

# Mandatory Disclosure

Mandatory Disclosure updated on 31/01/2026

First AICTE File No. : F.NO. 06/05/UT/ENGG/2008-09/002, Dated : May 07,2008  
Current AICTE File No. : Northern/1-44641149954/2025/EOA  
Date & Period of last approval : 09-04-2025 (for 2025-2026)

1. **Name of the Institution** : Shivalik College of Engineering  
**Address of the Institution** : Sihiniwala, Shimla Road, P.O.Sherpur,  
Dehra Dun  
**City & Pin Code** : Dehra Dun  
**State / UT** : Uttarakhand  
**Phone number with STD code** : 0135-2693401  
**Mobile No.** : +91-9997155111  
**E-Mail ID** : info@sce.org.in
2. **Name and address of the Society** : Rijan Educational Society  
**Address of the Society** : Shishambada, Sihiniwala, Shimla Road,  
P.O. Sherpur, Dehradun, Uttarakhand.  
**Phone number with STD code** : 0135-2693401  
**Mobile No.** : +91-9997997584  
**E-Mail ID** : vc@sce.org.in
3. **Name of Principal / Director** : Dr. T.S.Sidhu  
**Exact Designation** : Director  
**Phone number with STD code** : 0135-2693401 (O)  
**FAX number with STD code** : 0135-2693425  
**Mobile No.** : +91-7900800057  
**Email** : director@sce.org.in  
**Highest Degree** : Ph.D  
**Field of specialization** : Mechanical Engineering
4. **a.Name of the affiliating University** : VMSB Uttarakhand Technological University (For B.Tech course)  
**Address** : Suddhowala, Dehradun, Uttarakhand.  
**Website** : www.uktech.ac.in  
**Latest affiliation period** : 2025-2026

## 5. Governance

### Governing Board Members

#### ✓ List of Governing Body members:

- |                 |                      |                        |
|-----------------|----------------------|------------------------|
| ▪ Chairman      | Prof. Akshay Dewedi  | Professor IIT, Roorkee |
| ▪ Vice Chairman | Mr. Ajay Kumar       | Business Person        |
| ▪ Member        | Ms. Navita Sinha     | Business               |
| ▪ Member        | Mr. Harsh Sinha      | Business               |
| ▪ Member        | Ms. Babita Kumari    | Business               |
| ▪ Member        | Ms. Malti Kumari     | Business               |
| ▪ Member        | Prof.(Dr.) Sunil Rai | Vice Chancellor (UPES) |

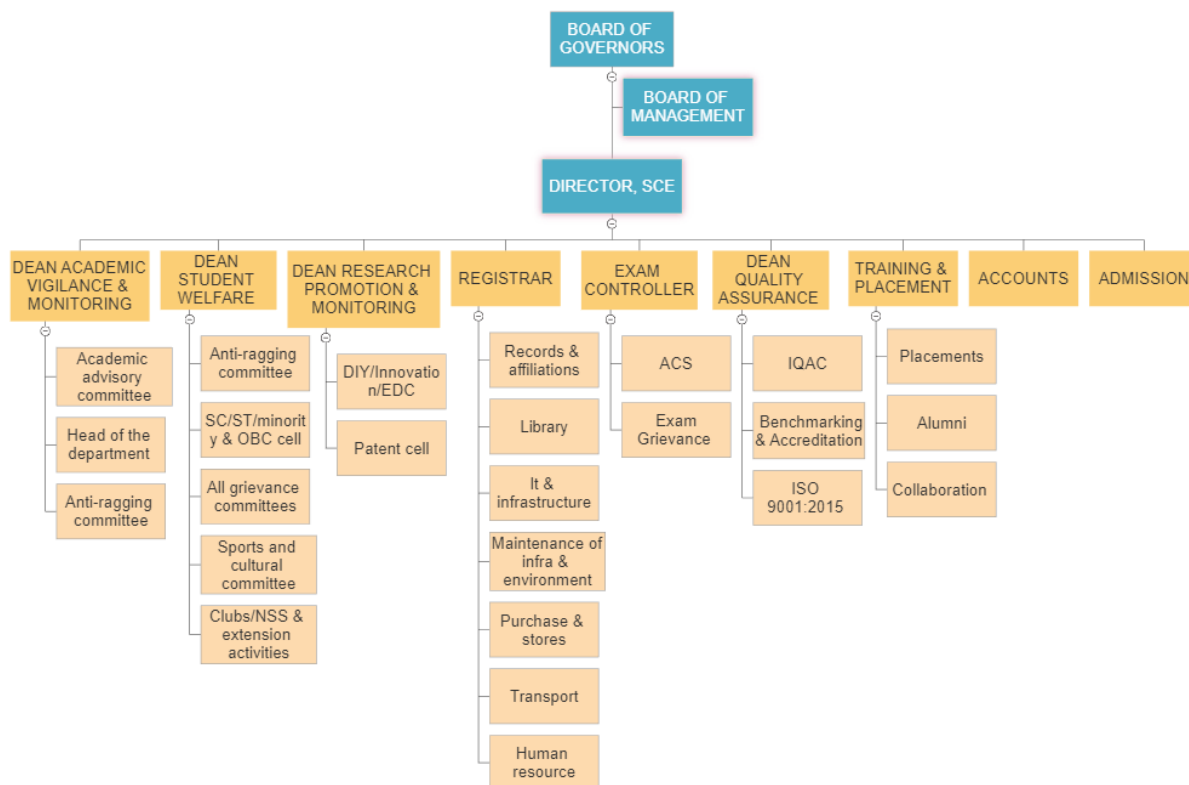
- Member Prof.(Dr.) Ramkaran Singh Vice Chancellor (ICFAI University)
  - Member Prof.(Dr.) S.P.Srivastava Professor (Retd.), IIT, Roorkee
  - Member Prof.(Dr.) Raj Agnihotri Dean Fellow in Marketing and Director of Professional Sales Forum (Lowa State University) Assistant Professor, IIT Roorkee
  - Member Prof(Dr.) Raksha Sharma Assistant Professor, IIT Roorkee
  - Member Prof (Dr.) Millie Pant Professor, IIT Roorkee.
  - AICTE Regional Officer / Northern Region - Ex. Officio
  - AICTE Nominee - Nomination Awaited
  - Dir. Technical Education (Ex Officio) Uttarakhand State - Ex. Officio
  - Nominee of Uttarakhand Technical University - Dr. Vishal Ramola Professor, UTU, Dehradun
  - Faculty Member - (Prof.) Dr. U.C. Gupta
  - Director of Institute (Member Secretary) - Dr. T. S. Sidhu
- Frequency of meetings & date of last meeting:

**Academic Advisory Body** :

S.No.	Name of Person	Designation	Position
1.	Prof.(Dr.) T.S.Sidhu	Director	Chairperson
2.	Prof.(Dr.) U.C.Gupta	Professor/COE	Member
3.	Prof.(Dr.) Surmadhur Pant	Associate Professor/ Dean Academics	Member
4.	Dr. Sumit Kumar	Professor/HOD CSE	Member
5.	Dr. Abhishek Sharma	Professor/HOD ECE	Member
6.	Mr. Bhuvan Bhatt	Assistant Professor/HOD Civil Engg.	Member
7.	Mr. Sartaj Khan	Assistant Professor/HOD 1 <sup>st</sup> Year.	Member
8.	Dr. Sono Bhardawaj	Associate Professor/HOD ME.	Member

Frequency of meetings & date of last meeting : Quarterly, Dated 23-12-2025

**Organizational Chart and process :**



**Nature and Extent of involvement of Faculty and students in academic affairs/improvements.---**?

**Mechanisms/Norms and Procedure for democratic/good Governance.- ?**

**Student feedback mechanism on Institutional Governance/faculty performance :** Yes

**Grievance redressal mechanism for faculty, staff and students :** Yes, We have constituted a Grievance Redressal Cell as per AICTE directives, headed by Dr. Surmadhur Pant , Dean Student Welfare.

