 | CAY*m*2 2017-2018 |
|---|---|---|---|---|
| National Level Entrance Examination (Name of the Entrance Examination) | No. of Students admitted | 19 | 31 | 28 |
| | Opening Score/Rank | 15074 | 13445 | 93.03 |
| | Closing Score/Rank | 706187 | 526113 | 33.33 |
| State/University/Level Entrance Examination/Others (Name of the Entrance Examination) | No. of Students admitted | 44 | 30 | 32 |
| | Opening Score/Rank | 96.60% | 97% | 163.5 |
| | Closing Score/Rank | 68.60% | 93% | 61.5 |
| Name of the Entrance Examination for Lateral Entry or lateral entry details | No. of Students admitted | 06 | 08 | 08 |
| | Opening Score/Rank | 86.53% | 86% | 85.3% |
| | Closing Score/Rank | 77.85% | 70% | 68% |
| Average CBSE/Any other Board Result of admitted students (Physics, Chemistry & Maths) | | 87.93% | 79.27% | 80.26% |

***Table B.7.4***

**FIRST YEAR ACADEMICS (50)**

### 8.1. First Year Student-Faculty Ratio (FYSFR) (5)

Number of Branches Approved for CAY (Current Academic Year 2021-22), CAYm1, CAYm2= 4.

1. Mechanical Engineering (60)

2. Textile Engineering (60)

3. Civil Engineering (60)

Total intake= 60×4= 240

Data for first year courses to calculate the FYSFR:

| Year | Number of students (Approved intake strength) | Number of faculty members (considering fractional load) | FYSFR | *Assessment = (5 ×20)/FYSFR (Limited to Max. 5) |
|---|---|---|---|---|
| CAY(2021-22) | 240 | 11.57 | 21.74 | 4.6 |
| CAYm1(2020-21) | 240 | 10.75 | 22.5 | 4.4 |
| CAYm2(2019-20) | 240 | 12.4 | 19.4 | 5 |
| **Average** | **240** | **11.6** | **21.21** | **4.7** |

***Table B.8.1***

***Note:** If FYSFR is greater than 25, then assessment equal to zero.*

### 8.2. Qualification of Faculty Teaching First Year Common Courses (5)

Assessment of qualification = $(5x + 3y)/RF$, $x$= Number of Regular Faculty with Ph.D, $y$ = Number of Regular Faculty with Post-graduate qualification $RF$= Number of faculty members required as per SFR of 20:1, Faculty definition as defined in 5.1

| Year | *X* | *Y* | *RF* | Assessment of faculty qualification $(5x + 3y)/RF$ |
|---|---|---|---|---|
| CAY(2021-22) | 5.04 | 6.53 | 12 | 3.73 |
| CAYm1(2020-21) | 3.8 | 7 | 12 | 3.33 |
| CAYm2(2019-20) | 3.3 | 7.7 | 12 | 3.3 |
| **Average Assessment** | | | | **3.5** |

***Table B.8.2***

### 8.3. First Year Academic Performance (10)

| Academic Year | Branch | Appeared for Examination | No. Successful Students | Academic Performance |
|---|---|---|---|---|
| 2021-22 | Mechanical Engineering | 51 | 51 | 5.7 |
| | Civil Engineering | 64 | 64 | 7.1 |
| | Electronics & Communication Engineering | 62 | 62 | 7 |
| | Textile Engineering | 10 | 10 | 5.2 |
| 2020-21 | Mechanical Engineering | 47 | 47 | 3.9 |
| | Civil Engineering | 61 | 61 | 6.7 |
| | Electronics & Communication Engineering | 54 | 54 | 5.8 |
| | Textile Engineering | 18 | 18 | 4.5 |
| 2019-20 | Mechanical Engineering | 56 | 56 | 5.6 |
| | Civil Engineering | 60 | 60 | 6.6 |
| | Electronics & Communication Engineering | 59 | 59 | 6.1 |
| | Textile Engineering | 15 | 15 | 5.5 |

***Table B.8.3***

*Academic Performance = ((Mean of 1st Year Grade Point Average of all successful Students on a 10-point scale) or (Mean of the percentage of marks in First Year of all successful students/10))* x *(number of successful students/number of students appeared in the examination)*
*Successful students are those who are permitted to proceed to the second year.*

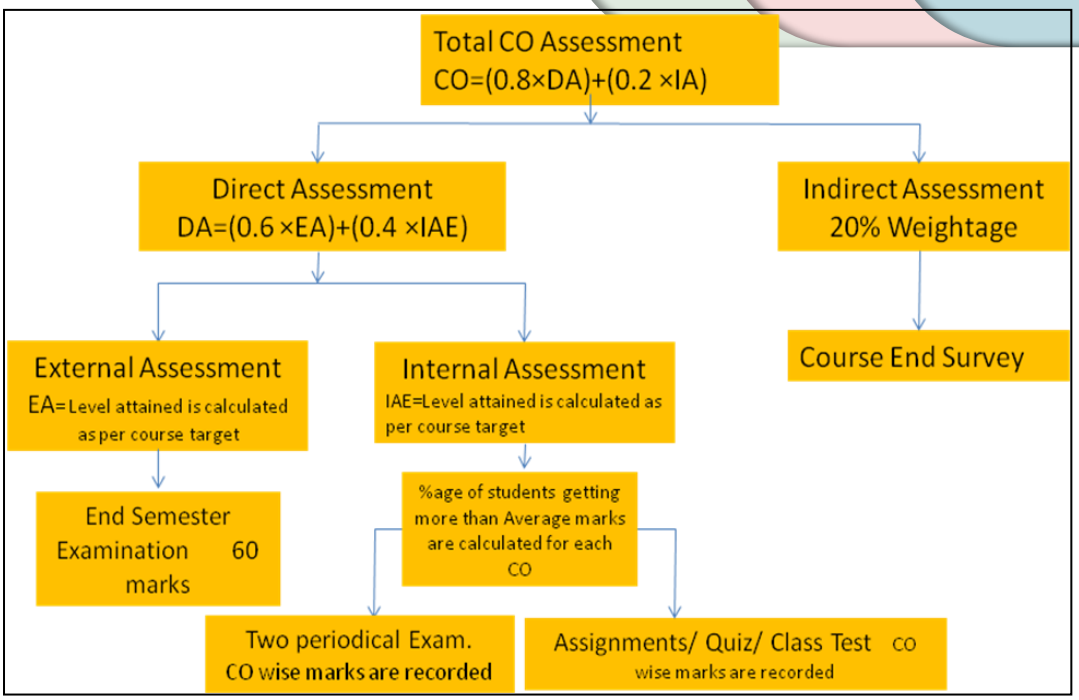
### 8.4. Attainment of Course Outcomes of first year courses (10)

#### 8.4.1. Describe the assessment processes used to gather the data upon which the evaluation of Course Outcomes of first year is done (5)

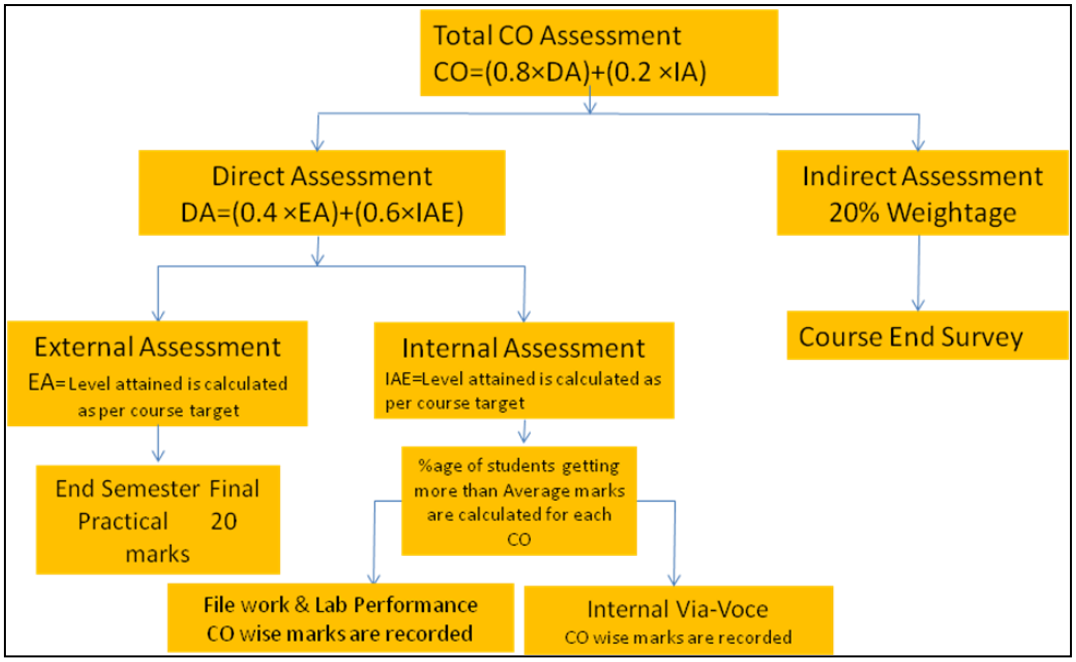
Course outcomes are attained by gathering data for the direct assessment and indirect assessment.

- Direct assessment is done by evaluating the components of
  - Internal assessment
    - Mid-term examination, assignments/ quizzes for theory courses.
    - Mid semester viva, lab performance and lab report/file for practical subjects.
  - External assessment
    - End semester university examinations (theory/ practical)
- Indirect assessment is done by
  - Course end survey.

**Assessment processes used to gather the data Theory Course upon which the evaluation of Course Outcomes of first year is done**




**Assessment processes used to gather the data Practical Course upon which the evaluation of Course Outcomes of first year is done**



| PROCEDURE FOR CO ATTAINMENT | | |
|---|---|---|
| **Internal Assessment (Direct Assessment)** | | |
| **1.** | **Recording Marks in COs for Each Student** | Marks obtained by each student in two Mid-term examination, assignments/ quizzes, where each question is assigned some relevant CO's for theory courses or Mid semester viva, lab performance and lab report/file for practical subjects are evaluated and recorded with respect to respective COs as mapped with them for each student. |
| **2.** | **CO Marks Percentage Attained by Student** | Percentage of marks obtained by each student is calculated in respective COs and average of each COs is determined for whole class. |
| **3.** | **Individual CO Target for grade levels** | Average CO attained in each course or a higher value (as decided by concerned faculty) is considered the target for the respective CO. |
| **4.** | **Grade Levels of Student** | Grade levels are assigned to each student for respective CO's based on percentage of marks obtained by student (as decided by the concerned faculty).<br>e.g. Grade level 3 is assigned to a student if percentage of marks for respective CO is more than the CO target defined. |
| **5.** | **CO Attainment Targets** | CO targets are defined at three level based on the percentage of students getting more than the Individual CO Target<br>e.g.<br>Attainment Level-3 If %age of students>50%<br>Attainment Level-2 If 45%< %age of students <50%<br>Attainment Level-1 If 40%< %age of students <45%<br>The value in %age is set by the department by conducting meeting involving Head of Department, all faculty, Departmental NBA Coordinator's and student class representatives. |
| **6.** | **Percentage of Students Attaining grade levels 3, 2, 1** | Percentage of students attaining levels 3, 2, 1 are determined by dividing no. of students attaining the levels (counting the students with grade levels 3, 2, 1) with total no. of students in class. |
| **7.** | **Percentage of Students at Attainment Level 3** | The percentage of students who have attained percentage for a respective CO more than or equal to the individual CO target. |

| | | |
|---|---|---|
| **8.** | **Levels of Attainment / Achievement of COs** | Attainment Level 3: CO Fully Achieved,<br>Attainment Level 2: CO Partially Achieved,<br>Attainment Level 1: CO Partially Achieved,<br>Otherwise : CO not Achieved |
| **9.** | **CO Attained Internal Assessment (IA)** | The grades as shown in point no. 8 are considered the attainment of particular CO in internal assessment. |
| **External Assessment (Direct Method)** | | |
| **10.** | **Course Target (Percentage of Students)** | It is the minimum percentage of students expected to attain CO attainment target. The value in %age is set by the department by conducting meeting involving Head of Department, all faculty and student class representatives. |
| **11.** | **Percentage CO Attained External Assessment** | As the external examinations are not governed by our institute, the pass percentage in the end semester examinations is considered the CO attainment in external assessment. |
| **12.** | **CO Attained External Assessment (EA)** | The result obtained in point no. 11 is considered the attainment of all COs/course in external assessment. |
| **13.** | **CO ATTAINED: DIRECT METHOD**<br>**[For Theory Courses]**<br>40 % weightage to Internal assessment<br>60% weightage to External assessment<br>**[For Practical/Laboratory Courses]**<br>60 % weightage to Internal assessment<br>40% weightage to External assessment<br>(Above Mentioned Weightages are as per University Scheme) | |
| **Indirect Method of Assessment** | | |
| **14.** | **Course-End Survey** | At the end of semester, feedback in the form of course end surveys (Based on CO's) has been collected from the students, which is utilized for CO attainment with a weight age of 20%. In the said survey, the students are asked to rate their satisfaction level with the CO's of the respective courses on a scale of 1 to 3. |
| **15.** | **FINAL CO ATTAINED: DIRECT METHOD + INDIRECT METHOD**<br>80% weightage to Direct Method of Assessment<br>20% Weightage to Indirect Method of Assessment | |

**8.4.2. Record the attainment of Course Outcomes of all first year courses (5)**

*Program shall have set attainment levels for all first year courses.*

The attainment levels are set considering average performance levels of students in the internal assessments. Sample data for the CO attained level is given in table:

| Program: Civil Engineering<br>Courses (CAY 2021-22)<br>CO Attained Level | | | | | | |
|---|---|---|---|---|---|---|
| | **CO1** | **CO2** | **CO3** | **CO4** | **CO5** | **CO6** |
| **C101/HS-101** | 2.3 | 2.3 | 2.1 | 2.8 | 2.9 | 2.2 |
| **C102/MA -101** | 2.65 | 2.93 | 2.94 | 2 | 2.63 | 2.89 |
| **C103/PH-101** | 2.6 | 2.3 | 2.9 | 2.9 | 2.9 | 2.9 |
| **C104/ME-101** | 2.4 | 2.4 | 2.2 | 2.4 | 2.7 | 2.7 |
| **C105/CS -101** | 2 | 3 | 3 | 3 | | |
| **C106/ME-102** | 2.3 | 2.3 | 2 | 2.5 | 2.6 | 2.6 |
| **C107/HS-102** | 2.9 | 2.8 | 2.9 | 2.2 | | |
| **C108/HS -111** | 2.9 | 2.8 | 2.9 | 3 | | |
| **C109/PH-111** | 2.3 | 2.2 | 2.2 | 2.3 | | |
| **C110/CS -111** | 2.9 | 2.9 | 2.9 | 2.9 | | |
| **C111/HS -204** | 2.3 | 2.3 | 2.4 | 2.5 | 2.6 | 2.6 |
| **C112/MA -202** | 2.8 | 2.2 | 2.8 | 2.5 | 2.6 | 2.2 |
| **C113/CH-101** | 2.6 | 1.9 | 1.9 | 2.3 | 2.6 | 1.8 |
| **C114/EE -101** | 2.2 | 2.1 | 1.8 | 1.6 | 1.8 | 1.6 |
| **C115/EC -101** | 3 | 2 | 2 | 2 | | |
| **C1116/ME103** | 3 | 3 | 3 | 2.4 | 3 | 3 |
| **C117/HS-103** | 2.5 | 2.9 | 2.5 | 2.5 | 2.9 | 2.5 |
| **C118/EE- 111** | 2.1 | 2.2 | 2.1 | 1.9 | | |
| **C119/CH-111** | 2.7 | 2.7 | 2.7 | 2.7 | | |

| Program: Civil Engineering<br>Courses (CAYm1 2020-21)<br>CO Attained Level | | | | | | |
|---|---|---|---|---|---|---|
| | **CO1** | **CO2** | **CO3** | **CO4** | **CO5** | **CO6** |
| **C101/HS-101** | 2.3 | 2.3 | 2.1 | 2.8 | 2.9 | 2.2 |
| **C103/PH-101** | 2.3 | 2.3 | 2.6 | 2.6 | 2.8 | 2.5 |
| **C105/CS -101** | 2.5 | 2.0 | 1.7 | 2.0 | 2.3 | 1.7 |
| **C106/ME-102** | 2 | 2.3 | 2 | 2.4 | 2.4 | 2.4 |
| **C108/HS -111** | 2.9 | 2.8 | 2.9 | 3 | | |
| **C109/PH-111** | 2.6 | 2.6 | 2.5 | 2.6 | | |

| | | | | | | |
|---|---|---|---|---|---|---|
| **C110/CS -111** | 1.9 | 1.96 | 2.9 | 2.8 | 2.3 | 2.3 |
| **C111/HS -204** | 2.3 | 2.3 | 2.4 | 2.5 | 2.6 | 2.6 |
| **C112/MA -202** | 3 | 2.6 | 2.3 | 2.3 | 2.9 | 2.9 |
| **C113/CH-101** | 2.8 | 2.7 | 2.1 | 2.4 | 2.7 | 2.4 |
| **C115/EC -101** | 3 | 2 | 2 | 2 | | |
| **C117/HS-103** | 2.9 | 2.2 | 2.5 | 2.9 | 2.9 | 2.5 |
| **C119/CH-111** | 2.7 | 2.4 | 2.6 | 2.6 | | |

**Program: Civil Engineering**

**Courses (CAYm2 2019-20)**

**CO Attained Level**

| | **CO1** | **CO2** | **CO3** | **CO4** | **CO5** | **CO6** |
|---|---|---|---|---|---|---|
| **C101/HS-101** | 2.7 | 2.9 | 2.4 | 2.2 | 2.6 | |
| **C102/MA -101** | 2.8 | 2.1 | 2.5 | 2.4 | 2.1 | 2.7 |
| **C103/PH-101** | 2.6 | 2.6 | 2.9 | 2.9 | 2.8 | 2.2 |
| **C104/ME-101** | 2.4 | 2.4 | 2.2 | 2.4 | 2.7 | 2.7 |
| **C105/CS -101** | 2.5 | 2.0 | 1.7 | 2.0 | 2.3 | 1.7 |
| **C106/ME-102** | 2.3 | 2.3 | 1.8 | 2.3 | 2.3 | 2 |
| **C107/HS-102** | 3.0 | 2.6 | 2.4 | 2.2 | 2.6 | |
| **C108/HS -111** | 2.9 | 2.9 | 2.8 | 2.9 | 2.9 | 2.9 |
| **C109/PH-111** | 2.6 | 2.6 | 2.5 | 2.6 | | |
| **C110/CS -111** | 1.9 | 1.96 | 2.9 | 2.8 | 2.3 | 2.3 |
| **C111/HS -204** | 2.9 | 2.9 | 3.0 | 2.6 | 2.9 | |
| **C112/MA -202** | 2.80 | 2.20 | 2.80 | 2.50 | 2.60 | 2.20 |
| **C113/CH-101** | 2.5 | 2.8 | 2.8 | 2.8 | 2.5 | 2.8 |
| **C116/ME-103** | 3 | 3 | 3 | 2.4 | 3 | 3 |
| **C117/HS-103** | 2.84 | 2.9 | 2.86 | 2.84 | 2.22 | 2.22 |
| **C119/CH-111** | 2.5 | 2.9 | 2.9 | 2.9 | | |

**Program: Electronics & Communication Engineering**

**Courses (CAY 2021-22)**

**CO Attained Level**

| | **CO1** | **CO2** | **CO3** | **CO4** | **CO5** | **CO6** |
|---|---|---|---|---|---|---|
| **HS-101** | 2.6 | 2.9 | 2.9 | 2.9 | 2.9 | 2.9 |
| **PH-101** | 2.1 | 2.1 | 2.1 | 2.1 | 2.1 | 2.1 |
| **ME-101** | 2.1 | 2.3 | 2.4 | 2 | 2.2 | 2.2 |
| **CS -101** | 2.2 | 1.8 | 3 | 3 | 3 | 3 |
| **ME-102** | 2.1 | 2.1 | 2.3 | 2.5 | 2.5 | 2.5 |
| **HS-102** | 2.6 | 2.8 | 2.9 | 2.8 | | |
| **HS -111** | 3 | 2.9 | 2.9 | 2.8 | | |

| | | | | | | |
|---|---|---|---|---|---|---|
| **PH-111** | 2.2 | 2.1 | 2.1 | 2.1 | | |
| **CS -111** | 2.6 | 3 | 3 | 3 | | |
| **HS -204** | 2.6 | 2.9 | 2.6 | 2.6 | 2.3 | 2.9 |
| **CH-101** | 2.6 | 2.3 | 2.2 | 2.6 | 2.6 | 2.6 |
| **EE -101** | 2.1 | 1.8 | 1.8 | 1.8 | 1.6 | 1.6 |
| **EC -101** | 1.92 | 1.8 | 1.96 | 2.1 | 1.76 | 1.8 |
| **ME-103** | 2.32 | 2.32 | 2.32 | 2.32 | 2.8 | 2.8 |
| **HS-103** | 2.6 | 2.6 | 2.6 | 2.5 | 2.6 | 2.6 |
| **EE- 111** | 2 | 2 | 1.8 | 1.8 | | |
| **CH-111** | 2.9 | 2.9 | 2.9 | 2.9 | | |
| **EC-111** | 2.3 | 1.6 | 1.8 | | | |

**Program: Electronics & Communication Engineering**

**Courses (CAYm1 2020-21)**

**CO Attained Level**

| | **CO1** | **CO2** | **CO3** | **CO4** | **CO5** | **CO6** |
|---|---|---|---|---|---|---|
| **HS-101** | 2.6 | 2.9 | 2.9 | 2.9 | 2.9 | 2.9 |
| **MA -101** | 2.55 | 2.26 | 2.58 | 2.21 | 2.57 | 2.9 |
| **PH-101** | 2.5 | 2.9 | 1.9 | 2.2 | 2.8 | 2.5 |
| **ME-102** | 2.4 | 2.4 | 2.4 | 2.6 | 2.6 | 2.6 |
| **HS -111** | 3 | 2.9 | 2.9 | 2.8 | | |
| **PH-111** | 2.5 | 2.5 | 2.5 | 2.5 | | |
| **HS -204** | 2.6 | 2.9 | 2.6 | 2.6 | 2.3 | 2.9 |
| **MA -202** | 2.3 | 2.9 | 2.9 | 2.6 | 2.9 | 2.9 |
| **CH-101** | 2.4 | 2.7 | 2.8 | 2.7 | 2.1 | 2.7 |
| **EE -101** | 2.1 | 2.4 | 1.6 | 1.2 | 1.6 | 2 |
| **EC -101** | 1.9 | 1.9 | 1.9 | 1.9 | | |
| **ME-103** | 2.7 | 2.7 | 2.2 | 2.5 | 2.0 | 2.6 |
| **CH-111** | 2.8 | 2.7 | 2.7 | 2.8 | | |
| **EC-111** | 2.3 | 1.6 | 1.8 | | | |

**Program: Electronics & Communication Engineering**

**Courses (CAYm2 2019-20)**

**CO Attained Level**

| | **CO1** | **CO2** | **CO3** | **CO4** | **CO5** | **CO6** |
|---|---|---|---|---|---|---|
| **MA -101** | 2.86 | 2.18 | 2.56 | 2.19 | 2.20 | 2.51 |
| **PH-101** | 2.5 | 2.9 | 1.9 | 2.2 | 2.8 | 2.5 |
| **ME-101** | 1.2 | 1.8 | 1.2 | 0.9 | 1.8 | 1.8 |
| **CS -101** | 2.5 | 2.1 | 2.2 | 1.4 | 1.7 | 2.4 |
| **ME-102** | 3 | 3 | 2.8 | 2.8 | | |
| **HS-102** | 2.6 | 2.6 | 2.6 | 2.3 | 2.3 | |

| | | | | | | |
|---|---|---|---|---|---|---|
| **PH-111** | 2.5 | 2.5 | 2.5 | 2.5 | | |
| **CS -111** | 2.5 | 2.4 | 2.4 | 2.5 | 1.4 | 1.4 |
| **HS -204** | 2.9 | 2.9 | 3 | 2.9 | 2.9 | |
| **MA -202** | 2.1 | 2.4 | 2.3 | 2.1 | 2.4 | 2.7 |
| **CH-101** | 2.9 | 2.2 | 2.9 | 2.9 | 2.6 | 2.9 |
| **EC -101** | 2 | 2 | 3 | 3 | 3 | 3 |
| **ME-103** | 2.36 | 2.36 | 2.8 | 2.8 | 3 | 2.8 |
| **HS-103** | 2.2 | 2.9 | 2.8 | 2.8 | 2.5 | 2.5 |
| **CH-111** | 2.9 | 2.9 | 2.9 | 2.9 | | |

**Program: Mechanical Engineering**

**Courses CAY (2021-22)**

**CO Attained Level**

| | **CO1** | **CO2** | **CO3** | **CO4** | **CO5** | **CO6** |
|---|---|---|---|---|---|---|
| **HS-101** | 2.3 | 2.3 | 2.5 | 2.5 | 2.9 | 2.2 |
| **MA -101** | 2.6 | 2.6 | 2.1 | 2.5 | 2.5 | |
| **CH-101** | 1.9 | 1.2 | 1.5 | 1.5 | 1.5 | 1.4 |
| **EE -101** | 2 | 1.8 | 1.9 | 1.4 | 1.5 | 1.2 |
| **EC -101** | 2.5 | 2.4 | 2.6 | 2.2 | | |
| **ME-103** | 2.2 | 2.2 | 2.2 | 2.2 | 2.2 | 1.72 |
| **HS-103** | 3 | 2.9 | 2.9 | 2.3 | 2.2 | 3 |
| **EE- 111** | 2.1 | 1.9 | 2 | 2 | | |
| **CH-111** | 2.9 | 2.9 | 2.9 | 3 | | |
| **EC-111** | 2.4 | 2.2 | 2.5 | 2.1 | | |
| **HS -204** | 1.9 | 2 | 2.1 | 2.2 | 1.9 | 1.9 |
| **MA -202** | 0.4 | 0.5 | 1.4 | 1.4 | 1.4 | |
| **PH-101** | 0.8 | 0.5 | 0.5 | 1.4 | 0.5 | 0.5 |
| **ME-101** | 0.9 | 1.2 | 1.3 | 0.8 | 1.4 | 1.5 |
| **CS -101** | 1 | 1 | 1 | 1 | | |
| **ME-102** | 1.8 | 2 | 2 | 2.4 | 2.4 | 2.4 |
| **HS -111** | 2.9 | 2.8 | 2.8 | 3 | | |
| **PH-111** | 2.9 | 2.9 | 2.9 | 2.9 | | |
| **CS -111** | 2.7 | 2.7 | 2.7 | 2.7 | | |

**Program: Mechanical Engineering**

**Courses (CAYm1 2020-21)**

**CO Attained Level**

| | **CO1** | **CO2** | **CO3** | **CO4** | **CO5** | **CO6** |
|---|---|---|---|---|---|---|
| **HS-101** | 3.0 | 2.9 | 3.0 | 2.9 | 2.9 | 3.0 |
| **MA -101** | 2.5 | 1.83 | 1.78 | 1.83 | 2.12 | 1.82 |

| | | | | | | |
|---|---|---|---|---|---|---|
| **CH-101** | 2 | 2.3 | 3 | 2.3 | 2.3 | 3 |
| **EC -101** | 1.7 | 2.1 | 1.4 | 1.9 | 2 | 1.96 |
| **HS-103** | 1.9 | 2.2 | 1.9 | 2.2 | 2.3 | 2.2 |
| **EE- 111** | 2 | 2 | 3 | 2 | 2 | |
| **CH-111** | 2.7 | 2.7 | 3 | 2.7 | | 2.7 |
| **EC-111** | 2.6 | 2.6 | 2.8 | 3 | 2 | 2.7 |
| **HS -204** | 1.9 | 2 | 2.1 | 2.2 | 1.9 | 1.9 |
| **MA -202** | 2.7 | 2.7 | 2 | 2.4 | 2.7 | 2.4 |
| **ME-101** | 2.5 | 2.8 | 1.9 | 2.8 | 2.7 | 2.1 |
| **CS -101** | 2 | 2 | 2 | 2 | | |
| **ME-102** | 2.2 | 2.2 | 2.3 | 2.6 | 2.6 | 2.6 |
| **HS -111** | 2.9 | 2.8 | 2.8 | 3 | | |