**Establishment of Anti Ragging Committee :** Yes, We have constitute Anti Ragging Committee and Anti Ragging Squad as per AICTE directives, headed by The Director.

**Establishment of Online Grievance Redressal Mechanism :** Yes, We have developed online Grievance Redressal Mechanism through College website/ERP of the College. <https://shivalikcollege.edu.in/>

**Establishment of Grievance Redressal Committee in the Institution and Appointment of OMBUDSMAN by the University. :** Yes, College has established Grievance Redressal Committee in the Institution and University has appointed ombudsman in the University.

**Establishment of Internal Complaint Committee (ICC):** Yes, We have constitute a committee for hearing Internal Complaint as per AICTE directives under the supervision by The Director.

**Establishment of Committee for SC/ST**

: Yes, We have constitute of Committee for SC/ST and OBC as per AICTE norms and guidelines, headed By Mr. Nikhil Kannojiya, Assistant Professor / Department of Mechanical Engineering

**Internal Quality Assurance Cell**

: Yes, We have constitute Internal Quality Assurance Cell as per AICTE directives, headed by The Director.

<https://shivalikcollege.edu.in/quality-cell/igac-shivalik-college-of-engineering/about-igac-sce/>

**6. Programmes: Engineering & Technology****Name of Programme approved by AICTE**

(A) B. Tech with four Braches: 1. CSE 2.ECE 3.ME 4. CE 5. CSE- AIML 6. CSE-DS

(B) Diploma with one branches 1. CSE

Name of Programme Accredited by NBA : CSE

Total number of courses; 01

No. of courses for which applied for Accreditation-01 courses

Status of Accreditation: Accredited

Institute Accredeted by NAAC with grade A+

**Level**

: Under Graduate (B. Tech) / Diploma

**1st Year of approval by the Council**

: 2008 - UG & 2012 – Diploma

Year wise Sanctioned Intake:

A) Four Years Under Graduate B. Tech Degree 540 Seats

- Computer Science & Engineering - 300
- Civil Engineering - 30
- Electronics & Communication Engineering - 60
- Mechanical Engineering - 30
- Computer Science & Engineering(AIML) - 60
- Computer Science & Engineering(DS) - 60

(B) One Years Diploma course 60 Seats

- Computer Science & Engineering - 60

**Placement Facilities****Campus Placement in last three years**

**Total Students Placed** : 296

**Average Pay package, Rs./Year** B.Tech : 06 Lakh/year

Diploma : 3 Lakh/year

**Students opted for Higher Studies** B.Tech : 10 %

Diploma : 40%

**7. Details of working faculty:****Branch wise list of faculty members:**

S. No.	Faculty Name	Designation	Department
1	Dr. T. S Sidhu	Director	
2	Mr. MOHD SHUAIB IBRAHIM	ASST PROFESSOR	CIVIL ENGINEERING

3	Mr. BHUVAN CHANDRA BHATT	ASST PROFESSOR	CIVIL ENGINEERING
4	Mr. TUSHAR KISHORE VERMA	ASST PROFESSOR	CIVIL ENGINEERING
5	Mr. MOHAMMAD SAYEED	ASST PROFESSOR	CIVIL ENGINEERING
6	Mr. RAVI KUMAR TIWARI	ASST PROFESSOR	CIVIL ENGINEERING
7	Mr. ASIF AHMED MALIK	ASST PROFESSOR	CIVIL ENGINEERING
8	Mr. PANKAJ GARIYA	ASST PROFESSOR	CIVIL ENGINEERING
9	Ms. NAMRA FATIMA	ASST PROFESSOR	CIVIL ENGINEERING
10	Ms. AISHA JUYAL	ASST PROFESSOR	COMPUTER APPLICATIONS
11	Mr. GAURAV LAKHERA	ASST PROFESSOR	COMPUTER APPLICATIONS
12	Mr. MANISH BHATT	ASST PROFESSOR	COMPUTER APPLICATIONS
13	Ms. ANKITA BUTOLA	ASST PROFESSOR	COMPUTER APPLICATIONS
14	Mr. RONIT KUMAR	ASST PROFESSOR	COMPUTER APPLICATIONS
15	Ms. SHEFALI BISHT	ASST PROFESSOR	COMPUTER APPLICATIONS
16	Mr. RAJKUMAR VERMA	ASST PROFESSOR	COMPUTER APPLICATIONS
17	Mr. VIKASH KATHAIT	ASST PROFESSOR	COMPUTER APPLICATIONS
18	Mr. ARPIT GUPTA	ASST PROFESSOR	COMPUTER APPLICATIONS
19	Mr. AKSHAT SHARMA	ASST PROFESSOR	COMPUTER APPLICATIONS
20	Mr. PARAMJEET SINGH	ASST PROFESSOR	COMPUTER APPLICATIONS
21	Mr. ANSHUL NAVDEV	ASST PROFESSOR	COMPUTER APPLICATIONS
22	Mr. RAKESH SINGH	ASST PROFESSOR	COMPUTER APPLICATIONS
23	Mr. ANURAG KUMAR	ASST PROFESSOR	COMPUTER SCIENCE AND ENGINEERING
24	Mr. KUSHPREET SINGH	ASST PROFESSOR	COMPUTER SCIENCE AND ENGINEERING
25	Ms. RICHA MISHRA	ASST PROFESSOR	COMPUTER SCIENCE AND ENGINEERING
26	Mr. SUDHIR KUMAR	ASST PROFESSOR	COMPUTER SCIENCE AND ENGINEERING
27	Mr. HARI SHARAN LUTHRA	PROFESSOR OF PRACTICE	COMPUTER SCIENCE AND ENGINEERING
28	Mr. YOGESH PANT	ASSISTANT POP	COMPUTER SCIENCE AND ENGINEERING
29	Mr. VISHAL JOSHI VISHAL JOSHI	ASSISTANT POP	COMPUTER SCIENCE AND ENGINEERING
30	Mr. SIDDHANT UNIYAL	ASSISTANT POP	COMPUTER SCIENCE AND ENGINEERING
31	Mr. SHUBHANSHU SRIVASTAVA	ASSISTANT POP	COMPUTER SCIENCE AND ENGINEERING
32	Mr. ASHWINI SINGH	LECTURER	COMPUTER SCIENCE AND ENGINEERING
33	Mr. NAHAR SINGH	ASSOCIATE POP	COMPUTER SCIENCE AND ENGINEERING
34	Dr. RAJENDRA SINGH	ASSOCIATE PROFESSOR	COMPUTER SCIENCE AND ENGINEERING
35	Dr. VIJAYLAKSHMI SAJWAN	ASSOCIATE PROFESSOR	COMPUTER SCIENCE AND ENGINEERING
36	Dr. PRAMENDER KUMAR	ASSOCIATE PROFESSOR	COMPUTER SCIENCE AND ENGINEERING
37	Ms. SHIVALI PUNDIR	ASST PROFESSOR	COMPUTER SCIENCE AND ENGINEERING
38	Mr. SARTAJ KHAN	ASST PROFESSOR	COMPUTER SCIENCE AND ENGINEERING
39	Mr. KALPESHWAR POKHRIYAL	ASST PROFESSOR	COMPUTER SCIENCE AND ENGINEERING
40	Mr. AVI . VINAYAK	ASST PROFESSOR	COMPUTER SCIENCE AND ENGINEERING
41	Ms. CAMELLIA CHAKRABORTY	ASST PROFESSOR	COMPUTER SCIENCE AND ENGINEERING
42	Mr. BRIJESH KUMAR	ASST PROFESSOR	COMPUTER SCIENCE AND ENGINEERING
43	Ms. PRIYANKA GARG	ASST PROFESSOR	COMPUTER SCIENCE AND ENGINEERING
44	Mr. NASEEM AHMAD	LECTURER	COMPUTER SCIENCE AND ENGINEERING
45	Mr. PRADEEP CHAUHAN	ASST PROFESSOR	COMPUTER SCIENCE AND ENGINEERING
46	Mr. GAURAV JUYAL	ASST PROFESSOR	COMPUTER SCIENCE AND ENGINEERING
47	Mrs. VANDNA BANSLA	ASST PROFESSOR	COMPUTER SCIENCE AND ENGINEERING
48	Ms. SWATI KASHYAP SWATI KASHYAP	ASST PROFESSOR	COMPUTER SCIENCE AND ENGINEERING
49	Ms. SURBHI BHARDWAJ	ASST PROFESSOR	COMPUTER SCIENCE AND ENGINEERING
50	Mr. RADHE SHANKAR	ASST PROFESSOR	COMPUTER SCIENCE AND ENGINEERING
51	Mr. ASHISH BELWAL	ASST PROFESSOR	COMPUTER SCIENCE AND ENGINEERING