**Program: Mechanical Engineering**

**Courses (CAYm2 2019-20)**

**CO Attained Level**

| | **CO1** | **CO2** | **CO3** | **CO4** | **CO5** | **CO6** |
|---|---|---|---|---|---|---|
| **HS-101** | 3.0 | 2.9 | 3.0 | 2.9 | 2.9 | |
| **MA -101** | 2.6 | 2.6 | 2.1 | 2.5 | 2.5 | |
| **CH-101** | 2.3 | 3.0 | 2.8 | 2.5 | 2.6 | 2.6 |
| **EC -101** | 2.32 | 2.32 | 2.52 | 2.32 | | |
| **ME-103** | 3 | 3 | 3 | 3 | 2.4 | 3 |
| **HS-103** | 2 | 2.3 | 3 | 2.6 | 2.9 | 3 |
| **CH-111** | 2.9 | 2.8 | 2.8 | 3.0 | | |
| **MA -202** | 2.4 | 2.4 | 2.3 | 2.4 | 2 | 2.7 |
| **PH-101** | 2.6 | 2.6 | 2.6 | 2.6 | 2.9 | 2.9 |
| **ME-101** | 2.8 | 2.5 | 2.8 | 1.8 | 2.7 | 1.8 |
| **CS -101** | 2.5 | 2.1 | 2.1 | 2.8 | 1.9 | 2.8 |
| **ME-102** | 2.04 | 3 | 1.84 | 2.8 | | |
| **HS-102** | 3.0 | 2.6 | 2.0 | 2.9 | 2.9 | |
| **HS -111** | 2.9 | 2.9 | 2.8 | 2.9 | | |
| **PH-111** | 2.9 | 2.6 | 2.9 | 2.6 | | |
| **CS -111** | 2.3 | 2.2 | 2.8 | 2.7 | 1.8 | 2.8 |

**Program: Textile Engineering**

**Courses (2021-22)**

**CO Attained Level**

| | **CO1** | **CO2** | **CO3** | **CO4** | **CO5** | **CO6** |
|---|---|---|---|---|---|---|
| **HS-101** | 2 | 3 | 2.4 | 2.5 | 1.9 | 2.9 |

| | | | | | | |
|---|---|---|---|---|---|---|
| **MA -101** | 0.8 | 1.11 | 0.81 | 0.79 | 0.79 | 1.08 |
| **CH-101** | 1.9 | 2 | 2.9 | 2.6 | 2.5 | 2.3 |
| **EE -101** | 1.8 | 1.7 | 1.8 | 1.8 | 1.8 | 1.8 |
| **EC -101** | 2.38 | 2.33 | 2.43 | 2.38 | 2.38 | 2.62 |
| **HS-103** | 0.5 | 1.2 | 1.5 | 1.4 | 1.4 | 1.1 |
| **EE- 111** | 2 | 1.8 | 2 | 1.8 | | |
| **CH-111** | 1.9 | 1.9 | 1.9 | 1.9 | | |
| **HS -204** | 2.6 | 2 | 1.8 | 1.9 | 2.3 | 2.9 |
| **MA -202** | 0.4 | 0.5 | 0.5 | 1.4 | 1.4 | |
| **PH-101** | 1.4 | 1.3 | 1.3 | 1.9 | 0.9 | 1.3 |
| **CS -101** | 2 | 3 | 3 | 3 | | |
| **ME-102** | 1.2 | 1.2 | 1 | 1.5 | 1.5 | 1.5 |
| **HS-102** | 2.6 | 2.7 | 2.7 | 2.7 | | |
| **HS -111** | 1.9 | 1.8 | 1.9 | 2 | | |
| **PH-111** | 2.7 | 2.6 | 2.6 | 2.6 | | |
| **CS -111** | 2.9 | 2.9 | 2.9 | 2.9 | | |

**Program: Textile Engineering**

**Courses (CAYm1 2020-21)**

**CO Attained Level**

| | **CO1** | **CO2** | **CO3** | **CO4** | **CO5** | **CO6** |
|---|---|---|---|---|---|---|
| **HS-101** | 2 | 3 | 2.4 | 2.5 | 1.9 | 2.9 |
| **MA -101** | 2.2 | 2.2 | 1.9 | 2.8 | 2.4 | 2.9 |
| **CH-101** | 2.6 | 2.6 | 2.2 | 1.8 | 2.6 | 3 |
| **EC -101** | 0.9 | 0.9 | 0.7 | 1.3 | - | 0.7 |
| **ME-103** | 1.84 | 2.32 | 2.32 | 2.12 | 2.32 | 1.64 |
| **HS-103** | 2.6 | 2.6 | 2.6 | 2.9 | 2.9 | 2.6 |
| **CH-111** | 1.8 | 1.8 | 2.2 | 1.8 | | |
| **EE-111** | 2.3 | 1.6 | 1.8 | | | |
| **HS -204** | 2.6 | 2 | 1.8 | 1.9 | 2.3 | 2.9 |
| **MA -202** | 2.7 | 2.4 | 2.7 | 2.7 | 2.7 | 2.7 |
| **ME-102** | 2.32 | 2.32 | 2.32 | 2.6 | 2.6 | 2.6 |
| **HS-102** | 2.9 | 2.6 | 2.6 | 2.6 | | |
| **EC-111** | 0.9 | 0.9 | 0.7 | 1.3 | - | 0.7 |
| **HS-111** | 1.9 | 1.8 | 1.9 | 2 | | |

**Program: Textile Engineering**

**Courses (CAYm2 2019-20)**

**CO Attained Level**

| | **CO1** | **CO2** | **CO3** | **CO4** | **CO5** | **CO6** |
|---|---|---|---|---|---|---|
| **CH-101** | 1.5 | 2.3 | 2.3 | 1.9 | 2.1 | 2.5 |

| | | | | | | |
|---|---|---|---|---|---|---|
| **EC -101** | 2.32 | 2.32 | 2.52 | 2.32 | | |
| **ME-103** | 3.0 | 2.36 | 2.16 | 3.0 | 3.0 | 3.0 |
| **HS-103** | 2.02 | 1.84 | 1.96 | 1.86 | 1.86 | 2.0 |
| **CH-111** | 2.0 | 1.9 | 1.9 | 1.9 | | |
| **MA -202** | 2.24 | 2.18 | 2.66 | 2.62 | 2.22 | 2.54 |
| **PH-101** | 2 | 2.9 | 2.9 | 2.6 | 2 | 2.9 |
| **ME-101** | 2.76 | 2.76 | 2.76 | 2.44 | 2.76 | 2.12 |
| **CS -101** | 1.9 | 1.9 | 1.9 | 1.9 | 1.8 | 1.9 |
| **ME-102** | 2 | 1.8 | 2.1 | 2 | | |
| **HS-102** | 1.9 | 1.9 | 1.8 | 1.8 | 1.9 | |
| **PH-111** | 2.9 | 2.9 | 2.9 | 2.9 | | |
| **CS -111** | 2.3 | 2.3 | 2.8 | 2.8 | 2.3 | 2.8 |

### 8.5. Attainment of Program Outcomes from first year courses (20)

#### 8.5.1. Indicate results of evaluation of each relevant PO and/or PSO, if applicable (15)

***Assessment Process:***

PO's are attained as per CO-PO mapping for theory and lab subjects

- PO attainment process is carried out in following steps
  - Considering the CO-PO mapping table of the course with Program, the CO-PO attainment table of respective PO is calculated using CO achievements calculated in the step 15 of 8.4.1.
  - Level of PO attained is then calculated using average in CO-PO attainment table for respective PO's and CO-PO mapping table for the same PO's.
- Then level of the PO achieved in an academic year is calculated by taking the average of PO Attained for all first year courses in respective academic year.

| PO Attainment: Mention first year details from table 3.1.3 | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Program: Civil Engineering<br>CAY Session: 2021-22 | | | | | | | | | | | | |
| **Course** | **PO1** | **PO2** | **PO3** | **PO4** | **PO5** | **PO6** | **PO7** | **PO8** | **PO9** | **PO10** | **PO11** | **PO12** |
| **C101/HS101** | | | | | | | | | 1.1 | 1.9 | 1.5 | 1.3 |
| **C102/MA101** | 2.7 | 2.4 | 0.9 | 1.9 | - | - | - | - | 1.2 | - | - | 2.3 |
| **C103/PH101** | 1.5 | 2 | 1 | | | 1 | | 1.5 | | | | 1 |
| **C104/ME101** | 1.2 | 0.8 | 0.8 | 1.50 | | | | | | | | 0.80 |
| **C105/CS 101** | 2.8 | 2.8 | 2.8 | - | 2.8 | - | - | - | - | - | - | 2.8 |
| **C106/ME102** | 0.8 | 1 | 1.2 | 0.9 | 1 | | | | | | | 1 |
| **C107/HS102** | | | 1.1 | | | 1.50 | 1.60 | | | | | 0.87 |
| **C108/HS111** | | | | | | | | | 1 | 2 | 1.2 | 1 |
| **C109/PH111** | 1.3 | | | 1.1 | | | | | 1.2 | | | 0.8 |
| **C110/CS 111** | 2.9 | 2.9 | 2.9 | - | 2.9 | - | - | - | - | - | - | 2.9 |
| **C111/HS204** | | | | | | | | | 1 | 1.9 | 1.5 | 1.2 |
| **C112/MA202** | 2.7 | 2.1 | 0.9 | 1 | - | - | - | - | 0.9 | - | - | 2.2 |
| **C113/CH101** | 2.2 | 0.8 | 0.9 | | 0.7 | 0.9 | 1.1 | | | | | 0.7 |
| **C114/EE 101** | 1 | 0.8 | 0.8 | 0.9 | | 0.3 | 0.6 | | | | 1 | 0.9 |
| **C115/EC 101** | | | | | | | | | | | | |
| **C116/ME103** | 2.9 | 1.9 | 1.8 | 1 | 1.4 | | 1 | | | | | 1.9 |
| **C117/HS103** | | | 1 | - | - | - | 0.9 | - | 0.9 | - | - | 0.9 |
| **C118/EE111** | 1.2 | 1 | 1.1 | 1.1 | 1 | | | | 1.2 | | 1 | 0.9 |
| **C119/CH111** | 1.5 | 1.5 | 0.9 | 2.2 | | 2.7 | | 0.9 | 1.8 | | | 0.9 |
| **Direct Attainment*** | **1.9** | **1.7** | **1.3** | **1.3** | **1.6** | **1.3** | **1.0** | **1.2** | **1.1** | **1.9** | **1.2** | **1.4** |

**Program: Civil Engineering**
**CAY m1 Session: 2020-21**

| Course | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PO8 | PO9 | PO10 | PO11 | PO12 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **C101/HS101** | 1.70 | | 1.7 | | 0.80 | 0.90 | 1.6 | 2.5 | | 0.83 | 1.70 | |
| **C102/PH101** | 1.5 | 1.1 | 0.9 | | | 1.3 | | 1 | | | | 1 |
| **C103/CS 101** | 1.40 | 1.50 | 1.4 | 2.3 | 1.60 | | 0.6 | | 0.70 | 0.80 | 0.70 | 0.70 |
| **C103/ME102** | 1 | 1 | 1.5 | 1 | 1 | | | | | | | 1 |
| **C105/HS111** | | | | 1.8 | | | | | 2.40 | 2.40 | | 2.20 |
| **C106/PH111** | 1.5 | | | 1.3 | | | | | 1.4 | | | 0.9 |
| **C107/CS 111** | 1.70 | 1.70 | 1.9 | 2.3 | 2.20 | | 0.8 | | 0.80 | 0.80 | 0.90 | 0.90 |
| **C108/HS204** | | | 0.9 | | | | 1.2 | 1.8 | 1.9 | 2.9 | | |
| **C109/MA202** | 2.7 | 2.1 | 0.9 | 1 | - | - | - | - | 0.9 | - | - | 2.2 |
| **C110/CH101** | 2.5 | 0.8 | 1.1 | - | 0.8 | 1 | 1.3 | - | - | - | - | 0.8 |
| **C111/EC 101** | 1.4 | 1.4 | 1 | 2 | - | - | - | - | 1 | - | - | 1 |
| **C112/HS103** | | | 1 | | | | 0.9 | | 0.8 | | | 0.9 |
| **C113/CH111** | 1.4 | 1.4 | 0.9 | 2.2 | - | 2.4 | - | 0.9 | 1.7 | - | - | 0.9 |
| **Direct Attainment*** | **1.7** | **1.4** | **1.2** | **1.6** | **1.3** | **1.6** | **1.0** | **1.4** | **1.3** | **1.6** | **1.1** | **1.2** |

**Program: Civil Engineering**
**CAYm2 Session: 2019-20**

| Course | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PO8 | PO9 | PO10 | PO11 | PO12 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **C101/HS101** | | | 1.7 | | 1.7 | | 0.8 | 0.9 | 1.64 | 2.46 | | 0.83 |
| **C102/MA101** | 2 | 1.7 | | 0.9 | | | | | 0.8 | | | 1.6 |
| **C103/PH101** | 1.6 | 1.2 | 1 | | | | 1.4 | | 1 | | | 1.1 |
| **C104/ME101** | 1.2 | 0.8 | 0.8 | 1.5 | | | | | | | | 0.8 |
| **C105/CS101** | 1.4 | 1.5 | 1.4 | 2.3 | 1.6 | | 0.6 | | 0.7 | 0.8 | 0.7 | 0.7 |
| **C106/ME102** | 0.9 | 0.7 | 1.3 | 0.9 | 0.8 | | | | | | | 0.7 |
| **C107/HS102** | | | 1.08 | | | 1.5 | 1.6 | | | | | 0.87 |
| **C108/HS111** | | | | 1.8 | | | | | 2.4 | 2.4 | | 2.2 |

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **C109/PH111** | 1.5 | | | 1.3 | | | | | 1.4 | | | 0.9 |
| **C110/CS111** | 1.7 | 1.7 | 1.9 | 2.3 | 2.2 | | 0.8 | | 0.8 | 0.8 | 0.9 | 0.9 |
| **C111/HS204** | | | 0.98 | | | | 1.18 | 1.78 | 1.94 | 2.91 | | |
| **C112/MA202** | 2.5 | 2 | 0.8 | 0.9 | | | | | 0.8 | | | 2.1 |
| **C113/CH101** | 2.7 | 1 | 1 | | 0.9 | 1 | 1.3 | | | | | 0.9 |
| **C116/ME103** | 2.85 | 1.9 | 1.82 | 0.95 | 1.4 | | 0.95 | | | | | 1.9 |
| **C117/HS103** | | | 1 | | | | 0.9 | | 1 | | | 0.9 |
| **C119/CH111** | 1.5 | 1.5 | 1 | 2.3 | | 2.9 | | 0.5 | 1.9 | | | 1 |
| **Direct Attainment*** | **1.8** | **1.4** | **1.2** | **1.5** | **1.4** | **1.8** | **1.0** | **1.0** | **1.3** | **1.9** | **0.8** | **1.2** |

**Program: Electronics and Communication Engineering**
**CAY Session: 2021-22**

| **Course** | **PO1** | **PO2** | **PO3** | **PO4** | **PO5** | **PO6** | **PO7** | **PO8** | **PO9** | **PO10** | **PO11** | **PO12** |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **HS-101** | | | | | | | | | 1.2 | 2.2 | 1.7 | 1.4 |
| **PH-101** | 1.2 | 1.4 | 0.7 | | | 0.7 | | 1.1 | | | | 0.7 |
| **ME-101** | 1.2 | 0.9 | 0.8 | 1.6 | - | - | - | - | - | - | - | 0.8 |
| **CS -101** | 2.7 | 2.7 | 1.8 | 2.2 | 1.8 | 1.8 | 0.9 | 0.9 | 0.9 | 1.2 | 1.8 | 2.7 |
| **ME-102** | 1.2 | 1 | 1.2 | 1 | 1 | | | | | | | 1 |
| **HS-102** | | | 1.1 | | | 1.5 | 1.6 | | | | | 0.87 |
| **HS -111** | | | | | | | | | 0.5 | 1.5 | 1.2 | 1 |
| **PH-111** | 1.2 | | | 1.1 | | | | | 1.2 | | | 0.7 |
| **CS -111** | 2.9 | 2.9 | 1.9 | 2.7 | 1.9 | 1.9 | 1.0 | 1.0 | 1.0 | 1.2 | 1.9 | 2.9 |
| **HS -204** | | | | | | | | | 1.1 | 2 | 1.6 | 1.3 |
| **CH-101** | 1.4 | 1.2 | 0.9 | - | - | - | 0.9 | - | - | - | - | 0.9 |
| **EE -101** | 0.8 | 1 | 1 | 0.8 | | | 0.8 | | | | 0.8 | 0.8 |
| **EC -101** | 2.2 | 1.9 | 1.7 | 2 | - | - | 1.4 | - | 0.8 | - | - | 1.9 |
| **ME-103** | 2.48 | 2.09 | 2.09 | 2.09 | 1.84 | 2.48 | 2.48 | 2.48 | 1.65 | 1.65 | 2.48 | 1.65 |
| **HS-103** | | | 1 | | | | 0.9 | | 0.9 | | | 0.9 |

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **EE- 111** | 1.2 | 1 | 0.8 | 1 | 0.8 | | | | | | 1 | 0.8 |
| **CH-111** | - | - | - | 1.9 | - | - | 1.2 | - | 2.9 | - | - | - |
| **EC-111** | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 0.6 | 0.6 | 0.6 | 1.9 | 1.9 | 1.3 | 1.9 |
| **Direct Attainment*** | **1.7** | **1.6** | **1.3** | **1.7** | **1.5** | **1.5** | **1.2** | **1.2** | **1.3** | **1.7** | **1.5** | **1.3** |

**Program: Electronics and Communication Engineering**
**CAYm1 Session: 2020-21**

| **Course** | **PO1** | **PO2** | **PO3** | **PO4** | **PO5** | **PO6** | **PO7** | **PO8** | **PO9** | **PO10** | **PO11** | **PO12** |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **HS-101** | | | | | | | | | 1.2 | 2.2 | 1.7 | 1.4 |
| **MA -101** | 2.5 | 2.2 | 0.9 | 1.7 | - | - | - | - | 1.1 | - | - | 2.1 |
| **PH-101** | 1.4 | 1.8 | 0.8 | | | 0.8 | | 1.3 | | | | 0.8 |
| **ME-102** | 1 | 0.9 | 1.2 | 0.9 | 1 | | | | | | | 1 |
| **HS -111** | | | | | | | | | 0.5 | 1.5 | 1.2 | 1 |
| **PH-111** | 1.5 | | | 1.2 | | | | | 1.4 | | | 0.8 |
| **HS -204** | | | | | | | | | 1.1 | 2 | 1.6 | 1.3 |
| **MA -202** | 2.8 | 2.1 | 1 | 1 | - | - | - | - | 1 | - | - | 2.3 |
| **CH-101** | 1.5 | 1.2 | 0.9 | | | | 0.9 | | | | | 0.9 |
| **EC-101** | 1.6 | 1.1 | 1.6 | 0.8 | 0.8 | | 0.5 | | | | | 0.5 |
| **ME-103** | 2.4 | 2.0 | 2.0 | 2.0 | 1.7 | 2.4 | 2.4 | 2.4 | 1.6 | 1.6 | 2.4 | 1.6 |
| **HS-103** | - | - | 1 | - | - | - | 0.8 | - | 0.7 | - | - | 0.8 |
| **CH-111** | | | | 1.8 | | | 0.8 | | 2.8 | | | |
| **EC- 111** | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 0.6 | 0.6 | 0.6 | 1.9 | 1.9 | 1.3 | 1.9 |
| **Direct Attainment*** | **1.8** | **1.6** | **1.3** | **1.4** | **1.3** | **1.3** | **1.0** | **1.4** | **1.3** | **1.8** | **1.6** | **1.3** |

**Program: Electronics and Communication Engineering**
**CAYm2 Session: 2019-20**

| **Course** | **PO1** | **PO2** | **PO3** | **PO4** | **PO5** | **PO6** | **PO7** | **PO8** | **PO9** | **PO10** | **PO11** | **PO12** |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **MA -101** | 2.4 | 2.1 | 0.8 | 1.6 | | | | | 1.1 | | | 2.0 |
| **PH-101** | 1.4 | 1.8 | 0.8 | | | 0.8 | | 1.3 | | | | 0.8 |

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **ME-101** | 0.7 | 0.5 | 0.5 | 0.8 | | | | | | | | 0.5 |
| **CS -101** | 1.5 | 1.4 | 1.5 | 1.7 | 1.6 | | 0.8 | | 0.6 | 0.6 | 0.7 | 0.5 |
| **ME-102** | 1.2 | 0.9 | 1.6 | 0.7 | | | | | | | | 0.9 |
| **HS-102** | | | 0.8. | | | 1.0 | 1.3 | | | | 0.7 | 0.7 |
| **PH-111** | 1.5 | | | 1.2 | | | | | 1.4 | | | 0.8 |
| **CS -111** | 1.5 | 1.5 | 1.4 | 1.4 | 1.7 | | 0.5 | | 0.6 | 0.5 | 0.7 | 0.8 |
| **HS -204** | 1.0 | | 1.6 | | | 1.8 | | 2.0 | 1.6 | 3.0 | 1.4 | 1.0 |
| **MA -202** | 1.9 | 1.4 | 0.6 | | 0.8 | | | | 0.6 | | | 1.5 |
| **CH-101** | 1.6 | 1.3 | 1.0 | | | | 1.0 | | | | | 0.9 |
| **EC -101** | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 2.0 | 2.0 | 2.0 | 2.0 |
| **ME-103** | 2.7 | 1.8 | 0.9 | 0.9 | | | 0.9 | | 1.0 | 0.9 | | 1.8 |
| **HS-103** | | | 1.0 | | | | 0.9 | | 0.9 | | | 0.9 |
| **CH-111** | | | | 1.9 | | | 1.2 | | 2.9 | | | |
| **Direct Attainment*** | **1.5** | **1.4** | **1.1** | **1.2** | **1.3** | **1.2** | **1.0** | **1.4** | **1.3** | **1.4** | **1.1** | **1.1** |

**Program: Mechanical Engineering**
**CAY Session: 2021-22**

| **Course** | **PO1** | **PO2** | **PO3** | **PO4** | **PO5** | **PO6** | **PO7** | **PO8** | **PO9** | **PO10** | **PO11** | **PO12** |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **HS-101** | | | | | | | | | 0.9 | 1.9 | 1.5 | 1.2 |
| **MA -101** | 0.9 | 0.8 | 0.3 | 0.6 | - | - | - | - | 0.4 | - | - | 0.8 |
| **CH-101** | 1.6 | 1 | 0.9 | | | 1.2 | 1 | | | | | 0.8 |
| **EE -101** | 0.8 | 0.7 | 0.7 | 0.6 | | | 0.6 | | 0.6 | | | 0.8 |
| **EC -101** | 3.6 | 3.9 | 1.9 | 0.6 | | 0.7 | 0.6 | | | | | 2.2 |
| **ME-103** | 3.00 | 2.00 | 1.0 | 1.00 | | | 1.00 | | 1.00 | 1.00 | | 2.00 |
| **HS-103** | | | 0.5 | - | - | - | 0.4 | - | 0.4 | - | - | 0.4 |
| **EE- 111** | 1.1 | 1.2 | 1 | 0.8 | 1 | 0.8 | | | | | 1.1 | 1.2 |
| **CH-111** | 0.7 | | 0.7 | 0.9 | | | | 0.7 | 1 | | | 0.7 |
| **EC- 111** | 0.9 | 0.9 | 0.7 | 1.3 | - | 0.7 | 0.7 | - | - | - | - | 0.7 |

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **HS -204** | | | | | | | | | 1 | 1.8 | 1.4 | 1.2 |
| **MA -202** | 0.7 | 0.6 | | 0.4 | | | | | 0.3 | | | 0.6 |
| **PH-101** | 0.8 | 0.7 | 0.5 | | | 0.4 | | 0.6 | | | | 0.4 |
| **ME-101** | 1.4 | 1 | 0.9 | 1.3 | - | - | - | - | - | - | - | 0.8 |
| **CS -101** | 2.8 | 2.8 | 2.8 | - | 2.8 | - | - | - | - | - | - | 2.8 |
| **ME-102** | 1 | 0.9 | 1.2 | 0.9 | 1 | | | | | | | 1 |
| **HS -111** | | | | | | | | | 0.3 | 0.9 | 0.8 | 0.6 |
| **PH-111** | 1.5 | | | 1.3 | | | | | 1.4 | | | 0.9 |
| **CS -111** | 2.9 | 2.9 | 2.9 | - | 2.9 | - | - | - | - | - | - | 2.9 |
| **Direct Attainment*** | **1.6** | **1.5** | **1.1** | **0.9** | **1.9** | **0.8** | **0.7** | **0.7** | **0.7** | **1.4** | **1.2** | **1.2** |

**Program: Mechanical Engineering**
**CAYm1 Session: 2020-21**

| **Course** | **PO1** | **PO2** | **PO3** | **PO4** | **PO5** | **PO6** | **PO7** | **PO8** | **PO9** | **PO10** | **PO11** | **PO12** |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **HS-101** | | | | | | | | 1.00 | 2.50 | 2.67 | | 1.00 |
| **MA -101** | 2 | 1.7 | 0.7 | 1.3 | - | - | - | - | 0.9 | - | - | 1.7 |
| **CH-101** | 1.4 | 0.9 | 0.9 | | | 0.8 | 1 | | | | | 0.9 |
| **EC -101** | 2 | 1.7 | 1.48 | 1.8 | - | - | 1 | - | 0.8 | - | - | 1.7 |
| **HS-103** | | | 0.8 | - | - | - | 0.7 | - | 0.6 | - | - | 0.7 |
| **EE- 111** | 1.4 | 0.9 | | 1 | | | 1 | | 0.9 | | | |
| **CH-111** | 1.8 | | 1.4 | | | | 1 | | 1 | | | 1 |
| **EC- 111** | 1 | | 0.8 | 1.4 | 1 | | 1.1 | | 1 | | | 0.8 |
| **HS -204** | | | | | | | | | 1 | 1.8 | 1.4 | 1.2 |
| **MA -202** | 2.1 | 1.5 | 0.7 | - | 0.9 | - | - | - | 0.7 | - | - | 1.7 |
| **ME-101** | 1.4 | 1 | 0.9 | 1.3 | - | - | - | - | - | - | - | 0.8 |
| **CS -101** | 2.2 | 2.17 | 2.25 | 3.00 | 2.50 | | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 |
| **ME-102** | 1 | 0.8 | 1.5 | 1 | 1 | | | | | | | 1 |
| **HS -111** | | | | | | | | | 0.3 | 0.9 | 0.8 | 0.6 |

| Direct Attainment* | 1.7 | 1.5 | 1.3 | 1.4 | 1.7 | 0.8 | 0.9 | 0.8 | 1.0 | 1.6 | 1.1 | 1.2 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|

**Program: Mechanical Engineering**
**CAYm2 Session: 2019-20**

| Course | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PO8 | PO9 | PO10 | PO11 | PO12 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **HS-101** | | | | | | | | 1 | 2.5 | 2.67 | | 1 |
| **MA -101** | 2.4 | 3 | | 2.6 | | | | | 1 | 1.8 | | 1 |
| **CH-101** | 1.67 | 1 | 1 | | | 1 | 1.2 | | | | | 1 |
| **EC -101** | 2.25 | 1.5 | 2.25 | 2.33 | 2.5 | | | | | | | |
| **ME-103** | 3 | 2 | 1 | 1 | | | 1 | | 1 | 1 | | 2 |
| **HS-103** | | | 1.17 | | | | 1 | | 1 | | | 1 |
| **CH-111** | 2 | | 1.5 | | | | 1 | | 1.5 | | | 1 |
| **MA -202** | 3 | 2.33 | 1 | | 1 | | | | 1 | | | 2.5 |
| **PH-101** | 2 | 1 | 1.33 | | | 1 | | 1 | | | | 1.17 |
| **ME-101** | 1.67 | 1.25 | 1 | 2 | | | | | | | | 1 |
| **CS -101** | 2.17 | 2.17 | 2.25 | 3 | 2.5 | | 1 | | 1 | 1 | 1 | 1 |
| **ME-102** | 1.25 | 1 | 1.75 | 1 | 1 | | | | | | | 1 |
| **HS-102** | | | 1 | | | 1 | 2.67 | 2 | | | | |
| **HS -111** | 1 | | | | | 1.5 | | 1.75 | | 2.67 | | 1 |
| **PH-111** | 1.75 | | | 1.5 | | | | | 1.67 | | | 1 |
| **CS -111** | 2.17 | 2.17 | 2.25 | 3 | 2.5 | | 1 | | 1 | 1 | 1 | 1 |
| **Direct Attainment*** | **1.7** | **1.3** | **1.2** | **1.5** | **1.2** | **1.0** | **1.1** | **1.4** | **1.1** | **1.6** | **0.9** | **1.1** |

**Program: Textile Engineering**
**CAY Session: 2021-2022**

| Course | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PO8 | PO9 | PO10 | PO11 | PO12 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **HS-101** | | | | | | | | | 0.9 | 1.9 | 1.5 | 1.2 |
| **MA -101** | 0.9 | 0.8 | 0.3 | 0.6 | - | - | - | - | 0.4 | - | - | 0.8 |
| **CH-101** | 1.6 | 1 | 0.9 | | | 1.2 | 1 | | | | | 0.8 |