52	Mr. SHIV SINGH	ASST PROFESSOR	COMPUTER SCIENCE AND ENGINEERING
53	Mrs. MONISHA ROY	ASST PROFESSOR	COMPUTER SCIENCE AND ENGINEERING
54	Mr. ANIL KUMAR	ASST PROFESSOR	COMPUTER SCIENCE AND ENGINEERING
55	Mr. PREM PRAKASH	ASST PROFESSOR	COMPUTER SCIENCE AND ENGINEERING
56	Mr. ABHISHEK PAL	LECTURER	COMPUTER SCIENCE AND ENGINEERING
57	Mr. ANIKET KUMAR RAWAT	ASST PROFESSOR	COMPUTER SCIENCE AND ENGINEERING
58	Mr. ABHINAV NARAIN	LECTURER	COMPUTER SCIENCE AND ENGINEERING
59	Ms. RUPA MANDAL	ASST PROFESSOR	COMPUTER SCIENCE AND ENGINEERING
60	Mr. SHUBHAM GOYAL	ASST PROFESSOR	COMPUTER SCIENCE AND ENGINEERING
61	Mr. ASHUTOSH GAUR	ASST PROFESSOR	COMPUTER SCIENCE AND ENGINEERING
62	Mr. ABHISHEK THAKUR	ASST PROFESSOR	COMPUTER SCIENCE AND ENGINEERING
63	Mr. OMKAR SINGH LAMBA	LECTURER	COMPUTER SCIENCE AND ENGINEERING
64	Dr. SUMIT KUMAR	PROFESSOR	COMPUTER SCIENCE AND ENGINEERING
65	Dr. DEV BALONI	PROFESSOR	COMPUTER SCIENCE AND ENGINEERING
66	Ms. AAKANKSHA PUNDIR	ASST PROFESSOR	COMPUTER SCIENCE AND ENGINEERING
67	Miss ANITA ANITA	ASST PROFESSOR	COMPUTER SCIENCE AND ENGINEERING
68	Mr. MUKESH PANDEY	ASST PROFESSOR	COMPUTER SCIENCE AND ENGINEERING
69	Ms. URVASHI URVASHI	ASST PROFESSOR	COMPUTER SCIENCE AND ENGINEERING
70	Mr. KUMAR RETHIK	ASST PROFESSOR	COMPUTER SCIENCE AND ENGINEERING
71	Mr. MANISH KUMAR LAKHIWAL	ASST PROFESSOR	COMPUTER SCIENCE AND ENGINEERING
72	Mr. KSHITIJ JAIN	ASST PROFESSOR	COMPUTER SCIENCE AND ENGINEERING
73	Mr. AAYUSHI NAUTIYAL	ASSISTANT POP	COMPUTER SCIENCE AND ENGINEERING
74	Ms. DEEPIKA PATWAL NEGI	ASST PROFESSOR	COMPUTER SCIENCE AND ENGINEERING
75	Ms. POOJA POOJA	ASST PROFESSOR	COMPUTER SCIENCE AND ENGINEERING
76	Mr. THAKUR SINGH	ASST PROFESSOR	DIPLOMA IN MECHANICAL ENGINEERING
77	Mr. KULDEEP GODIYAL	ASST PROFESSOR	ELECTRONIC AND COMMUNICATION Engg.
78	Mr. VIKAS MAHAR	LECTURER	ELECTRONIC AND COMMUNICATION Engg.
79	Dr. NIRMAL KUMAR PANDEY	ASST PROFESSOR	ELECTRONIC AND COMMUNICATION Engg.
80	Mr. YASHENDER SHARMA	ASST PROFESSOR	ELECTRONIC AND COMMUNICATION Engg.
81	Mr. VIPIN Chandra BHATT	ASST PROFESSOR	ELECTRONIC AND COMMUNICATION Engg.
82	Ms. ANKITA BARTH WAL	LECTURER	ELECTRONIC AND COMMUNICATION Engg.
83	Dr. SHABNAM ARA	ASSOCIATE PROFESSOR	ELECTRONIC AND COMMUNICATION Engg.
84	Mr. ASHISH GUPTA	ASST PROFESSOR	ELECTRONIC AND COMMUNICATION Engg.
85	Dr. SATYA PRAKASH SRIVASTAVA	PROFESSOR	ELECTRONIC AND COMMUNICATION Engg.
86	Mr. MUKUL KUMAR	ASST PROFESSOR	ELECTRONIC AND COMMUNICATION Engg.
87	Mr. VINAY KUMAR VERMA	ASST PROFESSOR	ELECTRONIC AND COMMUNICATION Engg.
88	Dr. SURMADHUR PANT	ASSOCIATE PROFESSOR	ELECTRONIC AND COMMUNICATION Engg.
89	Mr. PANKAJ SINGH PANWAR	ASST PROFESSOR	ELECTRONIC AND COMMUNICATION Engg.
90	Dr. ABHISHEK SHARMA	PROFESSOR	ELECTRONIC AND COMMUNICATION Engg.