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **EE -101** | 0.8 | 0.7 | 0.7 | 0.6 | | | 0.6 | | 0.6 | | | 0.8 |
| **EC -101** | 3.6 | 3.9 | 1.9 | 0.6 | 0 | 0.7 | 0.6 | 0 | 0 | 0 | 0 | 2.2 |
| **HS-103** | | | 0.5 | - | - | - | 0.4 | - | 0.4 | - | - | 0.4 |
| **EE- 111** | 1.1 | 1.2 | 1 | 0.8 | 1 | 0.8 | | | | | 1.1 | 1.2 |
| **CH-111** | 0.7 | | 0.7 | 0.9 | | | | 0.7 | 1 | | | 0.7 |
| **EC- 111** | 0.9 | 0.9 | 0.7 | 1.3 | - | 0.7 | 0.7 | - | - | - | - | 0.7 |
| **HS -204** | | | | | | | | | 1 | 1.8 | 1.4 | 1.2 |
| **MA -202** | 0.7 | 0.6 | | 0.4 | | | | | 0.3 | | | 0.6 |
| **PH-101** | 0.8 | 0.7 | 0.5 | | | 0.4 | | 0.6 | | | | 0.4 |
| **CS -101** | 2.8 | 2.8 | 2.8 | - | 2.8 | - | - | - | - | - | - | 2.8 |
| **ME-102** | 1 | 0.9 | 1.2 | 0.9 | 1 | | | | | | | 1 |
| **HS-102** | | | | | | 1.30 | 0.60 | | 1.10 | | 0.90 | |
| **HS -111** | | | | | | | | | 0.3 | 0.9 | 0.8 | 0.6 |
| **PH-111** | 1.5 | | | 1.3 | | | | | 1.4 | | | 0.9 |
| **CS -111** | 2.9 | 2.9 | 2.9 | - | 2.9 | - | - | - | - | - | - | 2.9 |
| **Direct Attainment*** | **1.5** | **1.5** | **1.2** | **0.8** | **1.5** | **0.9** | **0.7** | **0.4** | **0.7** | **1.2** | **1.0** | **1.1** |

**Program: Textile Engineering**
**CAYm1 Session: 2020-21**

| **Course** | **PO1** | **PO2** | **PO3** | **PO4** | **PO5** | **PO6** | **PO7** | **PO8** | **PO9** | **PO10** | **PO11** | **PO12** |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| HS-101 | | | | | | | | | 0.9 | 1.9 | 1.5 | 1.2 |
| MA -101 | 2 | 1.9 | - | 1.6 | - | - | - | - | 1.8 | - | - | 1.9 |
| CH-101 | 1.6 | 0.8 | 1 | - | - | 1.1 | 1 | - | - | - | - | 0.8 |
| EC -101 | 0.9 | 0.9 | 0.7 | 1.3 | - | 0.7 | 0.7 | - | - | - | - | 0.7 |
| ME-103 | 2.09 | 1.73 | 1.77 | 1.73 | 1.51 | 2.09 | 2.09 | 2.09 | 1.40 | 1.40 | 2.09 | 1.40 |
| HS-103 | | | 1.1 | | | | 0.9 | | 1.2 | | | 0.9 |
| EE- 111 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 0.6 | 0.6 | 0.6 | 1.9 | 1.9 | 1.3 | 1.9 |
| CH-111 | 0.6 | - | 0.7 | 0.8 | - | - | - | - | - | - | - | 0.6 |

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| EC- 111 | 0.9 | 0.9 | 0.7 | 1.3 | - | 0.7 | 0.7 | - | - | - | - | 0.7 |
| HS -204 | | | | | | | | | 1 | 1.8 | 1.4 | 1.2 |
| MA -202 | 2.2 | 1.6 | 0.7 | - | 0.9 | - | - | - | 0.7 | - | - | 1.8 |
| ME-101 | 2.60 | 2.60 | 2.6 | 2.60 | 1.98 | | 1.55 | | | 2.60 | | 2.60 |
| CS -101 | 1.40 | 1.30 | 1.4 | 1.80 | 1.50 | | 0.60 | | 0.60 | 0.60 | 0.60 | 0.60 |
| ME-102 | 0.95 | 0.78 | 1.51 | 1 | 0.77 | | | | | | | 0.68 |
| HS -111 | | | | | | | | | 0.3 | 0.9 | 0.8 | 0.6 |
| **Direct Attainment*** | **1.6** | **1.6** | **1.4** | **1.5** | **1.6** | **1.0** | **1.0** | **1.0** | **1.1** | **1.5** | **1.2** | **1.3** |

**Program: Textile Engineering**
**CAYm2 Session: 2019-20**

| **Course** | **PO1** | **PO2** | **PO3** | **PO4** | **PO5** | **PO6** | **PO7** | **PO8** | **PO9** | **PO10** | **PO11** | **PO12** |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **CH-101** | 1.3 | 0.9 | 0.8 | | | 1 | 0.8 | | | | | 0.7 |
| **EC -101** | 1.77 | 0.58 | 1.77 | 1.40 | 0.97 | | | | | | | |
| **ME-103** | 2.75 | | 1.00 | 1.66 | 2.00 | | 1.66 | | 1.00 | | | 1.83 |
| **HS-103** | | | 0.7 | | | | 0.7 | | 0.7 | | | 0.7 |
| **CH-111** | 0.4 | | 0.6 | 0.9 | | | | 0.6 | 0.9 | | | 0.6 |
| **MA -202** | 2.4 | 1.9 | 0.8 | 0.7 | | | | | 0.8 | | | 2 |
| **PH-101** | 1.40 | 1.20 | 0.80 | | | 0.80 | 0.80 | | | | | 1.30 |
| **ME-101** | 2.60 | 2.60 | 2.60 | 2.60 | 1.98 | | 1.55 | | | 2.60 | | 2.60 |
| **CS -101** | 1.40 | 1.30 | 1.40 | 1.80 | 1.50 | | 0.60 | | 0.60 | 0.60 | 0.60 | 0.60 |
| **ME-102** | 1.00 | 0.70 | 1.10 | 0.60 | 0.70 | | | | | | | 0.70 |
| **HS-102** | | | | | | 1.30 | 0.60 | | 1.10 | | 0.90 | |
| **PH-111** | 1.70 | | | 1.50 | | | | | 1.60 | | | 1.00 |
| **CS -111** | 1.50 | 1.50 | 1.50 | 2.00 | 1.70 | | 0.60 | | 0.70 | | 0.70 | 0.70 |
| **Direct Attainment*** | **1.7** | **1.3** | **1.2** | **1.5** | **1.5** | **1.0** | **0.9** | **0.6** | **0.9** | **1.6** | **0.7** | **1.1** |

*Direct attainment level of a PO is determined by taking average across all courses addressing that PO.

**8.5.2. Actions taken based on the results of evaluation of relevant POs (5)**

(The attainment levels by direct (student performance) are to be presented through Program level Course-PO matrix as indicated)

| **Program: Civil Engineering<br>CAY Session: 2021-22** | | | |
|---|---|---|---|
| **POs** | **Target Level** | **Attainment Level** | **Observations** |
| **PO1: Engineering knowledge:** Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems. | | | |
| **PO1** | **2.22** | **1.9** | **86% of Target Achieved ,** this attribute will be strengthened in the higher semesters. |
| **Efforts will be made to achieve target in the next academic year.** | | | |
| **PO2 : Problem analysis:** Identify, formulate, review research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences. | | | |
| **PO2** | **1.76** | **1.7** | **97% of Target Achieved ,** this attribute will be strengthened in the higher semesters. |
| **Higher target will be set for the next academic year.** | | | |
| **PO3 : Design/development of solutions:** Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations. | | | |
| **PO3** | **1.40** | **1.3** | **93% of Target Achieved,** this attribute will be strengthened in the higher semesters. |
| **Higher target will be set for the next academic year.** | | | |
| **PO4 : Conduct investigations of complex problems:** Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions. | | | |
| **PO4** | **1.91** | **1.3** | **67% of Target Achieved,** this attribute will be strengthened in the higher semesters. |
| **Efforts will be made to achieve target in the next academic year.** | | | |
| **PO5 : Modern tool usage:** Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modeling to complex engineering activities with an understanding of the limitations. | | | |
| **PO5** | **1.71** | **1.6** | **99% of Target Achieved,** this attribute will be strengthened in the higher semesters. |
| **Higher target will be set for the next academic year.** | | | |
| **PO6** | **2.06** | **1.3** | **38% of Target Achieved,** this attribute will be strengthened in the higher semesters. |
| **Higher target will be set for the next academic year.** | | | |

| | | | |
|---|---|---|---|
| **PO7 : Environment and sustainability:** Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development. | | | |
| **PO7** | **1.28** | **1.0** | **78% of Target Achieved,** this attribute will be strengthened in the higher semesters. |
| **Efforts will be made to achieve target in the next academic year.** | | | |
| **PO8 : Ethics:** Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice. | | | |
| **PO8** | **1.27** | **1.2** | **94% of Target Achieved,** this attribute will be strengthened in the higher semesters. |
| **Higher target will be set for the next academic year.** | | | |
| **PO9 : Individual and team work:** Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings. | | | |
| **PO9** | **1.42** | **1.1** | **77% of Target Achieved,** this attribute will be strengthened in the higher semesters. |
| **Efforts will be made to achieve target in the next academic year.** | | | |
| **PO10 Communication:** Communicate effectively on complex engineering activities with the engineering community and with society at large, such as, being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions. | | | |
| **PO10** | **2.50** | **1.9** | **76% of Target Achieved,** this attribute will be strengthened in the higher semesters. |
| **Efforts will be made to achieve target in the next academic year.** | | | |
| **PO11: Project management and finance:** Demonstrate knowledge and understanding of the engineering and management principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments. | | | |
| **PO11** | **1.4** | **1.2** | **86% of Target Achieved,** this attribute will be strengthened in the higher semesters. |
| **Efforts will be made to achieve target in the next academic year.** | | | |
| **PO12 : Life-long learning:** Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change. | | | |
| **PO12** | **1.48** | **1.4** | **95% of Target Achieved,** this attribute will be strengthened in the higher semesters. |
| **Higher target will be set for the next academic year.** | | | |

| Program: Civil Engineering<br>CAYm1 Session: 2020-21 | | | |
|---|---|---|---|
| **POs** | **Target Level** | **Attainment Level** | **Observations** |
| **PO1: Engineering knowledge:** Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems. | | | |
| **PO1** | **2.22** | **1.7** | **77% of Target Achieved ,** this attribute will be strengthened in the higher semesters. |
| **Efforts will be made to achieve target in the next academic year.** | | | |
| **PO2 : Problem analysis:** Identify, formulate, review research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences. | | | |
| **PO2** | **1.76** | **1.4** | **79% of Target Achieved,** this attribute will be strengthened in the higher semesters. |
| **Efforts will be made to achieve target in the next academic year.** | | | |
| **PO3 : Design/development of solutions:** Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations. | | | |
| **PO3** | **1.40** | **1.2** | **86% of Target Achieved,** this attribute will be strengthened in the higher semesters. |
| **Efforts will be made to achieve target in the next academic year.** | | | |
| **PO4 : Conduct investigations of complex problems:** Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions. | | | |
| **PO4** | **1.91** | **1.6** | **84% of Target Achieved,** this attribute will be strengthened in the higher semesters. |
| **Efforts will be made to achieve target in the next academic year.** | | | |
| **PO5 : Modern tool usage:** Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modeling to complex engineering activities with an understanding of the limitations. | | | |
| **PO5** | **1.71** | **1.3** | **76% of Target Achieved,** this attribute will be strengthened in the higher semesters. |
| **Efforts will be made to achieve target in the next academic year.** | | | |
| **PO6 : The engineer and society:** Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional engineering practice. | | | |
| **PO6** | **2.06** | **1.6** | **77% of Target Achieved,** this attribute will be strengthened in the higher semesters. |
| **Efforts will be made to achieve target in the next academic year.** | | | |

| | | | |
|---|---|---|---|
| **PO7 : Environment and sustainability:** Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development. | | | |
| **PO7** | **1.28** | **1.0** | **78% of Target Achieved,** this attribute will be strengthened in the higher semesters. |
| **Efforts will be made to achieve target in the next academic year.** | | | |
| **PO8 : Ethics:** Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice. | | | |
| **PO8** | **1.48** | **1.4** | **94% of Target Achieved,** this attribute will be strengthened in the higher semesters. |
| **Higher target will be set for the next academic year.** | | | |
| **PO9 : Individual and team work:** Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings. | | | |
| **PO9** | **1.42** | **1.3** | **92% of Target Achieved,** this attribute will be strengthened in the higher semesters. |
| **Higher target will be set for the next academic year.** | | | |
| **PO10 Communication:** Communicate effectively on complex engineering activities with the engineering community and with society at large, such as, being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions. | | | |
| **PO10** | **2.50** | **1.6** | **92% of Target Achieved,** this attribute will be strengthened in the higher semesters. |
| **Efforts will be made to achieve target in the next academic year.** | | | |
| **PO11 : Project management and finance:** Demonstrate knowledge and understanding of the engineering and management principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments. | | | |
| **PO11** | **1.28** | **1.1** | **85% of Target Achieved,** this attribute will be strengthened in the higher semesters |
| **Efforts will be made to achieve target in the next academic year.** | | | |
| **PO12 : Life-long learning:** Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change. | | | |
| **PO12** | **1.28** | **1.2** | **93% of Target Achieved ,** this attribute will be strengthened in the higher semesters. |
| **Higher target will be set for the next academic year.** | | | |

| Program: Civil Engineering<br>CAYm2 Session: 2019-20 | | | |
|---|---|---|---|
| **POs** | **Target Level** | **Attainment Level** | **Observations** |
| **PO1: Engineering knowledge:** Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems. | | | |
| **PO1** | **2.22** | **1.80** | **81% of Target Achieved ,** this attribute will be strengthened in the higher semesters. |
| **Efforts will be made to achieve target in the next academic year.** | | | |
| **PO2 : Problem analysis:** Identify, formulate, review research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences. | | | |
| **PO2** | **1.76** | **1.40** | **80 % of Target Achieved ,** this attribute will be strengthened in the higher semesters. |
| **Efforts will be made to achieve target in the next academic year.** | | | |
| **PO3 : Design/development of solutions:** Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations. | | | |
| **PO3** | **1.40** | **1.21** | **86% of Target Achieved,** this attribute will be strengthened in the higher semesters. |
| **Higher target will be set for the next academic year.** | | | |
| **PO4 : Conduct investigations of complex problems:** Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions. | | | |
| **PO4** | **1.91** | **1.52** | **80% of Target Achieved ,** this attribute will be strengthened in the higher semesters. |
| **Efforts will be made to achieve target in the next academic year.** | | | |
| **PO5 : Modern tool usage:** Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modeling to complex engineering activities with an understanding of the limitations. | | | |
| **PO5** | **1.71** | **1.43** | **84% of Target Achieved ,** this attribute will be strengthened in the higher semesters. |
| **Efforts will be made to achieve target in the next academic year.** | | | |
| **PO6 : The engineer and society:** Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional engineering practice. | | | |
| **PO6** | **2.06** | **1.80** | **87% of Target Achieved ,** this attribute will be strengthened in the higher semesters. |
| **Higher target will be set for the next academic year.** | | | |

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| **PO7 : Environment and sustainability:** Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development. | | | |
| **PO7** | **1.28** | **1.06** | **83% of Target Achieved ,** this attribute will be strengthened in the higher semesters. |
| **Efforts will be made to achieve target in the next academic year.** | | | |
| **PO8 : Ethics:** Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice. | | | |
| **PO8** | **1.27** | **1.06** | **83% of Target Achieved ,** this attribute will be strengthened in the higher semesters. |
| **Efforts will be made to achieve target in the next academic year.** | | | |
| **PO9 : Individual and team work:** Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings. | | | |
| **PO9** | **1.42** | **1.31** | **92% of Target Achieved,** this attribute will be strengthened in the higher semesters. |
| **Higher target will be set for the next academic year.** | | | |
| **PO10 Communication:** Communicate effectively on complex engineering activities with the engineering community and with society at large, such as, being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions. | | | |
| **PO10** | **2.50** | **1.87** | **75% of Target Achieved ,** this attribute will be strengthened in the higher semesters. |
| **Efforts will be made to achieve target in the next academic year.** | | | |
| **PO11 : Project management and finance:** Demonstrate knowledge and understanding of the engineering and management principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments. | | | |
| **PO11** | **1.00** | **0.80** | **80% of Target Achieved ,** this attribute will be strengthened in the higher semesters. |
| **Efforts will be made to achieve target in the next academic year.** | | | |
| **PO12 : Life-long learning:** Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change. | | | |
| **PO12** | **1.28** | **1.16** | **91% of Target Achieved ,** this attribute will be strengthened in the higher semesters. |
| **Higher target will be set for the next academic year.** | | | |

| Program: Electronics & Communication Engineering<br>CAYm1 Session: 2021-22 | | | |
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| **POs** | **Target Level** | **Attainment Level** | **Observations** |
| **PO1: Engineering knowledge:** Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems. | | | |
| **PO1** | **2.03** | **1.7** | **84% of Target Achieved ,** this attribute will be strengthened in the higher semesters. |
| **Efforts will be made to achieve target in the next academic year.** | | | |
| **PO2 : Problem analysis:** Identify, formulate, review research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences. | | | |
| **PO2** | **1.89** | **1.6** | **85% of Target Achieved,** this attribute will be strengthened in the higher semesters. |
| **Efforts will be made to achieve target in the next academic year.** | | | |
| **PO3 : Design/development of solutions:** Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations. | | | |
| **PO3** | **1.39** | **1.3** | **94% of Target Achieved,** this attribute will be strengthened in the higher semesters. |
| **Efforts will be made to achieve target in the next academic year.** | | | |
| **PO4 : Conduct investigations of complex problems:** Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions. | | | |
| **PO4** | **1.94** | **1.7** | **88% of Target Achieved,** this attribute will be strengthened in the higher semesters. |
| **Efforts will be made to achieve target in the next academic year.** | | | |
| **PO5 : Modern tool usage:** Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modeling to complex engineering activities with an understanding of the limitations. | | | |
| **PO5** | **1.80** | **1.5** | **83% of Target Achieved ,** this attribute will be strengthened in the higher semesters. |
| **Efforts will be made to achieve target in the next academic year.** | | | |
| **PO6 : The engineer and society:** Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional engineering practice. | | | |
| **PO6** | **1.50** | **1.5** | **100% of Target Achieved** |
| **Efforts will be made to achieve target in the next academic year.** | | | |

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| **PO7 : Environment and sustainability:** Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development. | | | |
| **PO7** | **1.23** | **1.2** | **92% of Target Achieved ,** this attribute will be strengthened in the higher semesters. |
| **Efforts will be made to achieve target in the next academic year.** | | | |
| **PO8 : Ethics:** Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice. | | | |
| **PO8** | **1.83** | **1.2** | **66% of Target Achieved ,** this attribute will be strengthened in the higher semesters. |
| **Efforts will be made to achieve target in the next academic year.** | | | |
| **PO9 : Individual and team work:** Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings. | | | |
| **PO9** | **1.56** | **1.3** | **81% of Target Achieved ,** this attribute will be strengthened in the higher semesters. |
| **Efforts will be made to achieve target in the next academic year.** | | | |
| **PO10 Communication:** Communicate effectively on complex engineering activities with the engineering community and with society at large, such as, being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions. | | | |
| **PO10** | **1.92** | **1.7** | **89 % of Target Achieved ,** this attribute will be strengthened in the higher semesters. |
| **Efforts will be made to achieve target in the next academic year.** | | | |
| **PO11 : Project management and finance:** Demonstrate knowledge and understanding of the engineering and management principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments. | | | |
| **PO11** | **1.78** | **1.5** | **84 % of Target Achieved ,** this attribute will be strengthened in the higher semesters. |
| **Efforts will be made to achieve target in the next academic year.** | | | |
| **PO12 : Life-long learning:** Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change. | | | |
| **PO12** | **1.43** | **1.3** | **91% of Target Achieved ,** this attribute will be strengthened in the higher semesters. |
| **Efforts will be made to achieve target in the next academic year.** | | | |

| Program: Electronics & Communication Engineering<br>CAY Session: 2020-21 | | | |
|---|---|---|---|
| **POs** | **Target Level** | **Attainment Level** | **Observations** |
| **PO1: Engineering knowledge:** Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems. | | | |
| **PO1** | **2.03** | **1.8** | **89% of Target Achieved ,** this attribute will be strengthened in the higher semesters. |
| **Efforts will be made to achieve target in the next academic year.** | | | |
| **PO2 : Problem analysis:** Identify, formulate, review research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences. | | | |
| **PO2** | **1.89** | **1.6** | **85% of Target Achieved,** this attribute will be strengthened in the higher semesters. |
| **Efforts will be made to achieve target in the next academic year.** | | | |
| **PO3 : Design/development of solutions:** Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations. | | | |
| **PO3** | **1.39** | **1.3** | **94 % of Target Achieved,** this attribute will be strengthened in the higher semesters. |
| **Higher target will be set in the next academic year.** | | | |
| **PO4 : Conduct investigations of complex problems:** Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions. | | | |
| **PO4** | **1.94** | **1.4** | **72% of Target Achieved,** this attribute will be strengthened in the higher semesters. |
| **Efforts will be made to achieve target in the next academic year.** | | | |
| **PO5 : Modern tool usage:** Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modeling to complex engineering activities with an understanding of the limitations. | | | |
| **PO5** | **1.80** | **1.3** | **72% of Target Achieved ,** this attribute will be strengthened in the higher semesters. |
| **Efforts will be made to achieve target in the next academic year.** | | | |
| **PO6 : The engineer and society:** Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional engineering practice. | | | |
| **PO6** | **1.50** | **1.3** | **87% of Target Achieved ,** this attribute will be strengthened in the higher semesters. |
| **Efforts will be made to achieve target in the next academic year.** | | | |

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| **PO7 : Environment and sustainability:** Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development. | | | |
| **PO7** | **1.23** | **1.0** | **81% of Target Achieved ,** this attribute will be strengthened in the higher semesters. |
| **Efforts will be made to achieve target in the next academic year.** | | | |
| **PO8 : Ethics:** Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice. | | | |
| **PO8** | **1.83** | **1.4** | **77% of Target Achieved ,** this attribute will be strengthened in the higher semesters. |
| **Efforts will be made to achieve target in the next academic year.** | | | |
| **PO9 : Individual and team work:** Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings. | | | |
| **PO9** | **1.56** | **1.3** | **83% of Target Achieved ,** this attribute will be strengthened in the higher semesters. |
| **Efforts will be made to achieve target in the next academic year.** | | | |
| **PO10 Communication:** Communicate effectively on complex engineering activities with the engineering community and with society at large, such as, being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions. | | | |
| **PO10** | **1.82** | **1.8** | **99% of Target Achieved ,** this attribute will be strengthened in the higher semesters. |
| **Higher target will be set in the next academic year.** | | | |
| **PO11 : Project management and finance:** Demonstrate knowledge and understanding of the engineering and management principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments. | | | |
| **PO11** | **1.98** | **1.6** | **81% of Target Achieved ,** this attribute will be strengthened in the higher semesters. |
| **Efforts will be made to achieve target in the next academic year.** | | | |
| **PO12 : Life-long learning:** Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change. | | | |
| **PO12** | **1.43** | **1.3** | **91 % of Target Achieved ,** this attribute will be strengthened in the higher semesters. |
| **Efforts will be made to achieve target in the next academic year.** | | | |

| Program: Electronics & Communication Engineering<br>CAYm2 Session: 2019-20 | | | |
|---|---|---|---|
| **POs** | **Target Level** | **Attainment Level** | **Observations** |
| **PO1: Engineering knowledge:** Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems. | | | |
| **PO1** | **2.03** | **1.53** | **75 % of Target Achieved ,** this attribute will be strengthened in the higher semesters. |
| **Efforts will be made to achieve target in the next academic year.** | | | |
| **PO2 : Problem analysis:** Identify, formulate, review research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences. | | | |
| **PO2** | **1.89** | **1.37** | **72% of Target Achieved,** this attribute will be strengthened in the higher semesters. |
| **Efforts will be made to achieve target in the next academic year.** | | | |
| **PO3 : Design/development of solutions:** Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations. | | | |
| **PO3** | **1.39** | **1.06** | **76 % of Target Achieved,** this attribute will be strengthened in the higher semesters. |
| **Efforts will be made to achieve target in the next academic year.** | | | |
| **PO4 : Conduct investigations of complex problems:** Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions. | | | |
| **PO4** | **1.94** | **1.24** | **64% of Target Achieved,** this attribute will be strengthened in the higher semesters. |
| **Efforts will be made to achieve target in the next academic year.** | | | |
| **PO5 : Modern tool usage:** Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modeling to complex engineering activities with an understanding of the limitations. | | | |
| **PO5** | **1.80** | **1.28** | **71% of Target Achieved ,** this attribute will be strengthened in the higher semesters. |
| **Efforts will be made to achieve target in the next academic year.** | | | |
| **PO6 : The engineer and society:** Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional engineering practice. | | | |
| **PO6** | **1.50** | **1.15** | **77% of Target Achieved ,** this attribute will be strengthened in the higher semesters. |
| **Efforts will be made to achieve target in the next academic year.** | | | |

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| **PO7 : Environment and sustainability:** Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development. | | | |
| **PO7** | **1.23** | **0.95** | **77% of Target Achieved ,** this attribute will be strengthened in the higher semesters. |
| **Efforts will be made to achieve target in the next academic year.** | | | |
| **PO8 : Ethics:** Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice. | | | |
| **PO8** | **1.83** | **1.43** | **78 % of Target Achieved ,** this attribute will be strengthened in the higher semesters. |
| **Efforts will be made to achieve target in the next academic year.** | | | |
| **PO9 : Individual and team work:** Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings. | | | |
| **PO9** | **1.56** | **1.27** | **81% of Target Achieved ,** this attribute will be strengthened in the higher semesters. |
| **Efforts will be made to achieve target in the next academic year.** | | | |
| **PO10 Communication:** Communicate effectively on complex engineering activities with the engineering community and with society at large, such as, being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions. | | | |
| **PO10** | **1.80** | **1.40** | **78 % of Target Achieved ,** this attribute will be strengthened in the higher semesters. |
| **Efforts will be made to achieve target in the next academic year.** | | | |
| **PO11 : Project management and finance:** Demonstrate knowledge and understanding of the engineering and management principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments. | | | |
| **PO11** | **1.48** | **1.10** | **74 % of Target Achieved ,** this attribute will be strengthened in the higher semesters. |
| **Efforts will be made to achieve target in the next academic year.** | | | |
| **PO12 : Life-long learning:** Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change. | | | |
| **PO12** | **1.43** | **1.08** | **76 % of Target Achieved ,** this attribute will be strengthened in the higher semesters. |
| **Efforts will be made to achieve target in the next academic year.** | | | |

| Program: Mechanical Engineering<br>CAY Session: 2021-2022 | | | |
|---|---|---|---|
| **POs** | **Target Level** | **Attainment Level** | **Observations** |
| **PO1: Engineering knowledge:** Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems. | | | |
| **PO1** | **2.03** | **1.6** | **79% of Target Achieved ,** this attribute will be strengthened in the higher semesters. |
| **Efforts will be made to achieve target in the next academic year.** | | | |
| **PO2 : Problem analysis:** Identify, formulate, review research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences. | | | |
| **PO2** | **1.74** | **1.5** | **86% of Target Achieved,** this attribute will be strengthened in the higher semesters. |
| **Efforts will be made to achieve target in the next academic year.** | | | |
| **PO3 : Design/development of solutions:** Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations. | | | |
| **PO3** | **1.46** | **1.1** | **75% of Target Achieved,** this attribute will be strengthened in the higher semesters. |
| **Efforts will be made to achieve target in the next academic year.** | | | |
| **PO4 : Conduct investigations of complex problems:** Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions. | | | |
| **PO4** | **1.6** | **0.9** | **56% of Target Achieved,** this attribute will be strengthened in the higher semesters. |
| **Efforts will be made to achieve target in the next academic year.** | | | |
| **PO5 : Modern tool usage:** Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modeling to complex engineering activities with an understanding of the limitations. | | | |
| **PO5** | **1.90** | **1.9** | **100% of Target Achieved ,** this attribute will be strengthened in the higher semesters. |
| **Higher target will be set for the next academic year.** | | | |
| **PO6 : The engineer and society:** Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional engineering practice. | | | |
| **PO6** | **1.13** | **0.8** | **71% of Target Achieved ,** this attribute will be strengthened in the higher semesters. |
| **Efforts will be made to achieve target in the next academic year.** | | | |