91	Mrs. ARUNA PANT	ASST PROFESSOR	ELECTRONIC AND COMMUNICATION Engg.
92	Dr. PRIYANKA SHARMA	ASSOCIATE PROFESSOR	FIRST YEAR/OTHER
93	Ms. PRERNA BHARGAV	ASST PROFESSOR	FIRST YEAR/OTHER
94	Miss FATIMA ALI	ASST PROFESSOR	FIRST YEAR/OTHER
95	Mr. GOVIND KUMAR	ASST PROFESSOR	FIRST YEAR/OTHER
96	Ms. MANJULA DOBHAL	ASST PROFESSOR	FIRST YEAR/OTHER
97	Dr. NEHA PUNITHA	ASST PROFESSOR	FIRST YEAR/OTHER
98	Mr. GAURAV UNIYAL	ASST PROFESSOR	FIRST YEAR/OTHER
99	Ms. SONALI SHARMA	ASST PROFESSOR	FIRST YEAR/OTHER
100	Dr. HEMENDRA TRIPATHI	PROFESSOR	FIRST YEAR/OTHER
101	Dr. SABA SABIR	PROFESSOR	FIRST YEAR/OTHER
102	Dr. UMESH CHANDRA GUPTA	PROFESSOR	FIRST YEAR/OTHER
103	Mr. DEEPAK RAWAT	ASST PROFESSOR	FIRST YEAR/OTHER
104	Dr. NISHA MEHRA	ASST PROFESSOR	FIRST YEAR/OTHER
105	Dr. SANTOSH KUMAR JOSHI	PROFESSOR	FIRST YEAR/OTHER
106	Mr. ABHISHEK . CHAUKIYAL	ASST PROFESSOR	MANAGEMENT
107	Mrs. SONIA CHOUDHARY	ASST PROFESSOR	MANAGEMENT
108	Mr. ANIRUDDHA KULKARNI	ASST PROFESSOR	MANAGEMENT
109	Mr. KISHAN KUMAR MISHRA	ASST PROFESSOR	MANAGEMENT
110	Mr. MANISH LOHANI	ASST PROFESSOR	MANAGEMENT
111	Ms. SWATI GOYAL	ASST PROFESSOR	MANAGEMENT
112	Ms. RIYA RAWAT	ASST PROFESSOR	MANAGEMENT
113	Ms. SHEFALI SINGH	ASST PROFESSOR	MANAGEMENT
114	Mr. ROHIT KUMAR SINGH	ASST PROFESSOR	MANAGEMENT
115	Ms. VANSHIKA SAHNI	ASST PROFESSOR	MANAGEMENT
116	Mr. MUKESH KUMAR	ASST PROFESSOR	MANAGEMENT
117	Mr. BHAGESHWAR TIWARI	ASST PROFESSOR	MANAGEMENT
118	Miss NAMRATA ANAND	ASST PROFESSOR	MANAGEMENT
119	Miss SAKSHI SHARMA	ASST PROFESSOR	MANAGEMENT
120	Dr. AMRITA SINGH	ASSOCIATE PROFESSOR	MANAGEMENT
121	Mr. DURGESH BAHUGUNA	ASST PROFESSOR	MANAGEMENT
122	Dr. RAJENDRA KUMAR	PROFESSOR	MANAGEMENT
123	Ms. ANSHIKA SRIVASTAVA	ASST PROFESSOR	MANAGEMENT
124	Dr. SACHIN TRILOKINATH SIDHRA	ASSOCIATE PROFESSOR	MANAGEMENT
125	Ms. ARCHANA .	ASST PROFESSOR	MANAGEMENT
126	Mr. TOSHIT KUMAR	ASST PROFESSOR	MANAGEMENT
127	Dr. AMIT NAUTIYAL	PROFESSOR	MANAGEMENT
128	Mr. SATISH KUMAR	ASST PROFESSOR	MECHANICAL ENGINEERING
129	Mr. AYUSH PANWAR	ASST PROFESSOR	MECHANICAL ENGINEERING
130	Mr. VIVEK PRATAP SINGH	ASST PROFESSOR	MECHANICAL ENGINEERING
131	Dr. ABHISHEK KUMAR JHA	ASST PROFESSOR	MECHANICAL ENGINEERING
132	Mr. AJAY KUMAR VERMA	ASST PROFESSOR	MECHANICAL ENGINEERING
133	Mr. DHIRAJ RAJ	ASST PROFESSOR	MECHANICAL ENGINEERING
134	Dr. SONO BHARDAWAJ	ASSOCIATE PROFESSOR	MECHANICAL ENGINEERING
135	Dr. PRABHAKAR ZAINITH	ASST PROFESSOR	MECHANICAL ENGINEERING
136	Mr. VIPIN UNIYAL	ASST PROFESSOR	MECHANICAL ENGINEERING
137	Mr. NITIN BHARTI	ASST PROFESSOR	MECHANICAL ENGINEERING
138	Mr. NIKHIL KANOJIA	ASST PROFESSOR	MECHANICAL ENGINEERING
139	Mr. ASHISH KESARWANI	ASST PROFESSOR	MECHANICAL ENGINEERING

**Permanent Faculty Student Ratio (Degree) 1:20  
(Diploma) 1:25**

- Number of faculty employed and left during the last three years

**8- Profile of the Director**

<b>Name</b>	Dr. T.S.Sidhu				
<b>Date of Birth</b>	10-12-1965				
<b>Unique ID</b>					
<b>Educational Qualification</b>	Ph.D., M.Tech				
<b>Work Experience</b>	Teaching- 34	Research-	Industry -	Others-	
<b>Area of Specialization</b>	Production Engineering				
<b>Course taught at Diploma/PG/UG/Others Level.</b>	<b>UG: SOM,MV,Machine Design, Manufacturing Engg, PG: Industrial Manufacturing.</b>				
<b>Research Guidance</b>	No. of Paper Published	National Journals	International Journals	Conference	
			99	74	
	Master	04	Ph.D	07	
<b>Project Carried Out</b>	11.05 Crore		Patents 01		

**9. FEE**

**Time Schedule for payment of Fee for the entire Programme :** Semester wise fee payment System  
For 1<sup>st</sup> Installment ( July-December)- 15<sup>th</sup> July  
For 2<sup>nd</sup> Installment (January-June)- 15<sup>th</sup> January

Fee Waivers:

**Estimated Cost of Boarding and Lodging in :** College Campus Hostel Boarding and Lodging Charges :-  
**College Hostel** Rs. 90000/- per annum (for Girls Hostel)  
Rs. 90000/-per annum (for Boys Hostel)

**10. Admission**

Approved Intake in the Academic Year 2025-26;

**B) Four Years Under Graduate B. Tech Degree 540Seats**

- Computer Science & Engineering - 300
- Civil Engineering - 30
- Electronics & Communication Engineering - 60
- Mechanical Engineering - 60
- Computer Science & Engineering (DS) - 60
- Computer Science & Engineering (AIML) - 60

**(B) Three Years Diploma course 300 Seats**

- Civil Engineering – 120
- Mechanical Engineering – 60
- Electrical Engineering – 60
- Computer Science & Engineering – 60

**Number of students admitted under various categories each year in the last three years :**

Courses		2023-24						2022-23						2021-22					
B. TECH.		Sanctioned intake	Actual Admissions					Sanctioned intake	Actual admissions					Sanctioned intake	Actual admissions				
			Gen	SC	ST	OBC	Total		Gen	SC	ST	OBC	Total		Gen	SC	ST	OBC	Total
UG(FT)	CSE	180	144	4	2	40	190	150	114	3	1	32	150	120	90	4	2	26	122
	CE	30	4	0	0	0	4	30	8	1	1	0	10	60	9	0	1	1	11
	ECE	30	24	1	0	9	34	30	7	0	0	2	9	60	0	1	0	1	2
	ME	30	14	1	2	7	24	30	7	1	0	2	10	60	1	0	0	1	2
	EEE	00	0	0	0	0	0	00	0	0	0	0	0	00	0	0	0	0	0
	CSE (DS)	30	25	0	1	7	33	30	27	0	0	3	30	00	0	0	0	0	0
	CSE (AIML)	60	48	2	0	10	60	30	20	0	1	5	26	00	0	0	0	0	0
	<b>TOTAL</b>	<b>360</b>						<b>300</b>						<b>300</b>	<b>100</b>	<b>5</b>	<b>3</b>	<b>29</b>	<b>137</b>

**11. Admission Procedure:**

**B.Tech Courses:** VMSB Uttarakhand Technological University the affiliating university of the colleges is conduct online counseling in a year on the basis JEE-2025 result. Please visit University website: <https://uktech.ac.in/under-graduate-3/>.

**Diploma Courses:** Uttarakhand Board of Technical Education, Roorkee has conduct JEEP-2025 entrance exam for all the Diploma courses. After conducting the Entrance Exam online counseling in a year on the basis of JEEP-2025 result. Please visit Board website: <http://www.ubtejeep.in/>

**12. Criteria and Weightages for Admission:**

Students are admitted in the college in Uttarakhand on the basis of their scores in the JEE (Main). Uttarakhand does not have its own state level engineering entrance exam.

Admissions take place through an online counseling procedure that is conducted every year by the VMSB Uttarakhand Technological University, Dehradun. All seats are allotted through this online counseling procedure.

The VMSB Uttarakhand Technological University, Dehradun conducts this online counseling procedure in 2 rounds. The first round is for all the seats that are available for admission in all B.Tech courses. If seats are left vacant after the 1<sup>st</sup> round, another round of counseling is conducted. After 1<sup>st</sup> and 2<sup>nd</sup> rounds of the counseling if seats are left vacant than 3<sup>rd</sup> round of counselling is conducted by the Institute at Institute level.

**As per the Government of Uttarakhand rules Admission criteria, weightage and allocation of seats to all Technical colleges in the State of Uttarakhand are as follows criteria :-**

- All India Category Seats-35%
- Uttarakhand State Seats- 50%
- Management Seats-15%

\* As per Seat Matrix For Admission in B. Tech. (First Year) Counseling - 2025-26 set by University.

<https://uktech.ac.in/en/page/counselling-portal-2025-26-new>

For B.Tech Courses:- Applicant will be eligible for admission if he has passed his Class 12<sup>th</sup> examinations from a school/board in Uttarakhand and if he is a domicile of Uttarakhand or are of Uttarakhand origin. This will make him eligible for seats under the State Quota.

To be eligible for admission (If do not belong to the state of Uttarakhand), he should have passed his/her Class 12<sup>th</sup> from a school in Uttarakhand. This will allow her/him to be eligible for seats under the State Domicile Category as well for seats under the 'All India Quota'.

Candidates who are not of Uttarakhand origin and have passed their Class 12<sup>th</sup> examinations from a school/board outside of Uttarakhand are eligible for admission only for the seats that are reserved under the 'All India Quota'.

All candidates who seek admission into the B.E/B.Tech in the colleges of Uttarakhand, need to have passed their Class 12<sup>th</sup> or equivalent examinations with Physics, Math and either one of Chemistry/Biotechnology/Biology/ a Technical Vocational Subject as their main subjects with a minimum aggregate percentage of 45% (40% for SC/ST candidates) As per AICTE rule.

Additionally, candidate will only be eligible for admission if they have appeared for the JEE (Main) examination in the same year as the one they're seeking admission in.

What is the counseling procedure? To apply for the online counseling procedure, the first thing you would need to do is make the payment for the counseling fee.

Visit the Uttarakhand Counseling website (<http://ukcounseling.nic.in>), enter you JEE (Main) Roll number and E – mail ID and download and print the Bank Challan form. candidate will need to deposit the counseling fee payment in cash along with this Bank Challan form at any branch of the State Bank of India (SBI).

Once candidate have made the fee payment, candidate would need to register themself on the above mentioned website by filling in necessary details and information about themself.

Candidate will receive a confirmation message once he/she has been successfully registered on the website. Take a print out of this message for future reference.

Once the first round of the online counseling starts, he/she will be able to log on to the website and choose the colleges his/her wish to join. He/she will only be able to choose from the colleges/courses he/she is eligible for, based on her/him reservation category and other details. They will be allowed to change and modify their choices till a certain date.

Once the allotment results are out, log on to the website and see whether he/she has been allotted a seat or not. In case he/she has been allotted a seat, he/she will see a 'Provisional Allotment Letter' from the institute/college online.

If he/she is satisfied with the seat he/she has been allotted and does not wish to participate in the 2<sup>nd</sup> round of counseling, print this allotment letter and take it along with copies and originals of all their important documents (mentioned in Provisional Allotment Letter) and report to the institute/college in person. He/she will also need to submit the necessary admission fee to confirm their admission.

If their documents are found to be genuine, then their admission will be confirmed online and they will be provided with an 'Admission Letter'. They will have to submit the fee deposit to confirm their seat.

If candidate choose to upgrade their seat to a better college, or if candidates have not been allotted a seat in the 1<sup>st</sup> round, candidate will have to visit the above mentioned website and apply for the 2<sup>nd</sup> round of counseling.

If candidate wish to participate in the 2<sup>nd</sup> round of counseling, candidate should not report to the college/institute candidate has been allotted a seat in. Wait for the 1<sup>st</sup> round of counseling to get over and then make their choices for the 2<sup>nd</sup> round of counseling through the Uttarakhand Counseling website.

**For Diploma courses: Admission Process for Diploma Courses same as above.** Applicant will be eligible for admission if he has passed his Class 10<sup>th</sup> examinations from a school/board in Uttarakhand and if he is a

domicile of Uttarakhand or are of Uttarakhand origin. This will make him eligible for seats under the State Quota.