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| **PO7 : Environment and sustainability:** Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development. | | | |
| **PO7** | **1.27** | **0.7** | **55% of Target Achieved ,** this attribute will be strengthened in the higher semesters. |
| **Efforts will be made to achieve target in the next academic year..** | | | |
| **PO8 : Ethics:** Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice. | | | |
| **PO8** | **1.44** | **0.7** | **49 % of Target Achieved ,** this attribute will be strengthened in the higher semesters. |
| **Efforts will be made to achieve target in the next academic year..** | | | |
| **PO9 : Individual and team work:** Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings. | | | |
| **PO9** | **1.30** | **0.7** | **54% of Target Achieved ,** this attribute will be strengthened in the higher semesters. |
| **Efforts will be made to achieve target in the next academic year.** | | | |
| **PO10 Communication:** Communicate effectively on complex engineering activities with the engineering community and with society at large, such as, being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions. | | | |
| **PO10** | **1.69** | **0.7** | **41% of Target Achieved ,** this attribute will be strengthened in the higher semesters. |
| **Efforts will be made to achieve target in the next academic year..** | | | |
| **PO11 : Project management and finance:** Demonstrate knowledge and understanding of the engineering and management principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments. | | | |
| **PO11** | **1.5** | **1.4** | **93% of Target Achieved ,** this attribute will be strengthened in the higher semesters. |
| **Higher target will be set for the next academic year.** | | | |
| **PO12 : Life-long learning:** Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change. | | | |
| **PO12** | **1.98** | **1.2** | **61% of Target Achieved ,** this attribute will be strengthened in the higher semesters. |
| **Efforts will be made to achieve target in the next academic year.** | | | |

| Program: Mechanical Engineering<br>CAY m1 Session: 2020-21 | | | |
|---|---|---|---|
| **POs** | **Target Level** | **Attainment Level** | **Observations** |
| **PO1: Engineering knowledge:** Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems. | | | |
| **PO1** | **2.03** | **1.7** | **84% of Target Achieved ,** this attribute will be strengthened in the higher semesters. |
| **Efforts will be made to achieve target in the next academic year.** | | | |
| **PO2 : Problem analysis:** Identify, formulate, review research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences. | | | |
| **PO2** | **1.74** | **1.5** | **86% of Target Achieved,** this attribute will be strengthened in the higher semesters. |
| **Efforts will be made to achieve target in the next academic year.** | | | |
| **PO3 : Design/development of solutions:** Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations. | | | |
| **PO3** | **1.46** | **1.3** | **89% of Target Achieved,** this attribute will be strengthened in the higher semesters. |
| **Efforts will be made to achieve target in the next academic year.** | | | |
| **PO4 : Conduct investigations of complex problems:** Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions. | | | |
| **PO4** | **2.05** | **1.4** | **68% of Target Achieved,** this attribute will be strengthened in the higher semesters. |
| **Efforts will be made to achieve target in the next academic year.** | | | |
| **PO5 : Modern tool usage:** Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modeling to complex engineering activities with an understanding of the limitations. | | | |
| **PO5** | **1.90** | **1.7** | **89% of Target Achieved ,** this attribute will be strengthened in the higher semesters. |
| **Efforts will be made to achieve target in the next academic year.** | | | |
| **PO6 : The engineer and society:** Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional engineering practice. | | | |
| **PO6** | **1.13** | **0.8** | **71% of Target Achieved,** this attribute will be strengthened in the higher semesters. |
| **Efforts will be made to achieve target in the next academic year.** | | | |

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| **PO7 : Environment and sustainability:** Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development. | | | |
| **PO7** | **1.27** | **0.9** | **71% of Target Achieved ,** this attribute will be strengthened in the higher semesters. |
| **Efforts will be made to achieve target in the next academic year.** | | | |
| **PO8 : Ethics:** Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice. | | | |
| **PO8** | **1.44** | **0.8** | **56% of Target Achieved ,** this attribute will be strengthened in the higher semesters |
| **Efforts will be made to achieve target in the next academic year.** | | | |
| **PO9 : Individual and team work:** Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings. | | | |
| **PO9** | **1.30** | **1.0** | **77% of Target Achieved ,** this attribute will be strengthened in the higher semesters. |
| **Efforts will be made to achieve target in the next academic year.** | | | |
| **PO10 Communication:** Communicate effectively on complex engineering activities with the engineering community and with society at large, such as, being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions. | | | |
| **PO10** | **1.69** | **1.6** | **95% of Target Achieved ,** this attribute will be strengthened in the higher semesters. |
| **Higher target will be set for the next academic year.** | | | |
| **PO11 : Project management and finance:** Demonstrate knowledge and understanding of the engineering and management principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments. | | | |
| **PO11** | **1.18** | **1.1** | **93% of Target Achieved ,** this attribute will be strengthened in the higher semesters |
| **Higher target will be set for the next academic year.** | | | |
| **PO12 : Life-long learning:** Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change. | | | |
| **PO12** | **1.28** | **1.2** | **94% of Target Achieved ,** this attribute will be strengthened in the higher semesters. |
| **Higher target will be set for the next academic year.** | | | |

| Program: Mechanical Engineering<br>CAYm2 Session: 2019-20 | | | |
|---|---|---|---|
| **POs** | **Target Level** | **Attainment Level** | **Observations** |
| **PO1: Engineering knowledge:** Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems. | | | |
| **PO1** | **2.03** | **1.68** | **83% of Target Achieved ,** this attribute will be strengthened in the higher semesters. |
| **Efforts will be made to achieve target in the next academic year.** | | | |
| **PO2 : Problem analysis:** Identify, formulate, review research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences. | | | |
| **PO2** | **1.74** | **1.29** | **74% of Target Achieved,** this attribute will be strengthened in the higher semesters. |
| **Efforts will be made to achieve target in the next academic year.** | | | |
| **PO3 : Design/development of solutions:** Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations. | | | |
| **PO3** | **1.46** | **1.20** | **82% of Target Achieved,** this attribute will be strengthened in the higher semesters. |
| **Efforts will be made to achieve target in the next academic year.** | | | |
| **PO4 : Conduct investigations of complex problems:** Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions. | | | |
| **PO4** | **2.05** | **1.53** | **75% of Target Achieved,** this attribute will be strengthened in the higher semesters. |
| **Efforts will be made to achieve target in the next academic year.** | | | |
| **PO5 : Modern tool usage:** Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modeling to complex engineering activities with an understanding of the limitations. | | | |
| **PO5** | **1.90** | **1.19** | **63% of Target Achieved ,** this attribute will be strengthened in the higher semesters. |
| **Efforts will be made to achieve target in the next academic year.** | | | |
| **PO6 : The engineer and society:** Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional engineering practice. | | | |
| **PO6** | **1.13** | **1.01** | **89% of Target Achieved ,** this attribute will be strengthened in the higher semesters. |
| **Efforts will be made to achieve target in the next academic year.** | | | |

| | | | |
|---|---|---|---|
| **PO7 : Environment and sustainability:** Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development. | | | |
| **PO7** | **1.27** | **1.11** | **87% of Target Achieved ,** this attribute will be strengthened in the higher semesters. |
| **Efforts will be made to achieve target in the next academic year.** | | | |
| **PO8 : Ethics:** Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice. | | | |
| **PO8** | **1.44** | **1.43** | **99 % of Target Achieved ,** this attribute will be strengthened in the higher semesters. |
| **Higher target will be set for the next academic year.** | | | |
| **PO9 : Individual and team work:** Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings. | | | |
| **PO9** | **1.30** | **1.08** | **83% of Target Achieved ,** this attribute will be strengthened in the higher semesters. |
| **Higher target will be set for the next academic year.** | | | |
| **PO10 Communication:** Communicate effectively on complex engineering activities with the engineering community and with society at large, such as, being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions. | | | |
| **PO10** | **1.69** | **1.61** | **95 % of Target Achieved ,** this attribute will be strengthened in the higher semesters. |
| **Higher target will be set for the next academic year.** | | | |
| **PO11 : Project management and finance:** Demonstrate knowledge and understanding of the engineering and management principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments. | | | |
| **PO11** | **1.00** | **0.90** | **90 % of Target Achieved ,** this attribute will be strengthened in the higher semesters. |
| **Higher target will be set for the next academic year.** | | | |
| **PO12 : Life-long learning:** Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change. | | | |
| **PO12** | **1.19** | **1.14** | **96% of Target Achieved ,** this attribute will be strengthened in the higher semesters. |
| **Higher target will be set for the next academic year.** | | | |

| Program: Textile Engineering<br>CAY Session: 2021-2022 | | | |
|---|---|---|---|
| **POs** | **Target Level** | **Attainment Level** | **Observations** |
| **PO1: Engineering knowledge:** Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems. | | | |
| **PO1** | **2.11** | **1.5** | **71% of Target Achieved ,** this attribute will be strengthened in the higher semesters. |
| **Efforts will be made to achieve target in the next academic year..** | | | |
| **PO2 : Problem analysis:** Identify, formulate, review research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences. | | | |
| **PO2** | **1.83** | **1.5** | **82% of Target Achieved,** this attribute will be strengthened in the higher semesters. |
| **Efforts will be made to achieve target in the next academic year.** | | | |
| **PO3 : Design/development of solutions:** Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations. | | | |
| **PO3** | **1.64** | **1.2** | **73% of Target Achieved,** this attribute will be strengthened in the higher semesters. |
| **Efforts will be made to achieve target in the next academic year.** | | | |
| **PO4 : Conduct investigations of complex problems:** Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions. | | | |
| **PO4** | **2.00** | **0.8** | **40% of Target Achieved,** this attribute will be strengthened in the higher semesters. |
| **Efforts will be made to achieve target in the next academic year.** | | | |
| **PO5 : Modern tool usage:** Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modeling to complex engineering activities with an understanding of the limitations. | | | |
| **PO5** | **2.14** | **1.5** | **70% of Target Achieved ,** this attribute will be strengthened in the higher semesters. |
| **Efforts will be made to achieve target in the next academic year.**<br>Extra tutorial class will be planed to discuss students specific problems. | | | |
| **PO6 : The engineer and society:** Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional engineering practice. | | | |
| **PO6** | **1.50** | **0.9** | **60% of Target Achieved ,** this attribute will be strengthened in the higher semesters. |
| **Efforts will be made to achieve target in the next academic year.** | | | |

| | | | |
|---|---|---|---|
| **PO7 : Environment and sustainability:** Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development. | | | |
| **PO7** | **1.18** | **0.7** | **59% of Target Achieved ,** this attribute will be strengthened in the higher semesters. |
| **Efforts will be made to achieve target in the next academic year.** | | | |
| **PO8 : Ethics:** Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice. | | | |
| **PO8** | **1.00** | **0.4** | **40% of Target Achieved ,** this attribute will be strengthened in the higher semesters. |
| The students will be motivated to work in groups, to solve the activity undertaken by them.<br>**Efforts will be made to achieve target in the next academic year.** | | | |
| **PO9 : Individual and team work:** Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings. | | | |
| **PO9** | **1.23** | **0.7** | **57% of Target Achieved ,** this attribute will be strengthened in the higher semesters. |
| **Efforts will be made to achieve target in the next academic year.** | | | |
| **PO10 Communication:** Communicate effectively on complex engineering activities with the engineering community and with society at large, such as, being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions. | | | |
| **PO10** | **2.00** | **1.2** | **60% of Target Achieved ,** this attribute will be strengthened in the higher semesters. |
| **Efforts will be made to achieve target in the next academic year.** | | | |
| **PO11 : Project management and finance:** Demonstrate knowledge and understanding of the engineering and management principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments. | | | |
| **PO11** | **1.27** | **1.0** | **79 % of Target Achieved ,** this attribute will be strengthened in the higher semesters. |
| **Efforts will be made to achieve target in the next academic year.** | | | |
| **PO12 : Life-long learning:** Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change. | | | |
| **PO12** | **1.98** | **1.1** | **56% of Target Achieved ,** this attribute will be strengthened in the higher semesters. |
| **Efforts will be made to achieve target in the next academic year.** | | | |

| Program: Textile Engineering<br>CAY Session: 2020-2021 | | | |
|---|---|---|---|
| **POs** | **Target Level** | **Attainment Level** | **Observations** |
| **PO1: Engineering knowledge:** Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems. | | | |
| **PO1** | **2.11** | **1.6** | **76% of Target Achieved ,** this attribute will be strengthened in the higher semesters. |
| **Efforts will be made to achieve target in the next academic year.** | | | |
| **PO2 : Problem analysis:** Identify, formulate, review research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences. | | | |
| **PO2** | **1.83** | **1.6** | **87% of Target Achieved,** this attribute will be strengthened in the higher semesters. |
| **Efforts will be made to achieve target in the next academic year.** | | | |
| **PO3 : Design/development of solutions:** Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations. | | | |
| **PO3** | **1.64** | **1.4** | **85% of Target Achieved,** this attribute will be strengthened in the higher semesters. |
| **Efforts will be made to achieve target in the next academic year.** | | | |
| **PO4 : Conduct investigations of complex problems:** Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions. | | | |
| **PO4** | **2.00** | **1.5** | **75% of Target Achieved,** this attribute will be strengthened in the higher semesters. |
| **Efforts will be made to achieve target in the next academic year.** | | | |
| **PO5 : Modern tool usage:** Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modeling to complex engineering activities with an understanding of the limitations. | | | |
| **PO5** | **2.14** | **1.6** | **75% of Target Achieved ,** this attribute will be strengthened in the higher semesters. |
| **Efforts will be made to achieve target in the next academic year.**<br>Extra tutorial class will be planned to discuss students specific problems. | | | |
| **PO6 : The engineer and society:** Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional engineering practice. | | | |
| **PO6** | **1.50** | **1.0** | **67% of Target Achieved ,** this attribute will be strengthened in the higher semesters. |

| | | | |
|---|---|---|---|
| **Efforts will be made to achieve target in the next academic year.** | | | |
| **PO7 : Environment and sustainability:** Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development. | | | |
| **PO7** | **1.18** | **1.0** | **85% of Target Achieved ,** this attribute will be strengthened in the higher semesters. |
| **Efforts will be made to achieve target in the next academic year.** | | | |
| **PO8 : Ethics:** Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice. | | | |
| **PO8** | **1.38** | **1.0** | **72% of Target Achieved ,** this attribute will be strengthened in the higher semesters. |
| The students will be motivated to work in groups, to solve the activity undertaken by them.<br>**Efforts will be made to achieve target in the next academic year.** | | | |
| **PO9 : Individual and team work:** Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings. | | | |
| **PO9** | **1.48** | **1.1** | **74% of Target Achieved ,** this attribute will be strengthened in the higher semesters. |
| **Efforts will be made to achieve target in the next academic year.** | | | |
| **PO10 Communication:** Communicate effectively on complex engineering activities with the engineering community and with society at large, such as, being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions. | | | |
| **PO10** | **2.00** | **1.5** | **75% of Target Achieved ,** this attribute will be strengthened in the higher semesters. |
| **Efforts will be made to achieve target in the next academic year.** | | | |
| **PO11 : Project management and finance:** Demonstrate knowledge and understanding of the engineering and management principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments. | | | |
| **PO11** | **1.78** | **1.2** | **67% of Target Achieved ,** this attribute will be strengthened in the higher semesters. |
| **Efforts will be made to achieve target in the next academic year.** | | | |
| **PO12 : Life-long learning:** Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change. | | | |
| **PO12** | **1.7** | **1.3** | **76% of Target Achieved ,** this attribute will be strengthened in the higher semesters. |
| **Efforts will be made to achieve target in the next academic year.** | | | |

| Program:Textile Engineering<br>CAY m2 Session: 2019-2020 | | | |
|---|---|---|---|
| **POs** | **Target Level** | **Attainment Level** | **Observations** |
| **PO1: Engineering knowledge:** Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems. | | | |
| **PO1** | **2.11** | **1.66** | **79% of Target Achieved ,** this attribute will be strengthened in the higher semesters. |
| **Efforts will be made to achieve target in the next academic year.** | | | |
| **PO2 : Problem analysis:** Identify, formulate, review research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences. | | | |
| **PO2** | **1.83** | **1.34** | **73% of Target Achieved,** this attribute will be strengthened in the higher semesters. |
| **Efforts will be made to achieve target in the next academic year.** | | | |
| **PO3 : Design/development of solutions:** Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations. | | | |
| **PO3** | **1.64** | **1.19** | **73% of Target Achieved,** this attribute will be strengthened in the higher semesters. |
| **Efforts will be made to achieve target in the next academic year.** | | | |
| **PO4 : Conduct investigations of complex problems:** Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions. | | | |
| **PO4** | **2.00** | **1.46** | **73% of Target Achieved,** this attribute will be strengthened in the higher semesters. |
| **Efforts will be made to achieve target in the next academic year.** | | | |
| **PO5 : Modern tool usage:** Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modeling to complex engineering activities with an understanding of the limitations. | | | |
| **PO5** | **2.14** | **1.48** | **69% of Target Achieved,** EC-101, has contributed very less for the attainment |
| **Efforts will be made to achieve target in the next academic year.**<br>Extra tutorial class will be planed to discuss students specific problems. | | | |
| **PO6 : The engineer and society:** Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional engineering practice. | | | |
| **PO6** | **1.50** | **1.03** | **69% of Target Achieved,** this attribute will be strengthened in the higher semesters. |
| **Efforts will be made to achieve target in the next academic year.** | | | |

| | | | |
|---|---|---|---|
| **PO7 : Environment and sustainability:** Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development. | | | |
| **PO7** | **1.18** | **0.91** | **77% of Target Achieved ,** this attribute will be strengthened in the higher semesters. |
| **Efforts will be made to achieve target in the next academic year.** | | | |
| **PO8 : Ethics:** Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice. | | | |
| **PO8** | **1.00** | **0.60** | **60% of Target Achieved ,** this attribute will be strengthened in the higher semesters. |
| The students will be motivated to work in groups, to solve the activity undertaken by them.<br>**Efforts will be made to achieve target in the next academic year.** | | | |
| **PO9 : Individual and team work:** Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings. | | | |
| **PO9** | **1.23** | **0.93** | **76% of Target Achieved ,** this attribute will be strengthened in the higher semesters. |
| **Efforts will be made to achieve target in the next academic year.** | | | |
| **PO10 Communication:** Communicate effectively on complex engineering activities with the engineering community and with society at large, such as, being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions. | | | |
| **PO10** | **2.00** | **1.60** | **80% of Target Achieved ,** this attribute will be strengthened in the higher semesters. |
| **Efforts will be made to achieve target in the next academic year.** | | | |
| **PO11 : Project management and finance:** Demonstrate knowledge and understanding of the engineering and management principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments. | | | |
| **PO11** | **1.17** | **0.73** | **62 % of Target Achieved ,** this attribute will be strengthened in the higher semesters. |
| **Efforts will be made to achieve target in the next academic year.** | | | |
| **PO12 : Life-long learning:** Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change. | | | |
| **PO12** | **1.45** | **1.16** | **80% of Target Achieved ,** this attribute will be strengthened in the higher semesters. |
| **Efforts will be made to achieve target in the next academic year.** | | | |

## 9. STUDENT SUPPORT SYSTEMS (50)

### 9.1 Mentoring system to help at individual level (5)

Jawaharlal Nehru Government Engineering College, Sundernagar, has established a mentoring system to take care of the students for their academic and overall personality development. The admitted students are mentored at two levels:

i. Institution Mentoring System
ii. Program Mentoring System

**I). Institution Mentoring System**

At institution level, students are mentored by various committees viz., institution mentoring committee, training and placement cell, start-up cell and other committees constituted from time to time.

Student mentoring committees are formed at institution level with an aim to foster and nurture students for excelling in their overall development. Students of a particular class are divided into a smaller group and a faculty member is assigned as a mentor/counselor to each group. This helps to create a positive and caring environment where students can grow with enhanced self-esteem and their need are addressed in a constructive manner. The faculty members are instructed to interact with their assigned group of the students. Students are encouraged to express their views and suggestions for academics and other extra-curricular activities at institute/departmental level. The issues raised by the students during the interaction/mentoring session are communicated to the concerned authority for further improvements. The counselors collect all the details pertaining to the students of their respective groups and also keeps a record of the attendance/ necessary suggestion/recommendation and provide solution accordingly for further improvement.

**Chief Mentor:** Dr. Champa Verma, Associate Professor, Applied Sciences and Humanities Deptt.

| **Session 2019-2020** | | | |
|---|---|---|---|
| **Civil Engineering (1st Semester)** | | | |
| **S. No** | **Name of Counsellor** | **Seating Plan at College** | **Roll No.** |
| 1 | Er. Bedatrayee Saha, AP (Civil Engg) | 3rd Floor, Block D | 19101 -19120 |
| 2 | Er. Vivek, AP (Civil Engg) | 3rd Floor, Block D | 19121 -19140 |
| 3 | Er. Surabhi, AP (Civil Engg) | 3rd Floor, Block D | 19141 -19161 |
| **Electronics & Communication Engineering (1st Semester)** | | | |
| **S. No** | **Name of Counsellor** | **Seating Plan at College** | **Roll No.** |
| 1 | Er. Ankit Sharma, AP (EC Engg) | 5th Floor, Block C | 19401-19420 |
| 2 | Er. Vicky Kumar, AP (EC Engg) | 5th Floor, Block C | 19421-19440 |
| 3 | Er. Manavi Sharma, AP (Electrical) | 5th Floor, Block C | 19441-19454 |

| Mechanical Engineering (1st Semester) | | | |
|---|---|---|---|
| **S. No** | **Name of Counsellor** | **Seating Plan at College** | **Roll No.** |
| 1 | Er. Gaurav Mahajan, AP (Mech Engg) | 3rd Floor, Block C | 19201-19220 |
| 2 | Er. Rohit Bhardwaj, AP (Mech. Engg.) | 3rd Floor, Block C | 19221-19240 |
| 3 | Er. Chetan Sharma, AP(Mech. Engg.) | 3rd Floor, Block C | 19241-19246 |
| **Textile Engineering (1st Semester)** | | | |
| **S. No** | **Name of Counsellor** | **Seating Plan at College** | **Roll No.** |
| 1 | Er. Ankush Sharma, AP (Textile Engg) | 1st Floor, Block B | 19701-19707 |
| **Session 2020-2021** | | | |
| **Civil Engineering (1st Semester)** | | | |
| **S. No** | **Name of Counsellor** | **Seating Plan at College** | **Roll No.** |
| 1 | Er. Madhu Gautam, AP (Civil Engg) | 3th Floor, Block D | 20101-20133 |
| 2 | Er. Prashant Thakur, AP (Civil Engg) | 3th Floor, Block D | 20134-20165 |
| **Electronics & Communication Engineering (1st Semester)** | | | |
| **S. No** | **Name of Counsellor** | **Seating Plan at College** | **Roll No.** |
| 1 | Er. Manavi Sharma, AP (EC Engg) | 4th Floor, Block C | 20201-20232 |
| 2 | Er. Preeti Goel, AP (EC Engg) | 4th Floor, Block C | 20233-20264 |
| **Mechanical Engineering (1st Semester)** | | | |
| **S. No** | **Name of Counsellor** | **Seating Plan at College** | **Roll No.** |
| 1 | Er. Rohit Bhardwaj, AP (Mechanical Engg) | 3rd Floor, Block C | 20301-20327 |
| 2 | Er. Chetan Sharma, AP (Mech Engg) | 3rd Floor, Block C | 20328-20355 |
| **Textile Engineering (1st Semester)** | | | |
| **S. No** | **Name of Counsellor** | **Seating Plan at College** | **Roll No.** |
| 1 | Er. Dinesh Bhatia, AP (Textile Engg) | Ground Floor, Block B | 20401-20410 |
| **Session 2021-2022** | | | |
| **Civil Engineering (1st Semester)** | | | |
| **S. No** | **Name of Counsellor** | **Seating Plan at College** | **Roll No.** |
| 1 | Er. Bedatrayee Saha, AP (Civil Engg) | 3th Floor, Block D | 21CE01-33 |
| 2 | Er. Prashant Thakur, AP (Civil Engg) | 3th Floor, Block D | 21CE34-66 |
| **Electronics & Communication Engineering (1st Semester)** | | | |
| **S. No** | **Name of Counsellor** | **Seating Plan at College** | **Roll No.** |
| 1 | Er. Vicky Kumar, AP (EC Engg) | 5th Floor, Block C | 21ECE01-30 |
| 2 | Er. Pooja Sharma, AP (EC Engg) | 5th Floor, Block C | 21ECE31-60 |
| **Mechanical Engineering (1st Semester)** | | | |
| **S. No** | **Name of Counsellor** | **Seating Plan at College** | **Roll No.** |
| 1 | Er. Sahil Sen, AP (Mechanical Engg) | 3rd Floor, Block C | 21ME01-27 |

| | | | |
|---|---|---|---|
| 2 | Er. Aman Sharma, AP (Mech Engg) | 3rd Floor, Block C | 21ME28-54 |
| **Textile Engineering (1st Semester)** | | | |
| **S. No** | **Name of Counsellor** | **Seating Plan at College** | **Roll No.** |
| 1 | Er. Urvashi Malhotra, AP (Textile Engg) | Ground Floor, Block B | 21TE01-22 |

***Table B.9.1a: Details of Student Mentoring Cell***

The faculty mentors maintain the record of meetings during the entire semester and the same is submitted to chief mentor by the end of 1st and 2nd semesters. The student mentoring form/ information sheet is provided below:

**JAWAHARLAL NEHRU GOVT. ENGG. COLLEGE**
**SUNDERNAGAR, MANDI (H.P.)-175018**

*Phone No. 01907-267199, 267588* *Fax No. 01907-267199, 267504*
*Website: www.jngec.ac.in* *Email: jngechp@yahoo.co.in*

**Student Mentoring Form/Information Sheet (Admission Year: 2017-18)**

**Student full Name**..... **Mentor Name**.....

**Personal Details**

Father's full Name:..... Parents Mobile No.:.....

Permanent/Postal address:.....

.....

Local Address:.....

.....

Student email ID:..... Student Mobile No.....

**Academic Details**

Result of 12th:.....%

| Semester | SGPA | CGPA | No. of Backlogs | Backlog Subject's Code |
|---|---|---|---|---|
| 1st | | | | |
| 2nd | | | | |

**Counselling Meeting Detail**

| S.No. | Date of Meeting | Suggestion/Discussion/Remarks | Sig. of Student |
|---|---|---|---|
| 1 | | | |
| 2 | | | |
| 3 | | | |
| 4 | | | |
| 5 | | | |
| 6 | | | |
| 7 | | | |
| 8 | | | |

Any other note/remarks from Mentor.....

.....

**Mentor signature**

***Figure B.9.1a: Sample of Student Mentoring Form/ Information Sheet***

**Student Induction Program**

Student induction Program engages the new entrants before the commencement of their regular classes with an aim to

(i) help the fresh entrants to adapt and feel comfortable in the new environment,

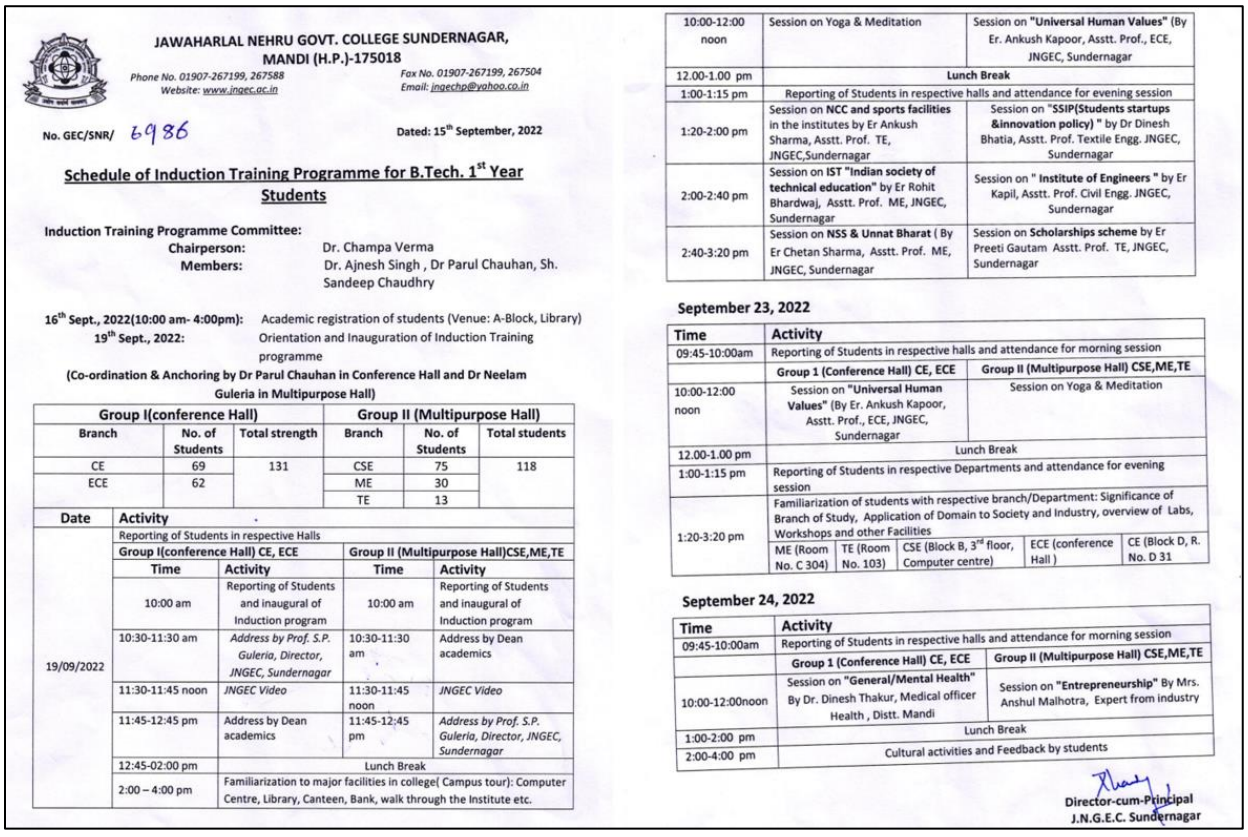
(ii) inculcate in them the ethos and culture of the institution,

(iii) help them build a bond with other students and faculty members, and

(iv) expose them to a sense of larger purpose and self-exploration.