To be eligible for admission (If do not belong to the state of Uttarakhand), he should have passed his/her Class 10<sup>th</sup> from a school in Uttarakhand. This will allow her/him to be eligible for seats under the State Domicile Category as well as for seats under the 'All India Quota'.

Candidates who are not of Uttarakhand origin and have passed their Class 10<sup>th</sup> examinations from a school/board outside of Uttarakhand are eligible for admission only for the seats that are reserved under the 'All India Quota'.

All candidates who seek admission into the Diploma courses in the colleges of Uttarakhand, need to have passed their Class 10<sup>th</sup> or equivalent examinations with Science, Maths-2 (not primary maths) as their main subjects with a minimum aggregate percentage of 35% (at least obtained 33% marks qualifying examination) As per AICTE rule.

Additionally, candidate will only be eligible for admission if they have appeared for the JEEEP examination in the same year as the one they are seeking admission in.

To apply for the online counseling procedure, the first thing you would need to do is make the payment for the counseling fee.

Visit the Uttarakhand Counseling website (<http://ukcounseling.nic.in>), enter you JEEEP Roll number and E – mail ID and download and print the Bank Challan form. candidate will need to deposit the counseling fee payment in cash along with this Bank Challan form at any branch of the State Bank of India (SBI).

As per the Government of Uttarakhand rules and Uttarakhand Technical University rules the college conduct counselling for admission against management seats/ vacant seats.

- Last date of request for application/registration: 27-06-2025 & 2<sup>nd</sup> Round 10-07-2025
- Last date of submission of applications:28-06-2025 & 2<sup>nd</sup> Round 11-07-2025
- Release of admission list(main list and waiting list announced on the same day):-04-07-2025 & 2<sup>nd</sup> Round 16-07-2025
- Date for acceptance by the candidate: 08-07-2025 & 2<sup>nd</sup> Round 20-07-2025
- Last date for closing of admission: 03-08-2025
- Starting of the academic session 1<sup>st</sup> Year : 09-08-2025

Policy of Refund of the fee in case of withdrawal: Refund will process as per AICTE norms and guidelines.

#### **13-14. List of Applicants/Results of Admission Under Management/Vacant Seats:**

#### **15. Information of Infrastructure and Other Resources Available:**

Numbers of Class Room and size of each	30	69 Sqmtr.
Numbers of Tutorial Room and size of each	05	33 Sqmtr.
Numbers of Laboratories	55	69 Sqmtr.
Numbers of Drawing Halls with capacity of each	02	132 Sqmtr.
Number of Computer Centre with capacity of each	01	150 Sqmtr.
Central Workshop	01	1023.54 Sqmtr.
Central Examination Facility Numbers of Rooms	02	40 Sqmtr.
Online examination facility (Number of Nodes, internet	300 50mbps	150 sqmtr.

Bandwidth, etc.)	
Barrier free Built Environment for disabled and elderly persons	Yes, Left and Ramp Available
Occupancy Certificate	Yes
Fire and Safety Certificate	Yes
Hostel Facilities	Yes

## Library

### Number of Library books/ Titles/Journals Available

<b>Number of Titles</b>	:	3795
<b>Number of Volume</b>	:	35133
<b>Journals</b>	:	33/20
<b>E-Library facilities</b>	:	Yes
<b>National Digital Library(NDL) subscription</b>	:	Yes

## Laboratory and Workshop

- I. **NAME OF LABORATORY:** APPLIED THERMODYNAMICS (MEP-008)
- II. DEPARTMENT: MECHANICAL ENGINEERING
- III. LOCATION AND NO. : Second floor, New Block
- IV. COURSE NAME : B.Tech BRANCH: Mechanical Engineering Semester: 4<sup>th</sup>
- V. TOTAL NO. OF EXPERIMENTS REQUIRED : 10
- VI. (AS PER UTU SYLLABUS)
- VII. TOTAL NO. OF EXPERIMENTS SETUP IN THE LAB.:12
- VIII. NO. OF MANUALS IN THE LAB.: 12
- IX. NAME OF THE TEACHER IN CHARGE: Dr. Sono Bhardawaj
- X. NAME OF THE LAB ASSISTANT : NA
- XI. OBJECTIVE OF LAB.: To establish a relationship between practical and theoretical approach and enhance skill of students.

Table: Laboratory experiments

S.No	Name of experiment	Equipment	Status
1	Study of Fire Tube boiler	Model of Fire Tube boiler	Available
2	Study of Water Tube boiler	Model of Water Tube boiler	Available
3	Study of Refrigerator	Model of Refrigerator	Available
4	Study of Steam Engine	Model of Steam Engine	Available
5	Study and working of Four stroke petrol Engine	Model of Four stroke petrol Engine	Available
6	Study and working of Two stroke petrol Engine	Model of Two stroke petrol Engine	Available
7	Study of Gas Turbine Model	Model of Gas Turbine	Available
8	Study and working of Four stroke Diesel Engine.	Model of Four stroke Diesel Engine	Available
9	Study and working of Two stroke Diesel Engine.	Model of Two stroke Diesel Engine	Available
10	Determination of Indicated H.P. of I.C. Engine	Morse Test Set Up	Available

	by Morse Test		
11	Study of Impulse & Reaction turbine.	Impulse & Reaction turbine test Rig	Available
12	Study of Gas Turbine Model.	Turbine Model	Available

- I. **NAME OF LABORATORY:** Automobile Engineering Lab
- II. **DEPARTMENT:** MECHANICAL ENGINEERING
- III. **LOCATION AND NO. :**Central Workshop
- IV. **COURSE NAME :**B.Tech      **BRANCH:** Mechanical Engineering      **Semester:** 8<sup>th</sup>
- V. **TOTAL NO. OF EXPERIMENTS REQUIRED :** 08  
(AS PER UTU SYLLABUS )
- VI. **TOTAL NO. OF EXPERIMENTS SETUP IN THE LAB.:** 11
- VII. **NO. OF MANUALS IN THE LAB.:** 11
- VIII. **NAME OF THE TEACHER IN CHARGE:** Mr Subhan Ali
- IX. **NAME OF THE LAB ASSISTANT :**Mr. Rajendra singh Gusain
- X. **OBJECTIVE OF LAB.:** To understand different components of different machine for designing

**Table: Laboratory experiments**

S.No	Name of experiment	Equipment/software's used	Status
1	Study of Layout of different components in an IC Engine	IC Engine setup	Available & working
2	Study of valve actuating mechanisms of an multi cylinder engine	multi cylinder engine apparatus	Available & working
3	Study of different carburetors in Indian Make vehicles	carburetors	Available & working
4	Study of different injection in Indian Make vehicles	Fuel injection apparatus	Available & working
5	Morse test diesel Engines	multi cylinder engine apparatus	Available & working
6	Exhaust emission analysis of SI and CI engines	multi cylinder engine apparatus	Available & working
7	Performance analysis of four stroke C.I & S.I engine ,thermal Efficiency, indicated power , specific fuel consumption at different loads, heat balance	multi cylinder engine apparatus SI and CI	Available & working
8	Study of different gear mechanism of vehicle	Gear mechanism	Available & working
9	Study of steering mechanism system	Automobile steering mechanism system	Available & working
10	Study of automobile braking system	Aautomobile braking system	Available & working
11	Study of ignition system of I C engine	IC Engine setup	Available & working