This programmme is a planned event to educate the new entrants about the environment in a particular institution, and connect them with the people in it. In this Program, the entrants learn about the institutional policies, processes, practices, culture, and values. Students Induction covers a following number of different activities:

- Institution tour of major facilities like various departments, computer centre, library, workshop, bank facilities, and walk through the institution.
- Various sessions on different topics such as Human Values and Ethics, Motivational Talk, Disaster Management, Unnat Bharat Abhiyan, NSS, Training & Placement Activities, Start-Up India, GATE Preparation, Yoga/Physical Fitness/Happiness, Anti-Ragging, Use of E-learning Tools using MOOCs etc.



JAWAHARLAL NEHRU GOVT. COLLEGE SUNDERNAGAR,
MANDI (H.P.)-175018

Phone No. 01907-267199, 267588 Fax No. 01907-267199, 267504
Website: www.jngec.ac.in Email: jngechp@yahoo.co.in

No. GEC/SNR/ 6986 Dated: 15th September, 2022

**Schedule of Induction Training Programme for B.Tech. 1st Year Students**

**Induction Training Programme Committee:**

**Chairperson:** Dr. Champa Verma
**Members:** Dr. Ajnesh Singh , Dr Parul Chauhan, Sh. Sandeep Chaudhry

**16th Sept., 2022(10:00 am- 4:00pm):** Academic registration of students (Venue: A-Block, Library)
**19th Sept., 2022:** Orientation and Inauguration of Induction Training programme

**(Co-ordination & Anchoring by Dr Parul Chauhan in Conference Hall and Dr Neelam Guleria in Multipurpose Hall)**

| Group I(conference Hall) | | | Group II (Multipurpose Hall) | | |
|---|---|---|---|---|---|
| Branch | No. of Students | Total strength | Branch | No. of Students | Total students |
| CE | 69 | 131 | CSE | 75 | 118 |
| ECE | 62 | | ME | 30 | |
| | | | TE | 13 | |

| Date | Activity | | | |
|---|---|---|---|---|
| 19/09/2022 | Reporting of Students in respective Halls | | | |
| | Group I(conference Hall) CE, ECE | | Group II (Multipurpose Hall)CSE,ME,TE | |
| | Time | Activity | Time | Activity |
| | 10:00 am | Reporting of Students and inaugural of Induction program | 10:00 am | Reporting of Students and inaugural of Induction program |
| | 10:30-11:30 am | *Address by Prof. S.P. Guleria, Director, JNGEC, Sundernagar* | 10:30-11:30 am | Address by Dean academics |
| | 11:30-11:45 noon | *JNGEC Video* | 11:30-11:45 noon | *JNGEC Video* |
| | 11:45-12:45 pm | Address by Dean academics | 11:45-12:45 pm | *Address by Prof. S.P. Guleria, Director, JNGEC, Sundernagar* |
| | 12:45-02:00 pm | Lunch Break | | |
| | 2:00 – 4:00 pm | Familiarization to major facilities in college( Campus tour): Computer Centre, Library, Canteen, Bank, walk through the Institute etc. | | |

| | | |
|---|---|---|
| 10:00-12:00 noon | Session on Yoga & Meditation | Session on **"Universal Human Values"** (By Er. Ankush Kapoor, Asstt. Prof., ECE, JNGEC, Sundernagar |
| 12.00-1.00 pm | **Lunch Break** | |
| 1:00-1:15 pm | Reporting of Students in respective halls and attendance for evening session | |
| 1:20-2:00 pm | Session on **NCC and sports facilities** in the institutes by Er Ankush Sharma, Asstt. Prof. TE, JNGEC,Sundernagar | Session on **"SSIP(Students startups &innovation policy) "** by Dr Dinesh Bhatia, Asstt. Prof. Textile Engg. JNGEC, Sundernagar |
| 2:00-2:40 pm | Session on **IST "Indian society of technical education"** by Er Rohit Bhardwaj, Asstt. Prof. ME, JNGEC, Sundernagar | Session on **" Institute of Engineers "** by Er Kapil, Asstt. Prof. Civil Engg. JNGEC, Sundernagar |
| 2:40-3:20 pm | Session on **NSS & Unnat Bharat** ( By Er Chetan Sharma, Asstt. Prof. ME, JNGEC, Sundernagar | Session on **Scholarships scheme** by Er Preeti Gautam Asstt. Prof. TE, JNGEC, Sundernagar |

**September 23, 2022**

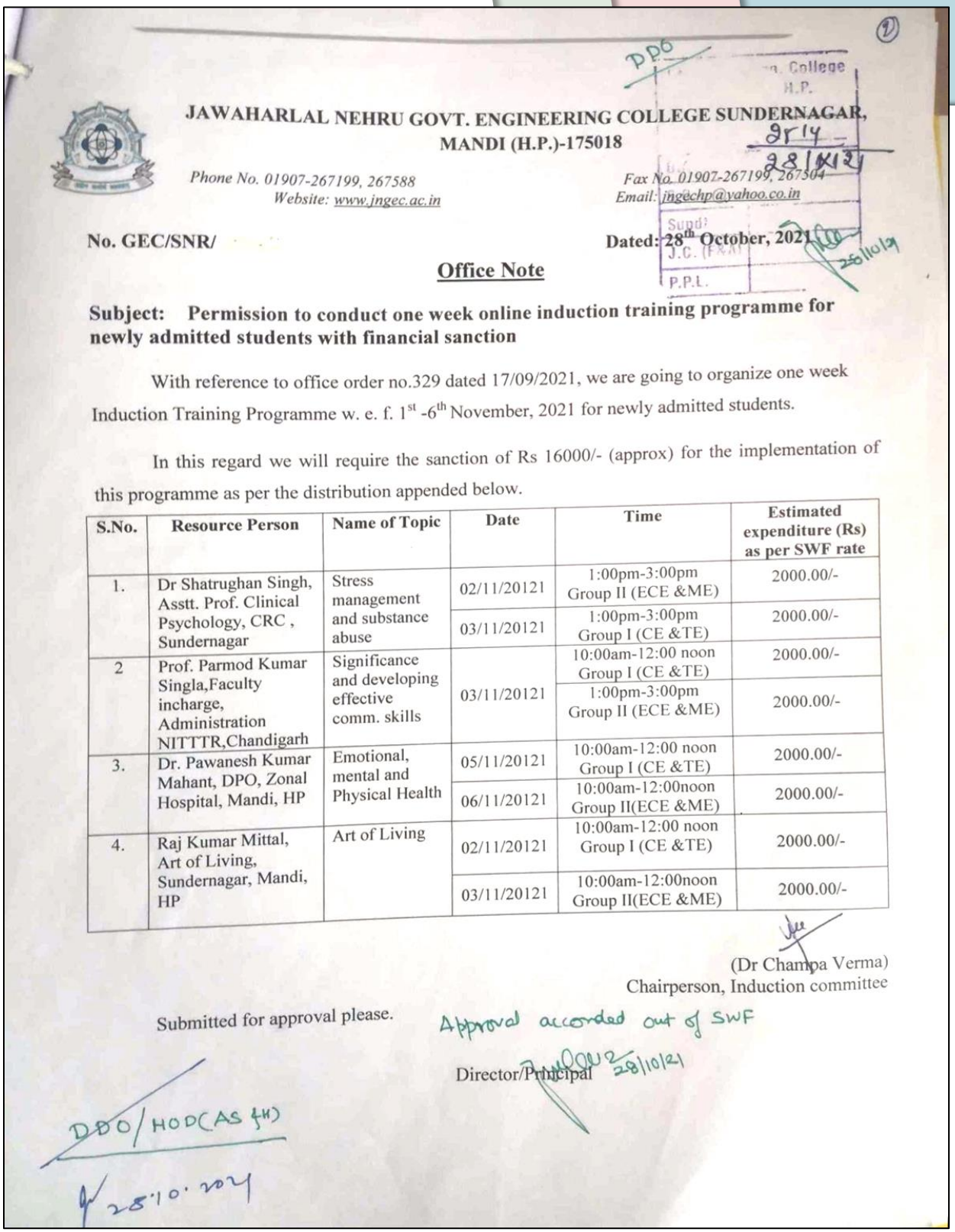
| Time | Activity | | | | |
|---|---|---|---|---|---|
| 09:45-10:00am | Reporting of Students in respective halls and attendance for morning session | | | | |
| | **Group 1 (Conference Hall) CE, ECE** | | | | **Group II (Multipurpose Hall) CSE,ME,TE** |
| 10:00-12:00 noon | Session on **"Universal Human Values"** (By Er. Ankush Kapoor, Asstt. Prof., ECE, JNGEC, Sundernagar | | | | Session on Yoga & Meditation |
| 12.00-1.00 pm | Lunch Break | | | | |
| 1:00-1:15 pm | Reporting of Students in respective Departments and attendance for evening session | | | | |
| 1:20-3:20 pm | Familiarization of students with respective branch/Department: Significance of Branch of Study, Application of Domain to Society and Industry, overview of Labs, Workshops and other Facilities | | | | |
| | ME (Room No. C 304) | TE (Room No. 103) | CSE (Block B, 3rd floor, Computer centre) | ECE (conference Hall ) | CE (Block D, R. No. D 31 |

**September 24, 2022**

| Time | Activity | |
|---|---|---|
| 09:45-10:00am | Reporting of Students in respective halls and attendance for morning session | |
| | **Group 1 (Conference Hall) CE, ECE** | **Group II (Multipurpose Hall) CSE,ME,TE** |
| 10:00-12:00noon | Session on **"General/Mental Health"** By Dr. Dinesh Thakur, Medical officer Health , Distt. Mandi | Session on **"Entrepreneurship"** By Mrs. Anshul Malhotra, Expert from industry |
| 1:00-2:00 pm | Lunch Break | |
| 2:00-4:00 pm | Cultural activities and Feedback by students | |

Director-cum-Principal
J.N.G.E.C. Sundernagar

***Figure B.9.1b: Sample of Induction Program schedule***



JAWAHARLAL NEHRU GOVT. ENGINEERING COLLEGE SUNDERNAGAR,
MANDI (H.P.)-175018

Phone No. 01907-267199, 267588
Website: www.jngec.ac.in

Fax No. 01907-267199, 267504
Email: jngechp@yahoo.co.in

No. GEC/SNR/ Dated: 28th October, 2021

**Office Note**

**Subject: Permission to conduct one week online induction training programme for newly admitted students with financial sanction**

With reference to office order no.329 dated 17/09/2021, we are going to organize one week Induction Training Programme w. e. f. 1st -6th November, 2021 for newly admitted students.

In this regard we will require the sanction of Rs 16000/- (approx) for the implementation of this programme as per the distribution appended below.

| S.No. | Resource Person | Name of Topic | Date | Time | Estimated expenditure (Rs) as per SWF rate |
|---|---|---|---|---|---|
| 1. | Dr Shatrughan Singh, Asstt. Prof. Clinical Psychology, CRC , Sundernagar | Stress management and substance abuse | 02/11/20121 | 1:00pm-3:00pm Group II (ECE &ME) | 2000.00/- |
| | | | 03/11/20121 | 1:00pm-3:00pm Group I (CE &TE) | 2000.00/- |
| 2 | Prof. Parmod Kumar Singla,Faculty incharge, Administration NITTTR,Chandigarh | Significance and developing effective comm. skills | 03/11/20121 | 10:00am-12:00 noon Group I (CE &TE) | 2000.00/- |
| | | | | 1:00pm-3:00pm Group II (ECE &ME) | 2000.00/- |
| 3. | Dr. Pawanesh Kumar Mahant, DPO, Zonal Hospital, Mandi, HP | Emotional, mental and Physical Health | 05/11/20121 | 10:00am-12:00 noon Group I (CE &TE) | 2000.00/- |
| | | | 06/11/20121 | 10:00am-12:00noon Group II(ECE &ME) | 2000.00/- |
| 4. | Raj Kumar Mittal, Art of Living, Sundernagar, Mandi, HP | Art of Living | 02/11/20121 | 10:00am-12:00 noon Group I (CE &TE) | 2000.00/- |
| | | | 03/11/20121 | 10:00am-12:00noon Group II(ECE &ME) | 2000.00/- |

(Dr Champa Verma)
Chairperson, Induction committee

Submitted for approval please.

Approval accorded out of SWF

Director/Principal 28/10/21

DDO/HOD(AS)H)
25.10.2021

***Figure B.9.1c: Sample of Induction Program schedule***

**Training and Placement Cell**

Training and placement cell established at the institution caters to professional development of the students by organising pre placement trainings, mock interviews, group discussions, expert lectures and placement drives etc. The cell is headed by the training and placement officer (TPO). Training and placement officer (TPO) is assisted by the assistant TPO, faculty representatives (one from each department) and student's representatives (elected/nominated from the pre final year and final year) to provide best avenues to the students.

**Start-up Cell**

To enhance the entrepreneurship skill of the students, start-up cell has been constituted at the institute level with faculty members from different departments to provide a platform for the students.

**Motivational/Expert Lectures**

Motivational/Expert lectures are organised regularly in the institution to maintain learning enthusiasm amongst students. These lectures provide students an opportunity to gain knowledge and insights on social issues besides the technical knowledge. Such sessions motivate the students and are an excellent opportunity for them to meet experts from different areas, to gain knowledge and build their understanding of life and career guidance.

**II Program Mentoring System**

**Class In-Charge/Course Advisor per semester**

Every semester one faculty member is assigned the duty of course advisor per class. Class In-Charge keeps close watch on individual student's behaviour. Mentoring/ Counselling is done at the personal level to keep student in mainstream learning and address the concerns/queries of the student.

**Lectures/workshops/seminars**

Various lectures, seminars and workshops are organized by the departments for mentoring students on academic and social issues.

**Student events**

Throughout the year several events are organized for the students to develop leadership qualities, decision making abilities, team spirit, socio-psychological awareness, that helps in shaping the future of the student.

**Class representative**

In each class two class representatives are nominated/elected by the students for their respective classes. Meeting of the Class representatives are organized with the administration at regular intervals (at least once in a semester) to cater to the aspirations of the students.

**Training and placement representative**

The training and placement cell comprises of faculty members and students elected/nominated from pre-final and final year. The placement cell conducts regular meetings with the placement representatives regarding their training, placement and career guidance and various student issues are addressed/discussed in the aforesaid meetings.

**One to One mentoring**

In addition to the above, the individual students can also discuss their queries with the faculty members, departmental heads, and the Director-Principal of the institution.

**9.2. Feedback analysis and reward /corrective measures taken, if any (10)**

Three types of Feedback are taken from students

**Direct Feedback from the Students:** Department conducts course end survey to take the feedback about the facilities as well as about the effectiveness of course.

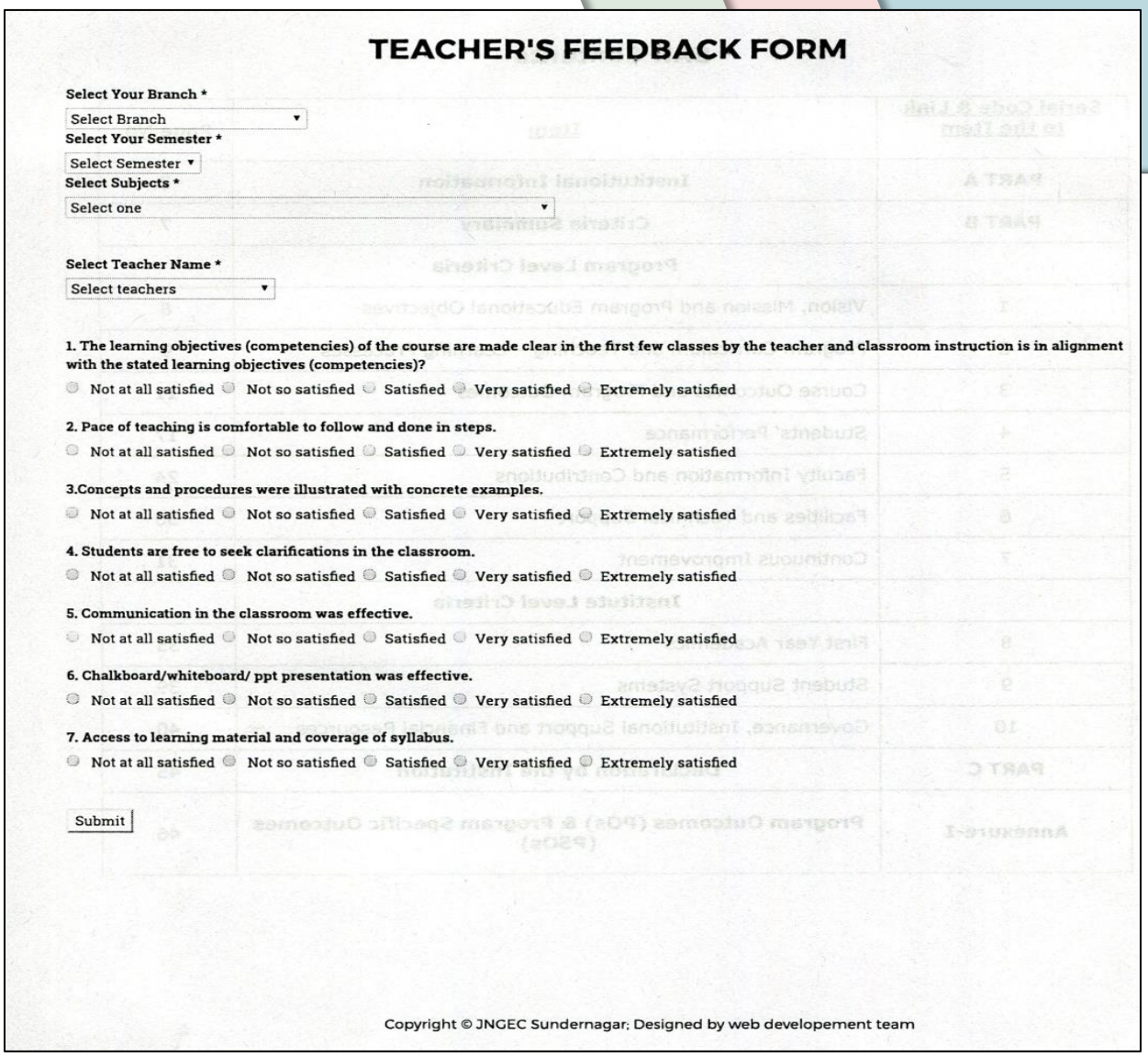
**Interactive Feedback:** Director**-**Principal interacts with students formally and informally to know the issues of the students and take decisions in larger interests of the students.

**Online Feedback:** All the students of the institution are invited to give their feedback on all the major aspects of teaching.

The various aspects which are included in the feedback are satisfaction on learning objectives, percentage of syllabus covered by faculty, the pace of teaching, pedagogical tools, etc. The online feedback coordinator analyses the feedback, prepare the report, and present it to Head of the Institution. The analysis is extensively discussed especially on the weaknesses found in the specific parameter of respective faculty.

The questionnaire is designed on parameters indicating not at all satisfied (1 marks), not so satisfied (2 marks), satisfied (3 marks), very satisfied (4 marks) and extremely satisfied (5), if it is less than 3, is considered "not met".

In case, it scores higher than 3, it is considered as "satisfactory". All not met points were attained by faculty are investigated its reasons and in-depth assessment is made to take corrective actions either on part of content delivery, content coverage or teacher's efficiency.



TEACHER'S FEEDBACK FORM

Select Your Branch *

Select Branch

Select Your Semester *

Select Semester

Select Subjects *

Select one

Select Teacher Name *

Select teachers

1. The learning objectives (competencies) of the course are made clear in the first few classes by the teacher and classroom instruction is in alignment with the stated learning objectives (competencies)?

Not at all satisfied Not so satisfied Satisfied Very satisfied Extremely satisfied

2. Pace of teaching is comfortable to follow and done in steps.

Not at all satisfied Not so satisfied Satisfied Very satisfied Extremely satisfied

3.Concepts and procedures were illustrated with concrete examples.

Not at all satisfied Not so satisfied Satisfied Very satisfied Extremely satisfied

4. Students are free to seek clarifications in the classroom.

Not at all satisfied Not so satisfied Satisfied Very satisfied Extremely satisfied

5. Communication in the classroom was effective.

Not at all satisfied Not so satisfied Satisfied Very satisfied Extremely satisfied

6. Chalkboard/whiteboard/ ppt presentation was effective.

Not at all satisfied Not so satisfied Satisfied Very satisfied Extremely satisfied

7. Access to learning material and coverage of syllabus.

Not at all satisfied Not so satisfied Satisfied Very satisfied Extremely satisfied

Submit

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***Figure B.9.2a: Sample of Teacher feedback Form***

### 9.3. Feedback on facilities (5)

Feedback on facilities is collected in two modes from students:

1. Regular Feedback Collection [Current Students]

2. Exit Feedback Collection [Outgoing Students]

**Regular Feedback**

- At regular intervals (in the meetings of student welfare committee), the Head of the Institution hold discussions with the student representatives about the academics as well as other facilities and take necessary action.
- Another way is where a student gives their feedback on facilities through a feedback form. The departmental HOD discusses all aspects and takes a note of the student's grievances and their

suggestion for improvement. The HOD's pass on all genuine demands to the authority concerned to take up appropriate action.

- Besides this, faculty members also inform head of the respective departments whenever they find any kind of student's dissatisfaction or suggestions during informal discussion.
- Suggestion boxes have been kept at appropriate places in the institution and appropriate steps are taken wherever necessary based on feedback.
- Apart from above, feedback is also received through various agencies of the state government and it is addressed within stipulated time period.

**Exit Feedback**

Exit feedback is also collected from the outgoing students.

**Corrective Actions**

Continuous improvement of infrastructure and facilities is a regular feature at Jawaharlal Nehru Government Engineering College. Apart from complying with the feedback received from the students, massive development is going on in terms of infrastructure, facilities, and general ambience. Few of the important action taken during last three years are as follows;

1. Renovation and Wall Re-Painting of Academic Blocks,
2. Upgradation of Library,
3. Wide WiFi Coverage,
4. Expansion of Laboratories,
5. In Campus Himachal Pradesh State Cooperative Bank Branch (Loan Facility to students).
6. Beautification of the college campus
7. Additional inventory for extra-curricular activities
8. Creation of various clubs at the departmental level
9. Organization of various student events

**9.4. Self-Learning (5)**

- Students must submit the class assignment in every respective course which has been evaluated by concerned faculty. The assignments are given to develop self-learning abilities in the students.
- Number of the training programs/ technical workshops is conducted so that students self-learning capabilities can be enhanced.
- Students are provided with 24 x 7 internet facilities (LAN/Wi-Fi) in the college campus.

- The course curriculum also provides scope to students for enhancing their self-learning abilities. In this, the components like project work, industrial training and industrial project helps them to explore and learn many aspects in the field of engineering and technology.
- Number of Journals is provided in the library for the self-learning.
- Industrial visits/Educational tours.
- Paper presentations in various conferences.
- The students are encouraged to register themselves on various e-learning platforms such as NPTEL, SWAYAM etc.
- The institute is providing GATE Preparation Classes to all the final year students.
- The institute is providing Employability Skill Training to the students of third year level.

The curriculum offers courses like self-study, mini project, major projects where the topics are self-selected or based on guide suggestion. The component of self-learning is evaluated in these courses.

Seminars, conference, workshop & guest lecturers were organized.

In every lecture 5-10 minutes discussion on new technology and its application in real life that is beyond the syllabus occasionally past year projects & working models are made available to students for improvement & innovation

Every student must submit a home assignment in every course which has been evaluated for 16 marks. Some of these tasks are beyond syllabus to encourage out- standing students to develop their self-learning capabilities.

Some of the tasks in the lab courses are challenge based which must be solved by the students on their own enhancing their skills.

Department library with enough volumes on core and application areas, technology awareness journals are opened during college working hours. A state of art Research & Development laboratory is opened for the students to develop applications and projects.

E-notes has been prepared by the department faculty and maintained by the department faculty for the development of students for all subjects in our department.

MOOC Courses: The University has incorporated MOOCs courses to promote Self Learning. These are online courses run on an IT platform known as SWAYAM, an initiative taken by Govt. of India.

**9.5. Career Guidance, Training, Placement (10)**

(*The institution may specify the facility, its management and its effectiveness for career guidance including counseling for higher studies, campus placement support, industry interaction for training/internship/placement, etc.*)

### 9.5.1 Training &Placement Cell

- Institution has dedicated Training Placement Cell and consists of Training and Placement officer, Assistant Training and Placement officer, faculty T&P Coordinators from Department of Mechanical, Civil, Electronic & Communication and Textile Engg. The role of the committee is to coordinate and organise training & placement activities. Each faculty T&P Coordinator constitutes a Training placement committee from each branch consisting of students. (see chart below)
- The Training & Placement Cell assists the students for their internship/industrial training and placement activities.
- The main aim is to create awareness among students regarding available career options.
- Training on soft skills and interview techniques (employability skill training), GATE coaching is providing to the students.


***Figure B.9.5.1: Structure of Training & Placement Comittee***

### 9.5.2 Infrastructure in Training & Placement Cell

- Conference hall (120 Seated).
- Computer centre (with Internet connectivity).
- Smart classroom for group discussion and other interaction (ICT Based Interaction).

### 9.5.3 Counselling for Higher Studies

- A separate training course is designed by our college for final year students (free of cost) to strengthen the quality of technical education & active participation in exit exam (GATE). NPIU had empanelled the competent and professional service providers for the delivery of course based on the quality (EOIs, technical proposals and subsequent presentation).

| Session | GATE Training provider | Training Dates |
|---|---|---|
| Session 2019-20 | M/s Gate Academy Pvt. Ltd, Bangalore | 15th Nov. 2019 to 24th Jan. 2020 |

***Table B.9.5.3: GATE Training Details***

- Study material for various competitive and higher studies entry exams is also provided.
- GATE fee is also reimbursed to the final year students for encouraging them to appear in the GATE examination announced for that particular year.

### 9.5.4 Industrial Training

- The fundamental objective of Industrial Training is to prepare students for future employment in their chosen engineering discipline. Industrial Training enhances the academic material studied in the college by allowing students to practice what they have learned and to develop key professional attributes.
- Memorandum of Understanding (MOU) under the Skill Development Training Program is signed between Himachal Pradesh Technical University Hamirpur (affiliating University) and BSNL Rajpura on dated 08/09/2016. The training is spaced between 3rd, 4th and 5th semester covering all three certificate programs (Silver, Gold and Platinum). The total fee of these courses is paid by the college.
- Sundry allowance @Rs.250/- per day is provided to the students who undergo 6-weeks Industrial Training (as per the HPTU curriculum after 6th semester).

### 9.5.5 Pre-Placement Training

- A separate training course "Employability skills Training" is designed by our college with NPIU for third year students (free of cost) to benefit the students to improve their skill sets by providing training in quantitative aptitude, logical reasoning, verbal aptitude, GD & PI and resume writing. NPIU had empaneled the competent and professional service providers for the

delivery of course based on the quality (EOIs, technical proposals and subsequent presentation). The details of the training provided is a below:

| Session | Employability Skill provider | Training Dates |
|---|---|---|
| Session 2019-20 | CL Educate Ltd. New Delhi | 27th Jan 2020 to 11th March 2020 |
| | KOAK Education | 19th Aug. 2019 to 11th Sep. 2019 |

***Table B.9.5.5: Employability Skills Training Details***

- Exposure regarding technical MCQs is provided to the students by conducting online contests on various technical topics. AMCAT Test is being conducted every year by M/s Aspiring Minds for all students from 1st to 4th year of all branches.
- Final Year students conduct inter and intra department group discussions in the T&P cell.