XI. **APPLICATION OF LAB EXPERIMENTS ( FROM THE POINT OF VIEW OF STUDENTS):** The above experiments are very use full to understand of basic functioning of internal combustion engine and Automobiles

**XII. USEFULNESS FOR THE DEPARTMENT :**

- a) Development of industry relation
- b) R & D projects
- c) Consultancy/ Testing

I. NAME OF LABORATORY: **BASICS OF MECHANICAL ENGINEERING (MEP 001)**

II. DEPARTMENT: MECHANICAL ENGINEERING

III. LOCATION AND NO. : First floor, Block C

IV. COURSE NAME : B.Tech BRANCH: Mechanical Engineering Semester: I/II

V. TOTAL NO. OF EXPERIMENTS REQUIRED : 8

a. (AS PER UTU SYLLABUS)

VI. NO. OF MANUALS IN THE LAB.: 10

VII. NAME OF THE TEACHER IN CHARGE: Mr. Ajay Verma

VIII. NAME OF THE LAB ASSISTANT : Mr. Jaypal singhRawat

IX. OBJECTIVE OF LAB.: To understand the basics concept of Mechanical Engineering

Table: Laboratory experiments

S.No	Name of experiment	Equipment	Status
1	Study of Universal Testing Machine	UTM Machine	Available
2	Linear and angular measurement using Micrometer, Slip Gauges , Dial Gauges and Sine Bar	Linear & Angular Measurement Instrument	Available
3	Hardness Testing	Hardness Testing Machine	Available
4	Impact Testing	Impact testing Machine	Available
5	Verification of Bernoulli's Theorem	Bernoulli's Apparatus	Available
6	Study of various types of Boilers	Model of Boilers	Available
7	Study of different IC Engines	Model of 2 stroke and 4stroke petrol and diesel Engines	Available
8	Study of different types of Boilers Mountings and accessories	Model of Boilers	Available

XIII. **APPLICATION OF LAB EXPERIMENTS ( FROM THE POINT OF VIEW OF STUDENTS):** The above experiments are very use full to understand of Basic of mechanical engineering like thermo, som etc.

**XIV. USEFULNESS FOR THE DEPARTMENT :**

- d) Development of industry relation
- e) R & D projects

- I. **NAME OF LABORATORY:** CAD/CAM Lab
- II. **DEPARTMENT:** MECHANICAL ENGINEERING
- III. **LOCATION AND NO. :** R.No. 301, Second Floor, New Building
- IV. **COURSE NAME :**B.Tech                   **BRANCH:** Mechanical Engineering                   **Semester:**7<sup>th</sup>
- V. **TOTAL NO. OF EXPERIMENTS REQUIRED :**08(AS PER UTU SYLLABUS )
- VI. **TOTAL NO. OF EXPERIMENTS SETUP IN THE LAB.:**                   09
- VII. **NO. OF MANUALS IN THE LAB.:**                   09
- VIII. **NAME OF THE TEACHER IN CHARGE :**
- IX. **NAME OF THE LAB ASSISTANT :**
- X. **OBJECTIVE OF LAB.:** Making students sound in design software & preparing students for modern industries

Table: Laboratory experiments

S.No	Name of experiment	Equipment/software's used	Status
1	Line drawing or Circle drawing algorithm experiment	Computer system / AUTO CAD	Available & working
2	Transformations algorithm experiment for translation/rotation/scaling	Computer system / AUTO CAD	Available & working
3	writing the program for design of machine element	Computer system/ C & C++	Available & working
4	writing a program for optimizing a function	Computer system/ C & C++	Available & working
5	understanding and use of Auto CAD commands	Computer system/ C & C++/AUTO CAD	Available & working
6	Writing a small program for FEM for 2 spring system	Computer system/ Ansys	Available & working
7	Use of pro Engineer	Computer system/ Pro-E	Available & working
8	Writing a part-programming (in word address format or in APT) for a job	Computer system/ NC	Available &

	for drilling operation	Program	working
9	Experiment on Robots and it programs	Computer system/ MAT Lab	Available & working

**XV. APPLICATION OF LAB EXPERIMENTS (FROM THE POINT OF VIEW OF STUDENTS):** The above experiments are very useful to understand basic designing and manufacturing of various machine components with the help of computer programming.

**XVI. USEFULNESS FOR THE DEPARTMENT :**

- f) Create industry ready students for designing
- g) R & D projects
- h) Consultancy/ testing

- I. NAME OF LABORATORY: Computer Aided Machine Drawing Lab (BMEP 406)
- II. DEPARTMENT: MECHANICAL ENGINEERING
- III. LOCATION AND NO. : first floor , Block B
- IV. COURSE NAME : B.Tech BRANCH: Mechanical Engineering Semester: 3<sup>RD</sup>
- V. TOTAL NO. OF EXPERIMENTS REQUIRED : 08  
(AS PER UTU SYLLABUS)
- VI. NO. OF MANUALS IN THE LAB.: 10
- VII. NAME OF THE TEACHER IN CHARGE:
- VIII. NAME OF THE LAB ASSISTANT : NA
- IX. OBJECTIVE OF LAB.: To Establish a relation between practical and theory and enhance the technical skills of students.

Table: Laboratory experiments

S.No	Name of experiment	Equipment/software	Status
1	Representation of Threads	Computer System	Available
2	Representation of Threads	Computer System	Available
3	Representation of Keys	Computer System	Available
4	Representation of Cotter Joints	Computer System	Available
5	Assembly Drawing of Stuffing Box	Computer System	Available
6	Drawing of Universal Coupling	Computer System	Available
7	Drawing of Oldham Coupling	Computer System	Available
8	Drawing of Riveted Joints	Computer System	Available
9	Representation of Threads	Computer System	Available
10	Representation of Threads	Computer System	Available

**XVII. APPLICATION OF LAB EXPERIMENTS ( FROM THE POINT OF VIEW OF STUDENTS):** The above experiments are very use full to understand of machine design & programming

**XVIII. USEFULNESS FOR THE DEPARTMENT :**

- x. Development of industry relation

- xi. R & D projects
- xii. Consultancy/Testing

**NAME OF LABORATORY: ENGINEERING DRAWING (PED-101/201)**

- I. DEPARTMENT: MECHANICAL ENGINEERING
- II. LOCATION AND NO. :
- III. COURSE NAME : B.Tech BRANCH: Mechanical Engineering Semester: 1<sup>st</sup>/2nd
- IV. TOTAL NO. OF EXPERIMENTS REQUIRED : 08
- V. (AS PER UTU SYLLABUS)
- VI. NO. OF MANUALS IN THE LAB.: 10
- VII. NAME OF THE TEACHER IN CHARGE: Mr. Ajay Verma
- VIII. NAME OF THE LAB ASSISTANT : NA
- IX. OBJECTIVE OF LAB.: To understand the basics of Engineering Drawing

Table: Laboratory experiments

S.No	Name of experiment	Equipment/Software used	Status
1	Lettering and Dimensioning	Drawing Board/Computer System	Available
2	Projection of Points	Drawing Board/Computer System	Available
3	Projections of Lines	Drawing Board/Computer System	Available
4	Projection of Planes	Drawing Board/Computer System	Available
5	Principal of auxiliary planes	Drawing Board/Computer System	Available
6	Projection of Solids	Drawing Board/Computer System	Available
7	Section of Solids	Drawing Board/Computer System	Available
8	Development of Surfaces	Drawing Board/Computer System	Available
9	Orthographic Projection	Drawing Board/Computer System	Available
10	Isometric Projection	Drawing Board/Computer System	Available

XIX. **APPLICATION OF LAB EXPERIMENTS ( FROM THE POINT OF VIEW OF STUDENTS):** The above experiments are very use full to understand of engineering drawing and how to imagine the object.