### 9.5.6 Workshops/Expert Lectures for Career Guidance, Soft Skills, and Motivation

| Session 2019-2020 | | | | |
|---|---|---|---|---|
| **Sr. No.** | **Name of Resource Person/Organisation** | **Program conducted** | **Period** | **Training Venue** |
| 1 | Mr. Vijay Jaiswal & Priya Singh, Pie infocomm private Ltd. Lucknow UP | Workshop on Managerial Skills, Entrepreneurship, Technical Skills, | 28-8-2019 to 30-8-2019 | JNGEC |
| 2 | Diwanshu & Ranvijay Singh (Sr. Business Manager), Sach. Tech Solution Pvt Ltd. Mohali (IT) | Workshop "DEVOPS" Latest (IT Technology) & Placement | 06-09-2019 | JNGEC |
| 3 | Sh. Aman Bakshi & Ishan Vaid, All Soft Solutions Ltd Mohali (IT) | Internet of Things | 19-09-2019 | JNGEC |
| 4 | M/s. Neha Kaushik, (A.P), IIT Mandi HP | Workshop on (Soft Skills & Resume Making) | 20-09-2019 | JNGEC |
| 6 | Harish Chawla (IT Manager), Ecomoceana Technologies Pvt. Ltd, Phase -8A, Mohali PB (IT) | Technical Workshop Development of Web enabled services & Applications | 03-10-2019 | JNGEC |
| 7 | Dr. A.K Chauhan & Dr. P. S. Sarkar Bhabha Atomic Research Centre Mumbai | BARC OUTREACH Program | 23-10-2019 | JNGEC |
| 8 | Anoop Thakur (CTO), Scope Telecom Pvt. Ltd Chandigarh | Workshop on Latest Technology | 14-11-2019 | JNGEC |

| | | | | |
|---|---|---|---|---|
| 9 | Dr. Preeti Puri (AP) Dr. B.R Ambedkar NIT Jalandhar | Roll of Communication Skills to succeed in an interview | 20-11-2019 | JNGEC |
| 10 | Kamaljeet Kaur H.R. Executive with Team, Punjab Engineering College, Chandigarh | Interactive session with placement team | 22-01-2020 | JNGEC |
| 11 | Kamaljeet Kaur H.R. Executive with Team, Punjab Engineering College, Chandigarh | Workshop on Pre-placement Trg. Career Development | 13th & 14 Feb 2020 | JNGEC |
| 12 | Diwanshu & Ranvijay Singh (Sr. Business Manager), Sach. Tech Solution Pvt Ltd. Mohali (IT) | Workshop on Python new technologies in IT Sector | 17-09-2020 | JNGEC |
| 13 | Ravi Chauhan (Vice President), Vardhman Textiles Limited Ludhiana | Workshop & Placement Drive | 04-10-2019 | JNGEC |
| 14 | Vasudev Vibhute (Inspection Manager), RSJ Inspection Service Ltd, Noida | Lecture & Placement Drive | 21-12-2019 | JNGEC |

***Table B.9.5.6a: Career Guidance Activities***

| **Session 2020-2021** | | | | |
|---|---|---|---|---|
| **Sr. No.** | **Name of Resource Organisation** | **Program conducted** | **Period** | **Training Venue** |
| 1 | Dr. Vijay Kumar (Sr. Lecturer), University of Boras Sweden | Artificial Intelligence in the field of Textile | 26-05-2021 | JNGEC |
| 2 | Dr. Radhika Vaid (Sr. Manager), Edward Life Sciences, United States | Bio Materials in Medical Applications | 29-05-2021 | JNGEC |
| 3 | Vijay Kumar Jaswal (Director) Pie Infocomm Lucknow | ORACLE 17 & its Usages | 11-1-2021-12-1-2021 | JNGEC |
| 4 | Er. Manoj Bhalaria, ManagerReliance JIO, Amritsar Punjab. | Radio Planning and Optimization | 03-06-2021 | JNGEC |
| 5 | Sh. Himanshu Saxena Senuior Deveops Engineer, Klarna Bank AB Stockholm, Sweden | On Diversity and Inclusion: High Impact drivers for innovation in the workplace and beyond | 03-05-2021 | JNGEC |
| 6 | Dr. Sushant Negi, Faculty, NIT, Silchar. | 'Advance Manufacturing and Non-Conventional Machining' | 22-05-2021 | JNGEC |
| 7 | Dr. Sushant Negi, Faculty, NIT, Silchar. | 'Additive Manufacturing 3D Printing, | 22-05-2021 | JNGEC |

| | | | | |
|---|---|---|---|---|
| 8 | Er. Govind Sharma DM, Jio Infotech Ltd. Mumbai | 'Conceptualization of Final Product: Using Software's prevalent in Parent Industrial Scenario, | 08-06-2021 | JNGEC |
| 9 | Mr. Rajesh Arora, Project manager Rohtang Tunnel/ Banihal Quazigund Tunnel | 'Rohtang Tunnel' | 17-05-2021 | JNGEC |
| 10 | Mr. Anand Kumar, Senior faculty member, ACE Engineering academy | A Guidance Program on Career Opportunities after B.Tech. | 25-05-2021 | JNGEC |
| 11 | Er. Pradeep Thakur, Town Planner | Bye-laws and Regulations in Building Planning' | 30-05-2021 | JNGEC |
| 12 | Dr. Vinayak Kaushal, Asst. Prof., University of Texas, USA | Use of Trenchless Technologies for Underground pipeline' | 08-06-2021 | JNGEC |
| 13 | Dr. Yoginder Enterpreneur Consultant | "Self-Employment" | 07-07-2021 | JNGEC |

***Table B.9.5.6b: Career Guidance Activities***

| **Session 2021-2022** | | | | |
|---|---|---|---|---|
| **Sr. No.** | **Name of Resource Person/ Organisation** | **Program conducted** | **Period** | **Training Venue** |
| 1 | NITTTR, Chandigarh | Entrepreneurial Career Orientation by Entrepreneurship Development Industrial Coordination Department | 28th - 29th August 2021 | JNGEC |
| 2 | GKC Consultants OPC Pvt. Ltd. New Delhi | 4D Project Management using Bentley Synchro 4D Software | 10-11-2021 | JNGEC |
| 3 | Dr. Vinayak Kaushal UTA (U.S.A) | Sustainable construction & infrastructure engineering, asset management, and construction, renewal, and management of infrastructure systems | 10-12-2021 | JNGEC |
| 4 | Dr. Hitesh Srimali, IIT Mandi | LEAP | 10-12-2021 | JNGEC |
| 5 | Dr. Pawan Kumar Rakesh A.P NIT Uttrakhand | Natural Fibre Reinforced Composites | 12-04-2022 | JNGEC |
| 6 | Dr. Dharmendra Tripathi Associate Prof. & Dean NIT Uttrakhand | Mathematical Modelling of Biological Transport Phenomena | 12-04-2022 | JNGEC |
| 7 | Dr. Mahipal Kularia Ph.D. Research Scholar School of Engineering IIT Mandi | Concrete Technology (CE606) Non-destructive testing | 26-04-2022 | JNGEC |
| 8 | Made Easy Education Pvt. Ltd. | How to Crack Civil Services Exam, GATE & PSUs | 27-05-2022 | JNGEC |

| | | | | |
|---|---|---|---|---|
| 9 | Prof. Jonathan Bredow (University of Texas) U.S.A | Techniques in remote sensing for sustainability (Online mode) | 08-10-2021 | JNGEC |
| 10 | Prof. Timothy Gonsalves (Former Director) IIT Mandi HP | Regarding the possible future on learning education through activity Program (LEAP) | 08-11-2021 | JNGEC |
| 11 | HR of Saleszshark | Paid industrial training/ internship | 16-12-2021 | JNGEC |
| 12 | Ace Engineering Academy, New Delhi | Latest Trends in Control Systems | 08-04-2022 | JNGEC |
| 13 | Dr. Dharmendra Tripathi Associate Prof. & Dean NIT Uttrakhand | Role of Mathematics in Engineering Sciences | 12-04-2022 | JNGEC |
| 14 | Dr. Ranjan Mishra (Associate Professor) UPES, Dehradun | Antenna Design, Interpretation and Presentation | | JNGEC |
| 15 | Sh. Dharmendra Pathania, GM (former) FL SMIDTH Pvt. Ltd. Chennai | "Preparing yourself for placement in private organization and resume writing" | 05-04-2022 | JNGEC |
| 16 | Dr. Pawan Kumar Rakesh A.P NIT Uttrakhand | 3D Printing process for Medical Applications | 12-04-2022 | JNGEC |
| 17 | Dr Sant Ram Associate Professor Dept. of Mech. Engg. NIT Hamirpur | Industrial Automation & Robotics | | JNGEC |
| 18 | Dr. Sumit Sharma Scientist R&D Elofic Industries Ltd. Faridabad | Non-woven in Filtration | 13-12-2021 | JNGEC |
| 19 | Mrinal Kanti Datta,<br>Faculty Amity School of fashion technology Noida | Textile Technology | 07-01-2022 | JNGEC |
| 20 | Ramesh Kumar Thakur, Chief General Manager, Bhuttico Weavers Co.op Society Ltd. Kullu | Introduction to Textile Yarn to Finish Processes | 27-04-2022 | JNGEC |

***Table B.9.5.6c: Career Guidance Activities***

### 9.5.6 Placement Process and Support

- Invitation via email and calls are made consistently to the HR officials of various companies by Training and Placement Cell Representatives to fix appointments for inviting them to the college for the conduct of campus recruitment drive.
- After confirmation from the HR Official, Company profile and job profile is explained to the students who are eligible to attend the interview
- Recruiters visit the campus on the allotted dates and conduct recruitment process.

- The company hand over the duly signed hard copy or mail copy of the final selection list to the Training and Placement Cell.
- The offer letters are distributed to the selected candidates by Training and Placement Officer.

**List of Industries/ Organisation with whom JNGEC have signed MoU's**

| Sr.No. | MoU signing Date | Name of Industry/ Organisation/ Institution |
|---|---|---|
| 1 | 29-09-2022 | Dr. B.R. Ambedkar Govt. Polytechnic College Ambota, Distt. Una H. P |
| 2 | 12-04-2022 | National Institute of Technology Uttarakhand, Srinagar (Garhwal) Uttarakhand |
| 3 | 01-11-2021 | Govt. Polytechnic College (Women) Rehan Kangra |
| 4 | 06-10-2021 | Phytec Embedded Pvt. Ltd. Bangalore |
| 5 | 06-10-2021 | Solex Energy Ltd, Surat, Gujarat |
| 6 | 08-07-2021 | Bhutti Weavers Cooperative Society Ltd. Bhutti Colony, Teh. Bhunter Distt. Kullu H. P |
| 7 | 22-06-2021 | Govt. Millennium Polytechnic Chamba H. P |
| 8 | 03-05-2021 | University of Texas at Arlington (U.S.A) |
| 9 | 19-03-2021 | Govt College of Engineering Kannur, Kerala |
| 10 | 19-03-2021 | Government Polytechnic Kullu, Distt. Kullu H. P |
| 11 | 12-03-2021 | National Institute of Technology Srinagar (J&K) |
| 12 | 08-02-2021 | Dr. B.R. Ambedkar National Institute of Technology Jalandhar Punjab |
| 13 | 15-01-2021 | National Technology of Technology Hamirpur H. P |
| 14 | 23-12-2020 | Indian Institute of Technology Mandi H. P |
| 15 | 18-12-2020 | National Institute of Fashion Technology Kangra H. P |
| 16 | 18-12-2020 | "PVC" NSSK Government Polytechnic Bilaspur H.P |
| 17 | 27-11-2020 | Microtek New Technologies Pvt. Ltd Sec-2, Parwanoo, Distt. Solan H. P |
| 18 | 26-09-2019 | Mahadev Wollen Mills, Sundernagar, H. P |
| 19 | 26-09-2019 | EME Technologies C-134, PUNCOM Technology Park Phase -8 Industrial Area Mohali, Punjab |
| 20 | 25-09-2019 | Hospiwheels Private Ltd. C-3272, Green Field Colony Faridabad 121010 |
| 21 | 25-09-2019 | AOV-INSTROMEDIX, B-38, Phase-II, Noida (U.P) |
| 22 | 20-08-2014 | Forest Training Institute Sundernagar H. P |

***Table B.9.5.6d: List of MOU's with institutions/organisations***

### 9.6. Entrepreneurship Cell (5)

(*The institution may describe the facility, its management and its effectiveness in encouraging entrepreneurship and incubation*) *(Success stories for each of the assessment years are to be mentioned*)

Entrepreneurship cell has been established in the institution for encouraging and inspiring students for start-ups and entrepreneur**.**

| Sr. No. | Name and Designation | Role in Committee |
|---|---|---|
| 1. | Dr. Vivek, Assistant Professor (CE) | Chairman |
| 2. | Mr. Vinay Sharma, Assistant Professor (AS & H) | Member |
| 3. | Dr. Vicky, Assistant Professor (ECE) | Member |
| 4. | Mr. Dinesh Bhatia, Assistant Professor (TE) | Member |
| 5. | Mr. Rohit Bhardwaj, Assistant Professor, (ME) | Member |

***Table B.9.6a: Entrepreneurship cell***

The roles of the Committee are as follows:

- Initiative and Development of Startups/Incubations
- Initiative towards centre of excellence
- Relationship with companies
- Motivate students, guide, and help them in the same direction.

The activities organized by the committees are mentioned in the following table:

| S.No | Activity | Title | Date | Venue |
|---|---|---|---|---|
| 1 | Expert Lecture | Orientation Session | 30th August 2019 | JNGEC Sundernagar |
| 2 | Hackathon Competition | A Hackathon Cum Start- Up Awareness Event | 19th -21st August, 2019 | RGGEC Nagrota Bagwan Kangra |
| 3 | Hackathon Competition | A Hackathon cum idea pitching competition | 12th -13th September, 2019 | JNGEC Sundernagar |
| 4 | Expert Lecture | Problems not discussed in class | 5th December, 2020 | Online |
| 5 | Expert Lecture | Implementation of Startup and NISP policy in the field of Engineering | 30th January, 2021 | Online |
| 6 | Expert Lecture | Rendezvous with Innovation & Startups | 06th February, 2021 | Online |
| 7 | Expert Lecture | Benefit of the startup in students' life | 06th February, 2021 | Online |
| 8 | Workshop | Transcending Innovations | 6th March, 2021 | JNGEC Sundernagar |

***Table B.9.6b: Entrepreneurship cell***

### 9.7. Co-curricular and Extra-curricular Activities (10)

(*The institution may specify the co-curricular and extra-curricular activities*) (*Quantify activities such as NCC, NSS etc.*)

The Insitute provides an opportunity to develop skills and exhibit their non-academic abilities. These activities provide students exposure to things and activities that reside outside their academic curriculum where the overall personality development of students takes place. The extra-curricular activities are responsible for grooming students' overall personality. Extra-curricular activities allow students to pursue their goals and interests outside of their standard academic curriculum. By keeping in mind, JNGEC organised following activities in different sessions.

#### 9.7.1 Annual Activities

| S. No | Event | Participants | Month & Year of Conduction |
|---|---|---|---|
| 1. | TWASK (2019 & 2022) | Students from various Engg. disciplines | 26th April 2019 |
| | | | 7th – 8th Nov. 2019 |
| | | | 7th -8th July 2022 |
| 2. | Alumni Meet 2021 | Pass out students from various Engg. disciplines | 27th Nov 2021 |

***Table B.9.7.1: Annual Activities***

#### 9.7.2 Extra-Curricular Activities

| S. No | Name of Event | S. No | Name of Event |
|---|---|---|---|
| 1. | Induction Program | 10. | Red Cross Fair |
| 2. | Swachta Abhiyan | 11. | World Aids Day |
| 3. | Blood Donation | 12. | Essay Competition |
| 4. | Donation of clothes | 13. | Bhang Ukharo Abhiyan |
| 5. | Republic Day | 14. | Shahidi Diwas |
| 6. | Independence Day | 15. | Social Service |
| 7. | Teachers Day | 16. | International Day of Yoga |
| 8. | Voter Awareness Program | 17. | Rangoli Competition |
| 9. | Earthquake Mock Drill | | |

***Table B.9.7.2: Extra-Curricular Activities***

**9.7.3 A Sports Activities (Outside College)**

| S.No. | Event Name | Date | Venue | Games | Participants |
|---|---|---|---|---|---|
| 1. | HPTU Annual Sports Meet 2018-19 | May 2019 | SIRDA, Institute of Engineering & Technology | Volleyball, Basketball, Kabaddi, Badminton | 46 |
| 2 | PARAKRAM-19 | October 2019 | JP University of IT, Waknaghat Solan HP | Badminton, Basketball, Kabaddi | 30 |
| 3 | Sports Meet (RANN-NETI) | October 2019 | IIT Mandi, HP | Volleyball, Badminton, Basketball, Kabaddi | 30 |
| 4 | HPTU Annual Sports Meet 2019-20 | March 2020 | Laureate Institute of Pharmacy, Dehra HP | Volleyball, Badminton, Basketball, Kabaddi | 41 |
| 5. | Sports Meet (RANN-NETI) | November 2022 | IIT Mandi, HP | Volleyball, Badminton, Basketball, Table-tennis, Chess | 58 |

***Table B.9.7.3a: Sports Activities outside College***

**9.7.3 B Sports Activities (In College)**

| S.No. | Event | Duration | Games/ Sports | Participants |
|---|---|---|---|---|
| 1 | FIT INDIA FREEDOM RUN 2.0 | 24th September 2021 | Running competition | 56 |
| 2 | Inter College sports Meet 2022 | 1st January to 3rd January 2022 | Volleyball, Badminton, Chess, Carrom, Table Tennis | 207 |
| 3 | Inter Department Open Indoor Competition 2022 | 22nd June to 23rd June 2022 | Chess, Carrom, Table Tennis | 140 |

***Table B.9.7.3b: Sports Activities in College***

**9.7.4A The Indian Society for Technical Education (ISTE)**: ISTE at JNGEC Sundernagar was started in the year 2014 with a strength of 256 students. Activities organised under ISTE student chapter are as follows.

- Benefits of ISTE membership to students and teachers conducted on 28th may 2022.
- Industrial Automation and Robotics by Dr. Sant Ram Chauhan, Associate professor NIT Hamirpur

**9.7.4B The Institution of Electronics and Telecommunication Engineers (IETE):** Presently there are 56 student members of this IETE forum from the Dept. of Electronics and Communication Engineering in Jawaharlal Nehru Government Engineering College. Various events organised are as follows:

| S. No. | Event | No. of Participants | Winners |
|---|---|---|---|
| 1 | **Hackathon** | 140 | Atul Dhiman, Ritik Sharma, Ashish Thakur |
| a. | Logical Reasoning | | |
| b. | Group Discussion | | |
| c. | Live Problem Solving | | |
| 2 | Tecnical Quiz | 40 | Nikhil Chauhan, Anshul Thakur |

***Table B.9.7.4a: IETE Events***

**9.7.4C Institution of Engineer India (IEI): (Civil Engineering, Student Chapter)**

Institution has got the membership of Institute of Engineer on 24th Dec 2020. A total of around 100 students of B.Tech Civil Engineering are members of Student Chapter (established on 13th April 2021) of the same. The details of activities carried under Institution of Engineers Student Chapter of Civil Engineering are as follows:

| S.No | Event Details | Date | Participants |
|---|---|---|---|
| 1 | Workshop on New Trends in Civil Engineering under Institution of Engineers | 21/12/21 | 1st – 4th year B.Tech CE members of ISTE |
| 2 | Workshop on Smart Technologies in Civil Engineering | 7/5/2022 | |

***Table B.9.7.4c: IEI Events***

**9.7.5 National Service Scheme (NSS):**

NSS is a voluntary association of young people in Colleges, Universities. The cardinal principle of the NSS program is that it is organized through participation in community service; gets a sense of involvement in the task of nation building. Some activities held under NSS are as below:

| S. No | Name of Event | Date | Venue |
|---|---|---|---|
| 1 | NSS day | 15-01-2021 | JNGEC Campus |
| 2 | Matrabhasha divas | 21-02-2021 | JNGEC Campus |
| 3 | Visit to nearby villages | 28-02-2021 to 29-02-2021 | Thathar and Thala villages |
| 4 | Vanamahotsav Week | 01-07-2021 to 7-7-2021 | JNGEC Campus |
| 5 | Campaign on Earthquake preparedness disaster management | 06-08-2021 | JNGEC Campus |
| 6 | N.S.S Foundation Day | 24-09-2021 | JNGEC Campus |

| | | | |
|---|---|---|---|
| 7 | Swatch Bharat Abhiyan: | 02-10-2021 | JNGEC Campus |
| 8 | Guest lecture on Dental Hygiene and Oral Health | 21-11-2021 | JNGEC Campus |
| 9 | Introduction session to about NSS to the freshers during the Induction Program. | 01-10-2021 | JNGEC Campus |
| 10 | Weaker Section Day | 22-11-2021 | Sundernagar |
| 11 | Human Rights Day | 10-12-2021 | Sundernagar |
| 12 | Vijay Diwas Celebration | 16-12-2021 | JNGEC Campus |
| 13 | Participation in the Blood Donation Camp (29/12/21) | 29-12-2021 | JNGEC Campus |
| 14 | Vaccination Drive (30/12/21) | 30-12-2021 | JNGEC Campus |
| 15 | Participation of NSS Volunteers in cultural night of State level Nalwar Mela Sundernagar. | 30-03-2022 | Sundernagar |
| 16 | Guest lecture on ayurveda by ayurvedic medical officer conducted by NSS Unit | 04-06-2022 | JNGEC Campus |
| 17 | Yoga Day celebration organised by NSS Unit | 21-06-2022 | JNGEC Campus |
| 18 | Special Camping Program | 24-12-2021 to 30-12-2021 | JNGEC Campus |
| 19 | Participation of NSS Volunteers in distribution of water bottles during Jalab of Devta Mela at Sundernagar | 28-03-2021 to 10-04-2021 | Sundernagar |

***Table B.9.7.5: NSS Activities***

### 9.7.6 Unnat Bharat Abhiyaan

The Institute has adopted villages in the vicinity under Unnat Bharat Abhiyaan. The students conduct surveys from time to time in the adopted villages. Under UBA five villages are adopted by Jawahar Lal Nehru Govt. Engg College namely, Chamukha, Kapahi, Thathar, Thala and Der Du.

Three villages survey have been conducted successfully on the below mentioned dates:

| S.No. | Adopted Village Name | Date of Survey |
|---|---|---|
| 1 | Thathar | 28.02.2020 |
| 2 | Thalla | 29.02.2020 |
| 3 | Derdu | 01.03.2020 |

***Table B.9.7.6: UBA Activities***

The purpose of this activity was to visit adopted villages located in the neighboring areas of the institution and carry out a survey, gathering basic household information of the people residing in the adopted villages of Thathar, Thalla and Derdu in Sundernagar.

34 Volunteers from 1st, 2nd and 3rd year of different branches were accompanied by faculty member Er. Chetan Sharma to all these aforementioned villages.

### 9.7.7 National Cadet Corps (NCC):

NCC of Jawaharlal Nehru Govt. Engineering College (JNGEC) was established in July 2016 under the 2HP BN NCC Mandi. The sanctioned strength of NCC Unit is 50 cadets (Fifty Cadets). Er. Ankush Sharma is NCC caretaker. NCC aims at developing discipline, character, brotherhood, the spirit of adventure and ideals of selfless service amongst young citizens. Not only these, it also aims to enlighten leadership qualities among the youth who will serve the Nation regardless of which career they choose. It also motivates the young to choose a career in armed forces.

**NCC Results**

**NCC BEE Certificate Exam Details**

| S.No. | Session | Appeared Cadets | Passed Cadets | Results | | |
|---|---|---|---|---|---|---|
| | | | | A Grade | B Grade | C Grade |
| **1** | 2019-20 | 19 | 19 | 12 | 07 | Nil |
| **2** | 2020-21 | 16 | 16 | 10 | 06 | Nil |
| **3** | 2021-22 | 15 | 15 | 15 | Nil | Nil |

***Table B.9.7a: NCC BEE Certificate Details***

**NCC CEE Certificate Exam Details**

| S.No. | Session | Appeared Cadets | Passed Cadets | Results | | |
|---|---|---|---|---|---|---|
| | | | | A Grade | B Grade | C Grade |
| **1** | 2019-20 | 12 | 12 | 03 | 09 | Nil |
| **2** | 2020-21 | 19 | 19 | 05 | 14 | Nil |
| **3** | 2021-22 | 15 | 15 | 13 | 02 | Nil |

***Table B.9.7b: NCC BEE Certificate Details***

**Social Services and Community Development Program /Activities under NCC**

1. Blood Donation
2. Tree Plantation /Van Mahotsav
3. Swachta Abhiyan /Cleanliness Drive
4. Education to Slum Area Children
5. Social Evils Awareness Rallies
6. Disaster Awareness Exercise
7. Celebration of Republic Day (Every Year)

8. Celebration of Independence Day (Every Year)

9. Community service during lockdown/ COVID pandemic

| Session 2019-2020 | | | | |
|---|---|---|---|---|
| **Sr. No.** | **Event Organized** | **Duration** | **Place** | **Cadets Participated** |
| 1 | Celebration of Independence Day | 15 August 2019 | JNGEC | 50 |
| 2 | Swatch Bharat Abhiyan | 01 October 2019 | JNGEC | 50 |
| 3 | Celebration of Republic Day | 26 January 2020 | JNGEC | 50 |
| 4 | Shahidi Diwas Celebration | 23 March 2020 | Online | 30 |
| 5 | World Environment Day | 05 June 2020 | Online | 35 |
| 6 | Nasha Mukt Abhiyaan | 26 June 2020 | Online | 50 |
| 7 | World Population Day | 11 July 2020 | Online | 50 |
| 8 | Kargil Vijay Diwas | 26 July 2020 | Online | 50 |

***Table B.9.7c: NCC Activities for session 2019-2020***

| Session 2020-2021 | | | | |
|---|---|---|---|---|
| **Sr. No.** | **Event Organized** | **Duration** | **Place** | **Cadets Participated** |
| 1 | Celebration of Independence Day | 15 August 2020 | Online | 50 |
| 2 | Swatch Bharat Abhiyan | 01 October 2020 | Online | 50 |
| 3 | Celebration of Republic Day | 26 January 2021 | JNGEC | 50 |
| 4 | Water day Celebration | 22 March 2021 | JNGEC | 32 |
| 5 | Shahidi Diwas Celebration | 23 March 2021 | JNGEC | 30 |
| 6 | World Environment Day | 05 June 2021 | JNGEC | 35 |
| 7 | International Yoga Day Celebration | 21 June 2021 | JNGEC | 50 |
| 8 | Nasha Mukt Abhiyaan | 26 June 2021 | JNGEC | 50 |

***Table B.9.7d: NCC Activities for session 2020-2021***

| Session 2021-2022 | | | | |
|---|---|---|---|---|
| **Sr. No.** | **Event Organized** | **Duration** | **Place** | **Cadets Participated** |
| 1 | Celebration of Independence Day | 15 August 2021 | JNGEC | 50 |
| 2 | Fit India Movement 2.0 | 24 September 2021 | JNGEC | 30 |
| 3 | Combined Annual Training Camp | 27 Nov 2021 to 3 December 2021 | Pandoh, Mandi | 15 |

| | | | | |
|---|---|---|---|---|
| 4 | Combined Annual Training Camp | 4 December 2021 to 10 December 2021 | Pandoh, Mandi | 15 |
| 5 | Celebration of Republic Day | 26 January 2022 | JNGEC | 50 |
| 6 | Water day Celebration | 22 March 2022 | JNGEC | 33 |
| 7 | Shahidi Diwas Celebration | 23 March 2022 | JNGEC | 35 |
| 8 | World Environment Day | 05 June 2022 | JNGEC | 35 |
| 9 | International Yoga Day Celebration | 21 June 2022 | JNGEC | 50 |
| 10 | Nasha Mukt Abhiyaan | 26 June 2022 | JNGEC | 50 |

***Table B.9.7e: NCC Activities for session 2020-2021***

## 10. GOVERNANCE, INSTITUTIONAL SUPPORT AND FINANCIAL RESOURCES (120)

### 10.1 Organization, Governance and Transparency (40)

#### 10.1.1 State the Vision and Mission of the Institute (5)

**Our Vision**

"To be a premier institution imparting value-based education enabling innovation in frontier areas of technology that propels development of society at national and global arena"

**Our Mission**

**M1** To create an environment that enables creativity, research and innovation in engineering and technology.

**M2** To impart value-based education that created leaders in engineering for upliftment of society at large.

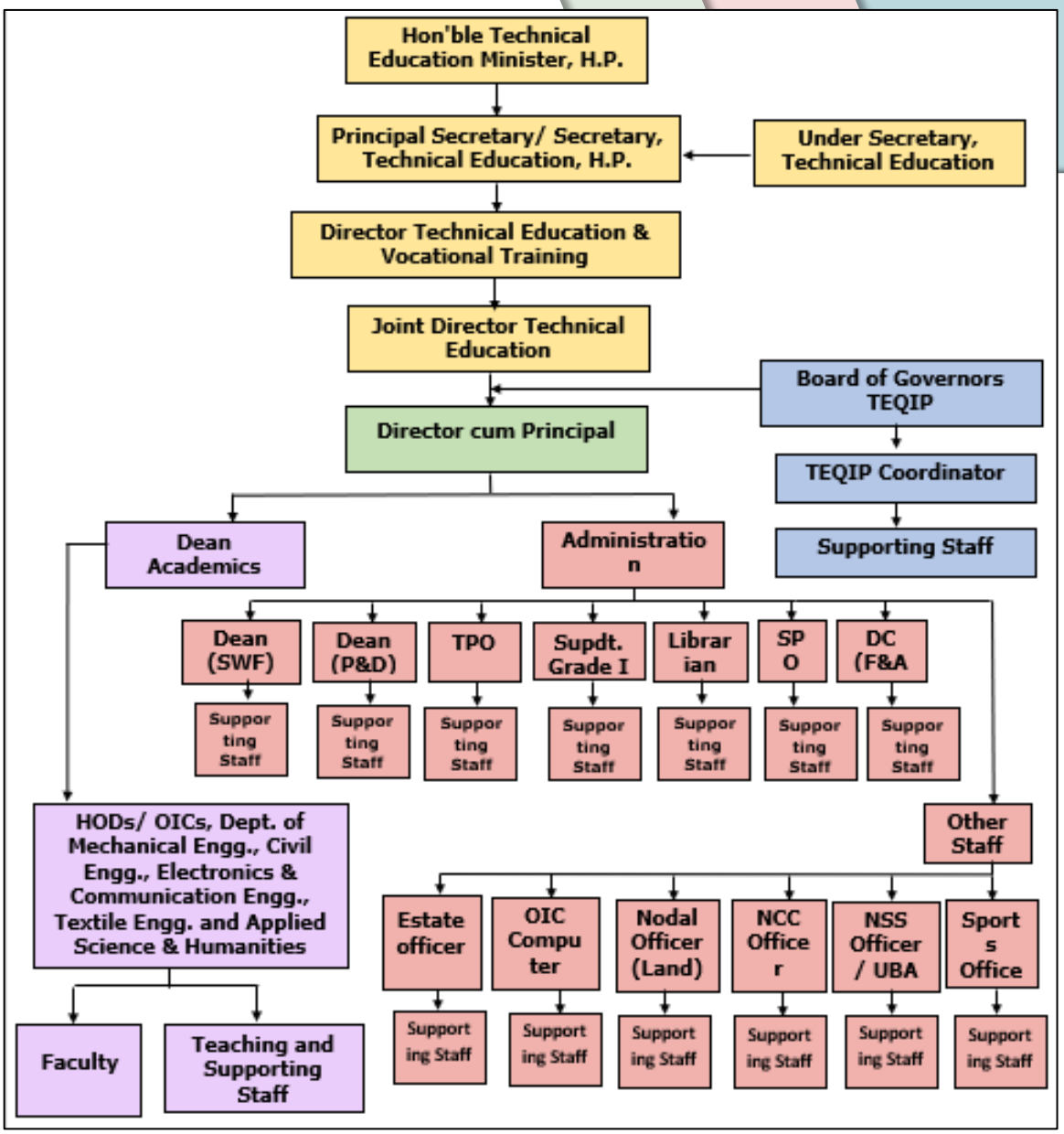
**M3** To strive for continues improvement in imparting technical education.

**M4** To have a liasion with lead institutions and industries.

#### 10.1.2 Governing body, administrative setup, functions of various bodies, service rules, procedures, recruitment and promotional policies (10)

*(List the governing, senate, and all other academic and administrative bodies; their memberships, functions, and responsibilities; frequency of the meetings; and attendance therein, in a tabular form. A few sample minutes of the meetings and action-taken reports should be annexed. The published rules including service rules, policies, and procedures; year of publication shall be listed. Also state the extent of awareness among the employees/students.)*

Organization chart of the institute is given as under:




**10.1.2 Governing Body and Functions of various Bodies: -**

This institution being a Govt. Institution, is funded, regulated and administered as per the rules/regulation and instruction issued by the Govt. (Dept. of Technical Education). The dept. is administered by the principal Secretary (Technical Education to the Govt. of H.P.) and headed by the Director (Technical Education Vocational & industrial Training Sundernagar) The Director cum Principal acts as controlling, drawing and disbursing officer. The Director –Cum –Principal, Jawaharlal Nehru Govt. Engg. College Sundernagar is also conferred with the financial delegation for the budget provided from time to time by Govt. of Himachal Pradesh.

As per the budgetary requirement of institution, institution is provided with the fund under planned & non planned category and Director /Principal execute purchase as per the provision of rules / regulation contained in the Himachal Pradesh Financial Rules Regulation.

Director cum principal is also authorized by the H.P. Govt. to use funds provided under students' welfare scheme (SWF)as per the rule regulation contained in the student's welfare scheme, which are amended from time to time.

A students welfare committee (SWF) is also constituted is the institution to approve the various expenditure/approvals, which are the academic & other interest of students

Head of Dept. of various branches act as controlling officers for various faculty/staff in each department.

All the proposals for the purpose of procurement/academic interest etc. is initiated by the department & sent to the Director office for approval.

The appointment of faculty and staff is made by the recruiting agencies of the State Govt. i.e. HPPSC and HPSSB as per the R & P rules prescribed for various posts by the Govt. The Govt. of Himachal Pradesh vide Notification no. END(TE)F(1)/2017 dated 18-05-2018 has also constituted Board of Governors ( BOG under 'Technical Education Quality improvement Program" (TEQIP) Phase-lll-A World Bank funded project. The Board is having following members:-

| | | |
|---|---|---|
| 1. | Dr. Lalit Sharma, BTH-114, Teachers Colony, H.P. University, Summer Hill.Shimla-171005, H.P.Contact No. 98166-01405 (Nominated by the State Govt.) | Chairperson |
| 2. | Two faculty members to be nominated by the Director/Principal of Jawahar Lal Nehru Govt. Engineering Colleges Sundernagar. District Mandi H.P. based on seniority. | Member |
| 3. | Sh Jatinder Sharma C/O Sh J.D. Traders, Lalit Chowk Sundernagar, District Mandi H.P.Contact No 94184 6605(Eminent Educationist)Nominated by the State Govt. | Member |
| 4. | Shri Arun Kumar Sharma S/O Sh Shakti Chand Kaundal Resident of Haripur P.O & Tehsil Sundernagar, District Mandi H.P. ContactNo 94184-96496(Eminent Educationist) Nominated by the State Govt. | Member |
| 5. | Shri Shiv Singh Sen. Village Salah, P.O. Bhojpur.Tehsil Sundernagar. District Mandi HP Contact No 94184-84500 (Eminent Educationist)Nominated by the State Govt. | Member |
| 6. | AICTE Nominee(To be Nominated by AICTE) | Member |
| 7. | Joint Director, Technical Education(State Govt. Nominee) | Member |
| 8. | Dean (P&D) HimTU, University Nominee | Member |
| 9. | Director/Principal of Institution | Ex Officio Member/Member Secretary |
| 10. | Prof. Rajesh Bhatia, Professor & Head, Department of Computer Science &Engg, PEC University of Technology rbhatia@pec.ac.in | AICTE Representative |

## DETAILS OF BOARD OF GOVERNORS MEETINGS

| S.NO. | DESCRIPTION OF MEETINGS | DATE |
|---|---|---|
| 1. | Minutes of the 15th Board of Governors (BOG) under TEQIP-III project | 17-03-2021 |
| 2. | Minutes of the 14th Board of Governors (BOG) under TEQIP-III project | 05-02-2021 |
| 3. | Minutes of the 13th Board of Governors (BOG) under TEQIP-III project | 11-12-2020 |
| 4. | Minutes of the 12th Board of Governors (BOG) under TEQIP-III project | 28-09-2020 |
| 5. | Minutes of the 11th Board of Governors (BOG) under TEQIP-III project | 17-08-2020 |
| 6. | Minutes of the 10th Board of Governors (BOG) under TEQIP-III project | 20.05.2020 |
| 7. | Minutes of the meeting held with HOD's /OIC /TPO /Coordinators NBA & TEQIP-III /SPO /Estate Officer /Deputy Controller (F&A) /Superintendent Grade-I. | 05.03.2020 |
| 8. | Minutes of the 9th Board of Governors (BOG) under TEQIP-III project | 10.02.2020 |
| 9. | Minutes of the 8th Board of Governors (BOG) under TEQIP-III project | 21.12.2019 |
| 10. | Minutes of the meeting held with HOD's /OIC's /TPO /Coordinator TEQIP-III/NBA & Gate Coordinator /Incharge Employability Skill Training /Asst. Dean Academics/OIC Mid Term Examinations. | 19.10.2019 |
| 11 | Minutes of the 7th Board of Governors (BOG) under TEQIP-III project | 26.09.2019 |
| 12 | Minutes of the meeting held with the HODS /OICS /TPO / Coordinator TEQIP-III /Store Purchase Officer /GATE Coordinator /Departmental Coordinator (NBA) /Estate Officer and Deputy Controller (F&A). | 17.08.2019 |
| 13. | Minutes of the 6th Board of Governors (BOG) under TEQIP-III project | 12.07.2019 |
| 14. | Minutes of the 5th Board of Governors (BOG) under TEQIP-III project | 22.06.2019 |
| 15 | Minutes of the 4th Board of Governors (BOG) under TEQIP-III project | 30.03.2019 |
| 16 | Minutes of the 3rd Board of Governors (BOG) under TEQIP-III project | 22.12.2018 |
| 17. | Minutes of the 3rd Board of Governors (BOG) under TEQIP-III project | 22.12.2018 |
| 18. | Minutes of the 2nd Board of Governors (BOG) under TEQIP-III project | 15.09.2018 |
| 19. | Minutes of 1st meeting of Board of Governors under TEQIP-III project | 28.09.2017 |
| 20. | Minutes of meeting regarding TEQIP-III held with HOD's/OIC's/JC (F&A)/SPA/Dean Academics. | 05.05.2017 |

## DETAILS OF DIRECTOR'S MEETINGS

| S.NO. | DESCRIPTION OF MEETINGS | DATE |
|---|---|---|
| 1. | All HODs/OICs Relate to NBA. | 09-09-2022 |
| 2. | All HODs/OICs | 02-09-2022 |
| 3. | All HODs/OICs | 04-07-2022 |

| | | |
|---|---|---|
| 4. | Twask-2022 | 09-05-2022 |
| 5. | Purchase Committee meeting | 04-05-2022 |
| 6. | All HODs/OICs | 30-04-2022 |
| 7. | All HODs/OICs | 07-04-2022 |
| 8. | Unserviceable store article | 01-04-2022 |
| 9. | All HODs/OICs/TPO/SupDt.G-I & Staff | 03-03-2022 |
| 10 | All HODs/OICs | 14-02-2022 |
| 11 | All HODs/OICs &, TPO & All Officers | 08-02-2022 |
| 12 | All HODs/OICs | 01-02-2022 |
| 13 | All HODs/OICs/NCS, TPO& Departmental co-coordinator TPR | 15-12-2021 |
| 14 | All HODs/OICs &, Er.Amit Kumar A.P.TE | 14-12-2021 |
| 15 | All HODs/OICs &, TPO & All Officers | 23-11-2021 |
| 16 | HODs/OICs, TEQIP-lll Coordinator, TPO,SPO, DC(F&A), Librarien, Sport, All Officers | 22-11-2021 |
| 17 | Meeting with JAN MANCH Committee of Mandi Distt | 17-11-2021 |
| 18 | All HODs/OICs & All officers | 11-11-2021 |
| 19 | All HODs/OICs | 28-10-2021 |
| 20 | All HODs/OICs & TEQIP-lll Coordinator, TPO& Faculty members | 22-10-2021 |
| 21 | All HODs/OICs | 18-09-2021 |
| 22 | HODs/OICs, TPO, DC(F&A), | 14-09-2021 |
| 23 | Meeting with JAN MANCH Committee of Distt Mandi | 01-09-2021 |
| 24 | All HODs/OICs | 07-08-2021 |
| 25 | HODs/OICs, TEQIP-lll Coordinator, TPO,SPO, DC(F&A), Co-ordinator Spoken Tutorial | 29-07-2021 |
| 26 | HODs/OICs, TEQIP-lll Coordinator, TPO, DC(F&A), Supdt.G- | 14-07-2021 |
| 27 | HODs/OICs, TEQIP-lll Coordinator, TPO, DC(F&A), Supdt.G- | 13-07-2021 |
| 28 | All HODs/OICs | 07-07-2021 |
| 29 | HODs/OICs, TEQIP-lll Coordinator, TPO, DC(F&A), Supdt.G-I | 30-06-2021 |
| 30 | Checking the drawing /estimates/Drawing of new Instituional Block Building. | 29-4-2021 |
| 31 | All HODs/OICs | 01-04-2021 |
| 32 | HODs/OICs, Supdtt.-I NBA Coordinator& Deptt. NBA Coordinator& Spotting Staff | 24-03-2021 |
| 33 | Examination the proposal to smart india interaction | 05-03-2021 |

| | | |
|---|---|---|
| 34 | HODs/OICs, TPO,DC(FA), NBA Coordinator& Deptt. NBA Coordinator | 04-03-2021 |
| 35 | HODs/OICs, NBA Coordinator& Deptt. NBA Coordinator | 15-02-2021 |
| 36 | HODs/OICs, TPO, NBA Coordinator& Deptt. NBA Coordinator | 09-02-2021 |
| 37 | HODs/OICs, TEQIP-ll Coordinator, TPO, DC(F&A), Supdt.G-l | 03-02-2021 |
| 38 | All HODs/OICs | 29-01-2021 |
| 39 | Meeting with JAN MANCH Committee of Mandi Distt | 27-01-2021 |
| 40 | All HODs/OICs | 23-01-2021 |
| 41 | HODs/OICs, TEQIP-ll Coordinator, TPO, DC(F&A), Supdt.G-l | 16-01-2021 |
| 42 | All HODs/OICs &DC(FA) | 08-01-2021 |
| 43 | Dean Academic, Assistant Dean Academic DC(F&A) &jr.Auoditor | 06-01-2021 |
| 44 | All HODs/OICs | 15-12-2020 |
| 45 | All HODs/OICs | 03-12-2020 |
| 46 | Meeting With NHAI in respect of Industry training | 02-12-2020 |
| 47 | Meeting with chairman Purchage Committee | 01-12-2020 |
| 48 | All HODs/OICs | 29-11-2020 |
| 49 | HODs/OICs, TEQIP-ll Coordinator, TPO, DC(F&A), Supdt.G-l | 26-11-2020 |
| 50 | Meeting with JAN MANCH Committee of Mandi Distt | 4-11-2020 |
| 51 | HODs/OICs, Dean Academic, TPO, DC(F&A),GATE Coordinator &Deptt. GATE Coordinator | 02-11-2020 |
| 52 | All HODs/OICs | 13-10-2020 |
| 53 | All HODs/OICs, | 13-10-2020 |
| 54 | OIC Estt.,DC(F&A)& other ministerial staff, Regular/ contractual/consolidate and Outsources staff | 07-10-2020 |
| 55 | HODs/OICs, TEQIP-ll Coordinator, TPO, DC(F&A), Supdt.G-l & Sh Dinesh Bhatiya AP TE. | 06-10-2020 |
| 56 | HODs/OICs, TEQIP-ll Coordinator, TPO, DC(F&A), Supdt.G-l | 05-09-2020 |
| 57 | HODs/OICs, Dean Academics | 11-08-2020 |
| 58 | HODs/OICs, TEQIP-ll Coordinator, TPO, DC(F&A), Supdt.G-l | 05-08-2020 |
| 59 | HODs/OICs, TPO, TEQIP Coordinator, DC F&A, Supdt.G-l | 24-06-2020 |
| 60 | HODs/OICs, faculty, staff, Regular/ contractual/consolidate and Outsources staff | 06-03-2020 |
| 61 | HODs/OICs, TPO, SPO, TEQIP Coordinator, DC F&A, Supdt.G-l | 05-03-2020 |
| 62 | HODs/OICs, TPO, TEQIP Coordinator | 29-02-2020 |

| | | |
|---|---|---|
| 63 | HODs/OICs, TPO, SPO, TEQIP Coordinator & other staff NBA Accreditation | 12-02-2020 |
| 64 | HODs/OICs, TPO, SPO, TEQIP Coordinator, DCF&A, Supdt. G-I | 11-02-2020 |
| 65 | HODs/OICs, TPO, Coordinator, DCF&A | 07-01-2020 |
| 66 | HODs/OICs, TPO, TEQIP Coordinator/ GATE Coordinator | 19-11-2019 |
| 67 | HODs/OICs, TPO, TEQIP Coordinator/ GATE Coordinator | 05-11-2019 |
| 68 | HODs/OICs, TPO, NBA Coordinator/ GATE Coordinator/ Exam Coordinator | 19-10-2019 |
| 69 | HODs/OICs, TPO, | 05-10-2019 |
| 70 | HODs/OICs, IIC Midterm | 13-09-2019 |
| 71 | HODs/OICs, TPO, TEQIP Coordinator/SPO/GATE Coordinator/Nodal officer(Procurement)In charge Employability skill, | 02-09-2019 |
| 72 | HODs/OICs, TPO, TEQIPCoordinator Estate office | 14-08-2019 |
| 73 | HODs/OICs, TPO, TEQIP Coordinator, DCF&A | 27-07-2019 |
| 74 | Faculty & Staff of all Departments | 24-07-2019 |
| 75 | HODs/OICs, TPO, TEQIP-lll Coordinator/SPO/GATE Coordinator/Nodal officer(Procurement), | 23-07-2019 |
| 76 | HODs/OICs, TPO, Coordinator TEQIP-lll, Estate office/DCF&A | 22-07-2019 |
| 77 | HODs/OICs, TPO, Coordinator TEQIP-lll& Nodal officer | 09-07-2019 |
| 78 | HODs/OICs, Faculty of all Departments | 01.06.2019 |
| 79 | HODs/OICs, NBA Coordinators | 30.04.2019 |
| 80 | HODs/OICs, JCFA, Dean Academics, TEQIP- III Coordinator | 30.04.2019 |
| 81 | HODs/OICs, JCFA, TPO, Dean Academics, Superintendent (Grade I), Librarian, Time TableIncharge | 13.03.2019 |
| 82 | HODs/OICs, TPO | 22.02.2019 |
| 83 | HODs/OICs, JCFA, TPO, Dean Academics | 05.02.2019 |
| 84 | HODs/OICs, GATE Classes Coordinator | 22.01.2019 |
| 85 | HODs/OICs, GATE Classes Coordinator | 18.01.2019 |
| 86 | NBA Coordinators, TPO | 04.12.2018 |
| 87 | HODs/OICs, Dean Academics | 22.10.2018 |
| 88 | HODs/OICs, TPO, Dean (SW), Director NIT Jalandhar | 06.10.2018 |
| 89 | HODs/OICs, TPO, Dean Academics | 04.10.2018 |
| 90 | HOD/OIC, JCFA, Dean Academics, Librarian, Superintendent (Grade I) | 30.07.2018 |
| 91 | HODs/OICs, Dean Academics | 26.07.2018 |

| | | |
|---|---|---|
| 92 | HODs/OICs, JCFA, Dean Academics | 07.03.2018 |
| 93 | HODs/OICs, JCFA, Superintendent (Grade I), TPO, Dean Academics | 27.02.2018 |
| 94 | HODs/OICs, JCFA, Superintendent (Grade I) | 19.02.2018 |
| 95 | HODs/OICs, Deans, JCFA, Superintendent (Grade I) | 07.02.2018 |
| 96 | HODs/OICs, TPO | 02.01.2018 |

**DETAILS OF STUDENT WELFARE MEETINGS**

| S.NO. | DESCRIPTION OF MEETINGS | DATE |
|---|---|---|
| 1 | HODs/OICs, TPO, Dean Academics, JCFA, Superintendent (Grade I), Junior Auditor, 2nd, 3rd, 4thyear Student Representatives from all Departments. | 11.04.2022 |
| 2 | HODs/OICs, TPO, Dean Academics, JCFA, Superintendent (Grade I), Junior Auditor, 2nd, 3rd, 4thyear Student Representatives from all Departments. | 25.06.2021 |
| 3 | HODs/OICs, TPO, Dean Academics, JCFA, Superintendent (Grade I), Junior Auditor, 2nd, 3rd, 4thyear Student Representatives from all Departments. | 23.09.2020 |
| 4 | HODs/OICs, TPO, Dean Academics, JCFA, Superintendent (Grade I), Junior Auditor, 2nd, 3rd, 4th year Student Representatives from all Departments. | 15.02.2019. |
| 5 | HODs/OICs, TPO, Dean Academics, JCFA, Superintendent (Grade I), Junior Auditor, 2nd, 3rd, 4th year Student Representatives from all Departments | 17.04.2018 |
| 6 | HODs/OICs, TPO, Dean Academics, JCFA, Superintendent (Grade I), Junior Auditor, 2nd, 3rd, 4th year Student Representatives from all Departments | 29.01.2018 |
| 7 | HODs/OICs, TPO, Dean Academics, JCFA, Superintendent (Grade I), Junior Auditor, 2nd, 3rd, 4thyear Student Representatives from all Departments. | 21.11.2017 |
| 8 | HODs/OICs, TPO, Dean Academics, JCFA, Superintendent (Grade I), Junior Auditor, 2nd, 3rd, 4th year Student Representatives from all Departments. | 18.04.2017 |
| 9 | HODs/OICs, TPO, Dean Academics, JCFA, Superintendent (Grade I), Junior Auditor, 2nd, 3rd, 4th year Student Representatives from all Departments. | 09.11-2016 |
| *10* | HODs/OICs, TPO, Dean Academics, JCFA, Superintendent (Grade I), Junior Auditor, 2nd, 3rd, 4th year Student Representatives from all Departments. | 06.09.2016 |

*(Minutes of meetings of BOG attached for reference in Annexure II)*

**10.1.3. Decentralization in working and grievance redressal mechanism (10)**

**An Anti-Ragging committee** constituted as per AICTE notified regulation for prevention and prohibition of ragging as instruction / recommendation of Dr. RK Raghwan committee is working in the institution from many years under the chairmanship of Director/Principal and members from

the various fields like Police, Media, parents, NGO, faculty from each department and class representatives etc. to curb the incidence of ragging.

**Session 2021-2022 (Office Order No.146 dated 25-03-2021**

| Sr. No. | Name and Designation | Role in Committee | Contact No. |
|---|---|---|---|
| 1. | Director/ Principal | Chairman | |
| 2. | Prof. Rajeev Khanduja | Member Secretary | 7015610091 |
| 3. | Er. Ajay Kumar, AP ME | Member | 8679422386 |
| 4. | ER. Prashant Thakur AP CE | Member | 9559900927 |
| 5. | Er. Priya Jaswal, AP TE | Member | 9805029429 |
| 6. | ER. Nitasha Bisht, AP ECE | Member | 9418113500 |
| 7. | Dr. Sunita Thakur | Member | 9418164965 |
| 8. | Mr. Suresh Verma, APRO | Media Representative | 7018084525 |
| 9. | Sh. Jitender Sharma, | Civil Representative | 9418066005 |
| 10. | Sh. Jitender Verma, President Center for Sustainable Development Sundernagar | NGO representative | 9418459434 |
| 11. | Sh. Kamal Kant,SHO,PS SNR | Police Representative | 7018084525 |
| 12. | Sh. Pawan Kumar, Clerk | Parents representative | 9805546608 |
| 13. | All CR of 1st, 2nd, 3rd and 4th year | Student Representative | |

**Session 2020-21 (Office Order No.72 dated 25-02-2020)**

| Sr. No. | Name and Designation | Role in Committee | Contact No. |
|---|---|---|---|
| 1. | Director/ Principal | Chairman | |
| 2. | Sh. Achhar Singh, Dean (SWF) | Member Secretary | 94184042605 |
| 3. | Ms. Madhu Sharma A.P CE | Member | 9805504509 |
| 4. | Er.Ajay Kumar,AP ME | Member | 8679422386 |
| 5. | Sh. Manavi Sharma,AP Elect. | Member | 8219815278 |
| 6. | Sh. Gopal Singh, Senior Auditor | Member | 9418468559 |
| 7. | Sh. Kuldip Guleria, APRO | Media Representative | 9418144703 |
| 8. | Sh. Kamal Kant,SHO,PS SNR | Police Representative | 7018084525 |
| 9. | Sh. Jitender Sharma, | Civil Representative | 9418066005 |
| 10. | Sh. Jitender Verma, President Center for Sustainable Development Sundernagar | NGO representative | 9418459434 |
| 11. | Sh. Pawan Kumar, Clerk | Parents representative | 9805546608 |
| 12. | All CR of 1st, 2nd, 3rd and 4th year | Student Representative | |

**Session 2019-20 (Office Order NO.19 dated 19-01-2019)**

| Sr No. | Name and Designation | Role in Committee | Contact No. |
|---|---|---|---|
| 1. | Director/ Principal | Chairman | |
| 2. | Sh. Achhar Singh, Dean (SWF) | Member Secretary | 94184042605 |
| 3. | Ms. Madhu Sharma A.P CE | Member | 9805504509 |
| 4. | Ms. Urvashi Malhotra, A.P TE | Member | 9816221270 |

| | | | |
|---|---|---|---|
| 5. | Sh. Gaurav Mahajan | Member | 7807485000 |
| 6. | Sh. Ankit Sharma, AP ECE | Member | 9805230900 |
| 7. | Sh. Gopal Singh, Senior Auditor | Member | 9418468559 |
| 8. | Sh. Kuldip Guleria, APRO | Media Representative | 9418144703 |
| 9. | Sh. Gurbachan Singh | SHO, Thana Sundernagar | 9418114810 |
| 10. | Sh. Jitender Sharma, | Civil Representative | 9418066005 |
| 11. | Sh. Jitender Verma, President Center for Sustainable Development Sundernagar | NGO representative | 9418459434 |
| 12. | Sh. Pawan Kumar, Clerk | Parents representative | 9805546608 |
| 13. | All CR of 1st, 2nd, 3rd and 4th year | Student Representative | |

In order to redress the grievances of faculty/staff/students through online/offline mode, **Grievance Redressal Committee** at institution level has been constituted. The committee submits online monthly status report regarding the number of grievances received, disposed of pending as on the last day of previous month to AICTE. As per office order no 23 as tabulated as under:

**Session 2019-20 (OrderNo.73 dated 25-02-2020)**

| Sr. No. | Name and Designation | Role in Committee | Contact No. |
|---|---|---|---|
| 1. | Director- cum Principal | Chairman | 9418062974 |
| 2. | Prof. Himanshu Monga, Dean (Academic) | Member | 9418030062 |
| 3. | Dr. Champa Verma, AP AS&H | Member | 9459850050 |
| 4. | All CR's of 4th Year (Student Representatives) | Member | - |

The committee of following Faculty members of this institute has been constituted as **Internal Complaints Committee** for Gender sensitization, prevention, and prohibition of Sexual harassment of Women employees and students the institute.

**Session 2020-2021 (OrderNo.144 dated 25-03-2021)**

| Sr. No. | Name and Designation | Role in Committee | Contact No. |
|---|---|---|---|
| 1. | Dr. Champa Verma AP AS&H | Chairman | 9459850050 |
| 2. | Mrs. Priya Jaswal, AP TE | Member | 7018045153 |
| 3. | Dr. Vivek, AP CE | Member | 8219307822 |
| 4. | Smt. Anita Jaswal, Librarian | Member | 9418671387 |
| 5. | Mrs. Nitasha Bisht, AP ECE | Member | 9418005567 |
| 6. | Sh. Jitender Verma, President, Centre for Sustainable Development Sundernagar | NGO Representative | 9418459434 |
| 7. | Ms. Shikha Pre-Final Year(TE) | Member | - |

| | | | |
|---|---|---|---|
| 8. | Mr. Satyam Thakur Pre Final Year(ME) | Member | - |
| 9. | Miss Jagriti Arora, Pre Final Year(CE) | Member | - |

The committee of following Faculty members of this institute has been constituted for **Prevention of Atrocities** with SC/ST student/ faculty/ staff.

**Session 2020-21 (OrderNo.145 dated 25-03-2021)**

| Sr No. | Name and Designation | Role in Committee |
|---|---|---|
| 1. | Dr. Champa Verma, AP & AS&H | Chairman |
| 2. | Dr. Vicky, AP, ECE | Member |
| 3. | Er. Kapil Dev, AP CE | Member |
| 4. | Er. Dinesh Bhatia, AP TE | Member |
| 5. | Er. Rohit Bhardwaj, AP ME | Member |

Monitoring /verifying committee for checking/verify the **Scholarship application** at Institute level.

**Session 2021-22**

| Sr No. | Name and Designation | Role in Committee |
|---|---|---|
| 1. | Director-cum-Principal | Chairman |
| 2. | Prof. S.P. Guleria, Head Civil Engg. | Member |
| 3. | DCF&A | Member |
| 4. | Dean Academics | Member |
| 5. | Ms. Preeti Gautam AP TE | Member Secretary |

**Session 2020-21 (OrderNo.145 dated 25-03-2021)**

| No. | Name and Designation | Role in Committee |
|---|---|---|
| 1. | Director-cum-Principal | Chairman |
| 2. | Prof. S.P. Guleria, Head Civil Engg. | Member |
| 3. | DCF&A | Member |
| 4. | Dean Academics | Member |
| 5. | Ms. Urvashi Malhotra, AP TE | Member Secretary |

The committee of following Faculty members of this institute is hereby constituted for **Internal Quality Assurance Cell** to develop a system for conscious, consistent and catalytic action to improve the academic and administrative performance of institute.

**Session 2019-20 (OrderNo.183 dated 09-07-2019)**

| Sr No. | Name and Designation | Role in Committee |
|---|---|---|
| 1. | Director cum principal | Chairman |
| 2. | Head (Mechanical Engineering) | Member |
| 3. | Head (ECE/Dean Academics) | Member |
| 4. | Head (Applied Science Humanities) | Member |
| 5. | Head/ OIC (Textile Engg.) | Member |
| 6. | Training & Placement Officer | Member |
| 7. | Mr. Rohit Bhardwaj ME | Member |
| 8. | Mr. Kapil Dev, CE | Member Secretary |

**Intellectual Property Right Cell** of this college constituted the committee of following Faculty members of this institute to look after the activities related to the intellectual property of the college, Evaluation and filling of patents, copyrights, design, or other related work.

**Session 2019-20 (OrderNo.179 dated 09-07-2019)**

| Sr. No. | Name and Designation | Role in Committee |
|---|---|---|
| 1. | Prof. Rajeev Khanduja, Head ME | Chairman |
| 2. | Prof. Himanshu Monga, Head ECE | Member |
| 3. | Sh. Vivek, AP CE | Member Secretary |

**Start-up & Incubation Cell and Innovation cell**, the committee of following Faculty members of this institute is constituted for implementing Govt. of India "startup India" initiative and to encourage our student to work on new ideas and innovation and promote them to create start up and entrepreneurial ventures.

**Session 2021-22**

| Sr No | Name and Designation | Role |
|---|---|---|
| 1. | Dr. Vivek, Assistant Professor CE | Chairman |
| 2. | Mr. Vinay Sharma, Assistant Professor AS&H | Member |
| 3. | Dr. Vicky, Assistant Professor ECE | Member |
| 4. | Mr. Dinesh Bhatia, Assistant Professor TE | Member |
| 5. | Mr. Rohit Bhardwaj, Assistant Professor ME | Member |

**Session 2019-20 (OrderNo.223 dated 09-08-2019)**

| Sr No. | Name and Designation | Role in Committee |
|---|---|---|
| 1. | Prof. Himanshu Monga, Head ECE | Chairman |
| 2. | Er. Vivek, AP Civil | Member |
| 3. | Er. Dinesh Bhatia, AP TE | Member |
| 4. | Er. Rohit Bhardwaj, A.P ME | Member |
| 5. | Er. Vicky Kumar, AP ECE | Member Secretary |
| 6. | Sh. Vinay Sharma, AP AS& H | Member Secretary |

An **Institutional Civil Works Committee** of following Faculty members of this institute is constituted for looking after and monitoring all the construction activities and related works:

**Session 2021-2022 (Order No 421. dated 02-08-2022)**

| Sr No. | Name and Designation | Role in Committee |
|---|---|---|
| 1. | Er. Kapil Dev, A.P. Civil Engg. | Chairman |
| 2 | Er. Prashant Thakur A.P. Civil Engg. | Member Secretary |
| 3 | Ms. Surabhi, A.P. Civil Engg. | Member |

**Session 2020-2021 (OrderNo.196 dated 29-09-2020)**

| Sr No. | Name and Designation | Role in Committee |
|---|---|---|
| 1. | Er. Kapil Dev A.P. Civil Engg. | Officer Incharge |
| 2 | Er. Prashant Thakur A.P. Civil Engg. | Member |
| 3 | Ms. Manavi Sharma, AP EE | Member |

**Session 2019-20 (OrderNo.215 dated 05-08-2019)**

| Sr No. | Name and Designation | Role in Committee |
|---|---|---|
| 1. | Prof. S.P. Guleria, HOD CE | Chairman |
| 2. | Dr. Ritesh Kaundal, AP ME | Member |
| 3. | Sh. Vicky Kumar,AP ECE | Member |
| 4. | Ms. Manavi Sharma,AP EE | Member |
| 5. | Sh.Kapil Dev,AP CE | Member Secretary |

An institutional **NISP adaptation Committee** of following Faculty members of this institution.

**Session 2021-22**

| Sr.No | Name and Designation | Role |
|---|---|---|
| 1. | Dr. S.P. Guleria, Director | Advisor |
| 2. | Dr. Vivek, Assistant Professor CE | Chairman |
| 3. | Mr. Vinay Sharma, Assistant Professor AS & H | Member |
| 4. | Dr. Vicky, Assistant Professor ECE | Member |
| 5. | Mr. Dinesh Bhatia, Assistant Professor TE | Member |
| 6. | Mr. Rohit Bhardwaj, Assistant Professor ME | Member |

The committee of faculty members of this institute has been as **Institution Industry Cell** to reduce the gap between industry expectations and academic offering.

**Session 2020-21 (OrderNo.147 dated 25-03-2021)**

| Sr No. | Name and Designation | Role in Committee |
|---|---|---|
| 1. | Sh. Anil Kanwar, TPO | Chairman |
| 2. | Dr. Ritesh Kaundal, Assoc. Professor | Member |
| 3. | Sh. Amit Kumar, AP TE | Member |
| 4. | Sh. Ankit Sharma, AP ECE | Member |
| 5. | Er. Prashant Thakur | Member |
| 6. | All student placement representatives. | Member |

**10.1.4. Delegation of financial powers (10)**

The institute prepares and approves budget of every financial year during meeting with Head of the Department. The department budgets for Recurring/Non-Recurring/Maintenance activities are sanctioned by the State Government through Directorate of Technical Education and Industrial Training, Himachal Pradesh. Each department recommends the laboratory equipment and accessories for the year with justification. The department plans the budget as per curriculum and laboratory demands. The lists of equipment's to be procured/experiments to set up as per curriculum are finalized by the departments with tentative cost.

The purchasing is done by adopting state government financial rules circulated from time to time to ensure proper price, quality, after sales service etc.

**10.1.5. Transparency and availability of correct/unambiguous information in public domain (5)**

Mandatory disclosures in favor of the institution are available in public domain i.e. on institute website http://www.jngec.ac.in/, various Govt. websites and Institute notice board.

**10.2. Budget allocation, utilization, and public accounting at institute level (30)**

Summary of current financial year's budget and actual expenditure incurred (for the institution exclusively) in the three previous financial years.

**For CFY (2021-22) in Rs. Lacs**

| **Total Income : 1002.369 lacs** | | | | **Actual expenditure (Till March 2022): 685.23 lacs** | | | **Total No. of students: 879** |
|---|---|---|---|---|---|---|---|
| Fee | Govt. | Grant(s) | Other Sources (specify) | Recurring including salaries | Non recurring | Special Projects/ Any other, Specify | Expenditure per Student |
| 377.43 | 624.69 | 0.00 | 0.25 | 545.83 | 139.40 | 0.00 | 0.78 |

**For CFY*m1* (2020-21) in Rs. Lacs**

| **Total Income : 1173.63 lacs** | | | | **Actual expenditure (Till March 2021): 832.56 lacs** | | | **Total No. of students: 876** |
|---|---|---|---|---|---|---|---|
| Fee | Govt. | Grant(s) | Other Sources (specify) | Recurring including salaries | Non recurring | Special Projects/ Any other, Specify | Expenditure per Student |
| 368.73 | 565.58 | 238.27 | 1.05 | 515.63 | 78.66 | 238.27 | 0.95 |

**For CFY*m2* (2019-20) in Rs. Lacs**

| **Total Income : 1474.61 lacs** | | | | **Actual expenditure (Till March 2020): 1230.55 lacs** | | | **Total No. of students: 908** |
|---|---|---|---|---|---|---|---|
| Fee | Govt. | Grant(s) | Other Sources (specify) | Recurring including salaries | Non recurring | Special Projects/ Any other, Specify | Expenditure per Student |
| 393.53 | 516.64 | 564.44 | 0.00 | 406.15 | 259.95 | 564.44 | 1.36 |

**For CFY*m3* (2018-19) in Rs. Lacs**

| **Total Income : 1084.8 lacs** | | | | **Actual expenditure (Till March 2019): 2298.68 lacs** | | | **Total No. of students: 972** |
|---|---|---|---|---|---|---|---|
| Fee | Govt. | Grant(s) | Other Sources (specify) | Recurring including salaries | Non recurring | Special Projects/ Any other, Specify | Expenditure per Student |
| 419.92 | 508.92 | 154.56 | 1.37 | 496.16 | 1647.96 | 154.56 | 2.36 |

***Table B.10.2a***

| Items | Budget | Actual expense | Budget | Actual expense | Budget | Actual expense | Budget | Actual expense |
|---|---|---|---|---|---|---|---|---|
| | 2021-2022 | | 2020-2021 | | 2019-2020 | | 2018-2019 | |
| Infrastructure Built –Up | 27.67 | 27.67 | 200.00 | 200.00 | 148.89 | 148.89 | 370.86 | 370.86 |
| Library | 0.14 | 0.14 | 13.78 | 13.78 | 5.14 | 5.14 | 3.82 | 3.82 |
| Laboratory equipment | 10.00 | 8.94 | 80.13 | 80.13 | 278.18 | 278.18 | 27.85 | 27.85 |
| Laboratory consumables | 0.68 | 0.68 | 0.05 | 0.05 | 0.10 | 0.10 | 0.00 | 0.00 |
| Teaching and non-teaching Staff salary | 551.23 | 537.19 | 501.40 | 501.38 | 459.20 | 395.81 | 475.10 | 482.58 |
| Maintenance and spares | 4.61 | 4.61 | 7.38 | 7.38 | 5.43 | 5.43 | 0.28 | 0.28 |
| R & D | 0.00 | 0.00 | 15.42 | 15.42 | 9.50 | 5.17 | 6.86 | 3.04 |
| Training and Travel | 0.60 | 0.39 | 71.85 | 71.62 | 77.26 | 76.77 | 34.96 | 34.89 |
| Miscellaneous expenses* | 13.47 | 13.47 | 7.50 | 7.50 | 279.95 | 279.95 | 1674.29 | 1674.29 |
| Others, specify | 52.09 | 52.09 | 76.41 | 76.41 | 188.27 | 188.27 | 24.71 | 24.71 |
| **Total** | **660.49** | **645.18** | **973.91** | **973.67** | **1451.91** | **1383.70** | **2618.73** | **2622.32** |

***Table B.10.2b***

**10.2.1. Adequacy of budget allocation (10)**

The institute is allocated the adequate budget every year on the basis of the budget demand submitted to the Director cum principal to meet out the recurring and non-recurring expenditure every year. Usually 15-20% hike in the budget is proposed due to the price index hike. Institute received extra budget for Infrastructure Built –Up.

**10.2.2. Utilization of allocated funds (15)**

The budget allocate under various heads is utilised by the institute for the purpose for which it has been granted

**10.2.3. Availability of the audited statements on the institute's website (5)**

a) Audit for the funds prepared by H.P. State Govt.

The comptroller and Auditor General of India, national academy of audit and account, Shimla, H.P. carries out audit relating financial expenditure incurred on the fund/budget provided to the institution under plan and non-plan category.

Account General (A.G.) offices, Shimla send panel of Auditors to check the expenditure made by institution and submit information/ report to the Govt. No time schedule has been fixed for inspection/audit A.G. office carries out audit as per their norms/regulations.

b) Audit of student's welfare fund (SWF)

The audit relating to funds deposited under category students welfare is carried out by local audit deptt. as per the rule /regulation and decision of local audit dept.

c) Audit of TEQIP-lll (Technical Education Quality improvement Program- A world bankfunded project)

State Project Implementation unit (SPIU)appoints internal Auditor to carry out audit relating to expenditure made under TEQIP, Normally, audit is carried out once in a six month period. The audit report is sent to the office of National Project implementation Unit-(TEQIP-lll) New Delhi.

**10.3. PROGRAM SPECIFIC BUDGET ALLOCATION, UTILIZATION (30)**

**For CFY 2021-22 (In Rs. Lacs)**

| **Total Budget: 124.69** | | **Actual expenditure (Till 31 March 2022): 124.69** | | **Total No. of students:205** |
|---|---|---|---|---|
| Non Recurring | Recurring | Non Recurring | Recurring | Expenditure per Student |
| 52.97 | 71.72 | 52.97 | 71.72 | 0.61 |

**For CFY*m1* 2020-21 (In Rs. Lacs)**

| **Total Budget: 71.92** | | **Actual expenditure (Till 31 March 2021): 71.92** | | **Total No. of students :209** |
|---|---|---|---|---|
| Non- recurring | Recurring | Non- Recurring | Recurring | Expenditure per student |
| 3.07 | 68.85 | 3.07 | 68.85 | 0.34 |

**For CFY*m2* 2019-20 (In Rs. Lacs)**

| Total Budget: 218.58 | | Actual expenditure (Till 31 March 2020): 218.58 | | Total No. of students:213 |
|---|---|---|---|---|
| Non-Recurring | Recurring | Non-Recurring | Recurring | Expenditure per Student |
| 163.62 | 54.96 | 163.43 | 54.96 | 1.03 |

**For CFYm2 2018-19 (In Rs. Lacs)**

| Total Budget: 61.39 | | Actual expenditure (Till 31 March 2019): 58.74 | | Total No. of students :213 |
|---|---|---|---|---|
| Non- recurring | Recurring | Non- Recurring | Recurring | Expenditure per student |
| 15.59 | 45.80 | 12.94 | 45.80 | 1.03 |

***Table B.10.3a***

| Item | Budget | Actual expense | Budget | Actual expense | Budget | Actual expense | Budget | Actual expense |
|---|---|---|---|---|---|---|---|---|
| | 2021-22 | | 2020-21 | | 2019-20 | | 2018-19 | |
| Laboratory equipment | 2.64 | 2.64 | 27.34 | 27.34 | 98.02 | 98.02 | 0.00 | 0.00 |
| Software | - | 0 | - | - | 11.21 | 11.21 | 0.00 | 0.00 |
| Laboratory consumables | - | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Maintenance and spares | 0.40 | 0.39758 | 0.23 | 0.23 | 0.54 | 0.54 | 0.03 | 0.03 |
| R & D | - | - | 2.36 | 2.36 | 0.91 | 0.72 | 3.39 | 0.74 |
| Training and Travel | - | - | 21.66 | 21.66 | 2.18 | 2.18 | 3.52 | 3.52 |
| Miscellaneous expenses* | 0.03 | 0.03 | 1.38 | 1.38 | 12.64 | 12.64 | 8.64 | 8.64 |
| Total | **3.07** | **3.07** | **52.97** | **52.97** | **125.50** | **125.31** | **15.59** | **12.94** |

***Table B.10.3b***

**10.3.1. Adequacy of budget allocation (10)**

The department is provided with adequate budget every year on the basis submitted to the Director/Principal of Institute to meet out the requirement.

**10.3.2. Utilization of allocated funds (20)**

Budget is utilized as per the guideline's/ instructions by government/department from time to time as laid down in Store Purchase Rules for State Budget, Guidelines for SWF budget and guidelines for TEQIP-III Budget.

**10.4. Library and internet (20)**

**Deficiency reports are available for all three assessment years.**

**Library**

| | |
|---|---|
| Area of Library | 602.23 sq.m |
| Seating capacity | 250 nos. |
| Photocopier | 1 |
| Multimedia PC | 21 nos. |
| Newspapers | 07 |
| National & International Journals | 26 |
| No of Volumes | 14233 |
| No of Titles | 3250 |

**10.4.1. Quality of learning resources (hard/soft) (10)**

1) Various National Journals/magazines have been subscribed for the benefit of faculty, staff, and students.
2) Use of Multimedia and Internet technology is made for better teaching learning. Each dept. has its own well-equipped classrooms so teachers can use learning resources in class
3) Institute is registered with National Digital Library.

**10.4.2. Internet (10)**

| **Name of ISP** | **NKN (National Knowledge network)** |
|---|---|
| Available bandwidth | 100 mbps |
| Security mechanism | Yes |
| Wi fi availability | Yes |
| Internet access in labs | Yes |
| Internet in classroom and library | Yes |
| Internet in all offices of institute | Yes |

## Declaration

(The head of the institution needs to make a declaration as per the format given)

I undertake that, the institution is well aware about the provisions in the NBA's accreditation manual concerned for this application, rules, regulations, notifications and NBA expert visit guidelines in force as on date and the institute shall fully abide by them.

It is submitted that information provided in this Self Assessment Report is factually correct. I understand and agree that an appropriate disciplinary action against the Institute will be initiated by the NBA, in case any false statement/information is observed during pre-visit, visit, post visit and subsequent to grant of accreditation.

12.1.23

Prof. (Dr.) S.P. GULERIA

**Signature & Name**

**Date:** 12.01.2023

**Place:** SUNDERNAGAR
Distt. MANDI (H.P.)

**Head of the Institution with seal**


## Annexure I
## PROGRAM OUTCOMES (POs)

| | |
|---|---|
| **PO1** | **Engineering knowledge:** Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems. |
| **PO2** | **Problem analysis:** Identify, formulate, review research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences. |
| **PO3** | **Design/development of solutions:** Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations. |
| **PO4** | **Conduct investigations of complex problems:** Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions. |
| **PO5** | **Modern tool usage:** Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modeling to complex engineering activities with an understanding of the limitations. |
| **PO6** | **The engineer and society:** Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional engineering practice. |
| **PO7** | **Environment and sustainability:** Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development. |
| **PO8** | **Ethics:** Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice. |
| **PO9** | **Individual and teamwork:** Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings. |
| **PO10** | **Communication:** Communicate effectively on complex engineering activities with the engineering community and with society at large, such as, being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions. |
| **PO11** | **Project management and finance:** Demonstrate knowledge and understanding of the engineering and management principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments. |
| **PO12** | **Life-long learning:** Recognize the need for and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change. |

### PROGRAM SPECIFIC OUTCOMES (PSOs)

| | |
|---|---|
| **PSO1** | **Engineering and analytical skill:** demonstrate sound knowledge in analysis, design, laboratory investigations and construction aspects of civil engineering infrastructure, along with good foundation in mathematics, basic sciences and technical communication. |
| **PSO2** | **Broadness and diversity**: a broad understanding of economic, environmental, societal, health and safety factors involved in infrastructural development, and shall demonstrate ability to function within multidisciplinary teams with competence in modern tool usage. |
| **PSO3** | **Life-long learner and Society** be motivated for continuous self-learning in engineering practice and/ or pursue research in advanced areas of civil engineering in order to offer engineering services to the society, ethically and responsibly. |

**Minutes of the 15th Board of Governors (BoG) meeting held on dated 17th March, 2021 under the chairmanship of Dr. Lalit Sharma in respect of J. N. Government Engineering College, Sundernagar, District Mandi H.P under TEQIP-III project.**

The 15th meeting of Board of Governors was held on 17th March, 2021, following members were present:

| | |
|---|---|
| 1. Sh. Amar Singh, Negi, Joint Director | Member |
| 2. Sh. Jatinder Sharma | Member |
| 3. Sh. Shiv Singh Sen | Member |
| 4. Sh. Arun Kumar Sharma | Member |
| 5. Prof. Rajeev Khanduja Head Mechanical Engineering | Member |
| 6. Prof. Himanshu Monga, Head ECE | Member |
| 7. Dr. Vedant Singh Representative SPIU | Special invitee |
| 8. Sh. Jagdish Kumar, DCFA | Nodal office Finance |
| 9. Dr. Ajnesh Singh AP AS&H | TEQIP Coordinator |
| 10. Prof. S.P. Guleria, Director/Principal, JNGEC, SNR | Member Secretary |

At the very outset, Dr. Lalit Sharma, Chairman BoG extended a warm welcome to all the members of the Board of Governors in 14th meeting of BoG under TEQIP-III project. Thereafter, the agenda items were discussed in detail and following decisions were taken:

**BoG 15.1 Confirmation of minutes of the 14th meeting of Board of Governors held on 5th Feb, 2021.**

The 14th meeting of Board of Governors was held on 5th Feb, 2021 under the chairmanship of Dr. Lalit Sharma. The minutes of the said meeting were circulated among all members of Board of Governors. Since no comments were received, therefore, the minutes were confirmed.

**BOG 15.2 Action taken on the Minutes 14th meeting of Board of Governors held on 5th Feb, 2021.**

<table>
<tr><th>Item No.</th><th>Decision taken in the meeting</th><th>Action taken</th></tr>
<tr><td>BOG 14.3.1</td><td>Status of funds utilized under TEQIP-III project.<br>The Board of Governors noted the utilization of funds as per detail mentioned below:
<table>
<tr><th>Sr.</th><th>Head</th><th>Funds Utilized</th></tr>
<tr><td>1.</td><td>Procurement</td><td>₹ 4,99,30,156.00</td></tr>
<tr><td>2.</td><td>Academic activities</td><td>₹ 2,76,61,270.00</td></tr>
<tr><td>3.</td><td>Incremental operating cost</td><td>₹ 24,09,743.00</td></tr>
<tr><td colspan="2">Total</td><td>₹ 8,00,01,169.00</td></tr>
</table></td><td>Noted.</td></tr>
</table>

1/5

| | | |
|---|---|---|
| **BOG: 14.3.2** | **Status of Procurement packages/plan under TEQIP-III project.**<br>The Board of Governors noted the utilization of funds under procurement of goods (machinery & equipments, books, LRs, furniture, software and other minor items). | **Noted.** |
| **BOG: 14.3.3** | **Approval of New Procurement packages/plan under TEQIP-III project**<br>The Board of Governors approved the following procurement packages: | **Noted.** |

| Procurement through GeM | | | |
|---|---|---|---|
| Sr. No. | Deptt. | Name of Package | Estimated cost (in Rs.) |
| 1. | ME | Printers for ME Deptt. (3 Nos) | 75,000.00 |
| 2. | | CNC Wire cut EDM Machine | 28,00,000.00 |
| 3. | Textile | Vacum Cleaner, Refrigerator & Lab Oven | 1,05,000.00 |
| 4. | ECE | Printers for ECE Deptt. (3 Nos) | 75,000.00 |
| 5. | | Department notice boards | 72,000.00 |
| 6. | | Electronics workshop & analog communication lab | 21,00,000.00 |
| 7. | | Wireless sensor network Training system with sensor of various application | 9,00,000.00 |
| 8. | Academic Cell | Photostate Machine & Servo Stabilizers 5KW | 4,65,000.00 |
| 9. | | Cell Phone Jammer (4 Nos) | 80,000.00 |
| 10. | Library | Books for Library | 10,00,000.00 |
| 11. | | Room heater for library | 1,00,000.00 |
| 12. | Civil | Survey Lab (Measuring Tape 20 meter, Compass, Metric Surveying Chain 20 meter, Colored Printer) | 2,48,000.00 |
| 13. | | Concrete Lab (Accelerated Curing Tank) | 2,50,000.00 |
| 14. | | Civil Software Lab (Antivirus, MS Office 2019, Online UPS 10 KVA, Projector, Projector Screen, MIDAS Civil Bridge Engg. Software 5 user ) | 8,30,000.00 |
| 15. | AS&H | Engineering Chemistry Lab | 3,11,000.00 |

| | | |
|---|---|---|
| **BOG: 14.3.4** | **Approval of Sundry allowance to be paid to 3rd year students for attending internship in Industry in AY. 2019-20.**<br><br>The Board of Governors approved Rs. 11,17,000/- as reimbursement of sundry allowance in favour of 3rd year students (@Rs. 250 per day per student) for attending internship during academic session 2019-20 (for 42 days) in various industries/institution/organization under TEQIP-III project subject to production of documents. | Sundry allowance to final year students has been disbursed. |
| **BOG: 14.3.5** | **Procurement of Photo frames of eminent personalities/ scenic landscapes of H.P.**<br><br>The Board of Governors approved an amount of Rs. 1.00 lakh for the procurement of display of photo frames of eminent personalities/scenic landscapes of H.P. from TEQIP funds required for NBA visit. | Procurement of Photo frames of eminent personalities is in process. |
| **BOG: 14.4** | **Table items.** | |
| **BOG: 14.4.1** | **Approval for the procurement of printers.**<br><br>The Board of Governors approved an amount of Rs. 2,10,000/-(Rs. 30,000/- per printer) for the procurement of seven nos printer (03 in one) for the purpose of institutional work from TEQIP-III funds. | Procurement is in process. |
| **BOG: 14.4.2** | **Approval for residential workshop on Work Life Balance & Leadership Development in favour of BOG members and Chairman.**<br><br>The National Academy of Human Resource Development (NHARD) is conducting residential workshop on "Work Life Balance & Leadership Development" scheduled to be held w.e.f. 16th -19th Feb, 2021 at Port Blair, Andaman & Nicobar Islands. The Board of Governors approved the expenditure to be incurred on aforesaid training programme. The residential workshop will be attended by following:<br><br>1. Prof. Lalit Sharma, Chairman BOG<br>2. Sh. Jatinder Sharma, BOG Member<br>3. Sh. Arun Kumar Sharma, BOG Member<br>4. Sh. Shiv Singh Sen, BOG Member | BOG members has attended the workshop. |

**BOG: 15.3. New Items.**

**BOG: 15.3.1 Status of funds utilized under TEQIP-III project.**

The Board of Governors noted the utilization of funds as per detail mentioned below)

| Sr. No. | Head | Funds Utilized (Amount in Rs.) |
|---|---|---|
| 4. | Procurement | ₹ 5,25,49,864.00 |
| 5. | Academic activities | ₹ 3,13,34,637.00 |
| 6. | Incremental operating cost | ₹ 25,69,525.00 |
| | **Total** | **₹ 8,64,54,026.00** |

**BOG: 15.3.2 Status of Procurement packages/plan under TEQIP-III project.**

The Board of Governors noted the utilization of funds under procurement of goods (machinery & equipments, books, LRs, furniture, software and other minor items).

**BoG 15.3.3 Skill up Gradation training programme for final year students of all 04 branches i.e. ME,ECE,CE & TE.**

The BOG approved following skill up gradation training programmes to be organized /organizing for final year students at various Govt. of India establishments /institutions as per details given below:

| Sr. No. | Name of Branch | No of students | Name of Institute providing training | Approximate Expenditure |
|---|---|---|---|---|
| 1. | Civil Engg. | 20 | CSIR-Central Research Building Institute Roorkee w.e.f. 1st -6th March, 2021 | 6,13,600/- |
| 2. | Mechanical Engg. | 20 | Central Institute of Petro Chemical & Technology, Baddi, H.P. w.e.f. 15-20th March, 2021 | 4,00,000/- |
| 3. | ECE | 20 | Centre for Development of Advanced Computing A Scientific Society of the Ministry of Communications & Information Technology, (Govt. of India), Mohali w.e.f. 15th -27th March, 2021 | 4,94,000/- |
| 4. | Textile Engg. | 11 | NIT Jalandhar w.e.f. 1st -5th March, 2021 | 1,00,000.00 |

**BOG: 15.3.4 Ratification of amount paid to 3rd & 4th year students as sundry allowance.**

The BOG ratified an expenditure of amounting Rs. 10,71,500 for 3rd year and Rs 9,87,500 for 4th year incurred in respect of sundry allowances.

**BoG 15.3.5** **Re-approval of procurement packages due to enhanced rates.**

The Board of Governors approved following packages in which actual expenditure is more than the expected expenditure (approved in previous BOG meetings) and given as per detail mentioned below:-

| Sr. No. | Name of Package | Deptt. | Earlier approved Cost (Rs.) | Enhanced Cost | Method of procurement |
|---|---|---|---|---|---|
| 1. | Audio system for meeting room | Institutional | 50,000.00 | 62,000.00 | GeM |
| 2. | Library automation package | Library | 8,98,800.00 | 9,98,900.00 | GeM |

**BoG 15.3.6** **Procurement of AC for library & computer labs under TEQIP-III project.**

The Board of Governors approved an amount Rs. 13,50,000/- (Thirteen Thousand Fifty Thousand Only) for the procurement of AC with inverter/stabilizer for library and computer labs under TEIQP-III project.

**BoG 15.3.7** **Skill up-gradation to final and pre-final year students of all branches.**

The BOG approved the future skill up-gradation training for final and pre-final year students of all branches at reputed institutions /Govt. of India institutions if project is extended beyond 31st March, 2021.

The meeting ended with a vote of thanks to the chair.

Prof. S.P. Guleria
Director/Principal, Ex-officio Member
/Member Secretary BOG TEQIP-III

Dr. Lalit Sharma,
Chairman
BOG TEQIP-III