**XX. USEFULNESS FOR THE DEPARTMENT :**

- i) Development of industry relation
- j) R & D projects

**I. NAME OF LABORATORY: FLUID MECHANICS (BMEP-404)**

- II. DEPARTMENT: MECHANICAL ENGINEERING
- III. LOCATION AND NO. : Ground floor, block A
- IV. COURSE NAME : B.Tech BRANCH: Mechanical Engineering Semester: 4<sup>th</sup>
- V. TOTAL NO. OF EXPERIMENTS REQUIRED : 07
- VI. (AS PER UTU SYLLABUS)

- VII. NO. OF MANUALS IN THE LAB.: 12
- VIII. NAME OF THE TEACHER IN CHARGE:
- IX. NAME OF THE LAB ASSISTANT : Mr. Jaypal Singh Rawat
- X. OBJECTIVE OF LAB.: To establish a relationship between practical and theoretical approach and enhance skill of the students.

**Table: Laboratory experiments**

S.No	Name of experiment	Equipment	Status
1	To determine the metacentric height of ship model	Metacentric Height Apparatus	Working
2	To verify Bernoulli Theorem	Bernoulli Apparatus	Working
3	To verify Momentum equation	Jet Apparatus	Working
4	To determine the coefficient of discharge, velocity and contraction of orifice	Coefficient of Fluid Apparatus	Working
5	To study the transition from laminar to turbulent flow and determine the lower critical Reynolds Number	Reynold's Apparatus	Working
6	To study the variation of friction factor "f" for turbulent flow in commercial pipe	Pipe Friction Apparatus	Working
7	To determine the discharge through an orifice and Venturimeter	Orifice and Venturimeter Apparatus	Working
8	To find the velocity distribution in a pipe and hence to compute the discharge by integrating the velocity profile obtained	Pitot Tube Apparatus	Working
9	To study the flow behavior in pipe and calibrate the pipe bend for discharge measurement	Pipe Bend Apparatus	Working
10	To determine the loss coefficient of various pipe fittings	Different fittings Apparatus	Working
11	To determine the surface tension of liquid	Surface Tension Apparatus	Working
12	To determine the coefficient of discharge for rectangular and triangular Notches	Notch Apparatus	Working

**XXI. APPLICATION OF LAB EXPERIMENTS ( FROM THE POINT OF VIEW OF STUDENTS):** students understand the fluid property , calculation of friction , pressure drop etc

**XXII. USEFULNESS FOR THE DEPARTMENT :**

- k) Development of industry relation
- l) R & D projects

- I. **NAME OF LABORATORY:** Fluid Machinery
- II. **DEPARTMENT:** MECHANICAL ENGINEERING
- III. **LOCATION AND NO. :**Central Workshop
- IV. **COURSE NAME :**B.Tech      **BRANCH:** Mechanical Engineering      **Semester:** 6<sup>th</sup>
- V. **TOTAL NO. OF EXPERIMENTS REQUIRED :** 08  
(AS PER UTU SYLLABUS )
- VI. **TOTAL NO. OF EXPERIMENTS SETUP IN THE LAB.:** 08
- VII. **NO. OF MANUALS IN THE LAB.:** 08
- VIII. **NAME OF THE TEACHER IN CHARGE :**

- IX. **OBJECTIVE OF LAB.:** To establish a relationship between practical and theoretical approach and enhance skill of students.

Table: Laboratory experiments

S.No	Name of experiment	Equipment/software's used	Status
1	Impact of Jet experiment	Impact of Jet	Available and working
2	Turbine exp. on Pelton wheel.	Pelton wheel	Available and working
3	Turbine exp. on Francis turbine	Francis turbine	Available and working
4	Exp. on Reciprocating pump	Reciprocating pump	Available and working
5	Exp. on centrifugal pump.	centrifugal pump	Available and working
6	Exp. on Hydraulic Jack/Press	Hydraulic Jack/Press	Available and working
7	Exp. on Hydraulic Brake	Hydraulic Brake	Available and working
8	Study through any pumping station/plant		Industrial visit of pumping station

- I. **APPLICATION OF LAB EXPERIMENTS ( FROM THE POINT OF VIEW OF STUDENTS):** gives a detailed analysis of hydro power plant components and various application of fluid.

II. **USEFULNESS FOR THE DEPARTMENT :**

Development of industry relation

R & D projects

Consultancy/Testing

- I. **NAME OF LABORATORY:** Heat and Mass Transfer Lab (PME-555)

- II. **DEPARTMENT:** MECHANICAL ENGINEERING

- III. **LOCATION AND NO. :** Second Floor, New Block C

- IV. **COURSE NAME :**B.Tech      **BRANCH:** Mechanical Engineering      **Semester:** 5<sup>th</sup>

- V. **TOTAL NO. OF EXPERIMENTS REQUIRED :** 08  
(AS PER UTU SYLLABUS )

- VI. **TOTAL NO. OF EXPERIMENTS SETUP IN THE LAB.:** 08

- VII. **NO. OF MANUALS IN THE LAB.:** 08

- VIII. **NAME OF THE TEACHER IN CHARGE :**

- IX. **NAME OF THE LAB ASSISTANT :** Mr. Jaypal Singh Rawat

- X. **OBJECTIVE OF LAB.:** To understand various modes of heat transfer.

TABLE: LABORATORY EXPERIMENTS

S.No	Name of experiment	Equipment/software's used	Status
1	Conduction - Composite wall experiment	Composite wall Apparatus	Available and working
2	Convection - Heat Pipe experiment	Heat Pipe Apparatus	Available and working
3	Convection - Heat transfer through fin-natural convection	Pin-fin Apparatus (natural)	Available and working
4	Convection - Heat transfer through fin-forced convection	Pin-fin Apparatus (forced)	Available and working
5	experiment on Stefan's Law (radiation determination of emissivity)	Stefan's Boltzmann Apparatus	Available and working
6	To find critical insulation thickness	critical insulation thickness Apparatus	Available and working
7	Convection - Pool Boiling experiment	Two phase heat transfer apparatus)	Available and working
8	Heat exchanger - Parallel flow experiment	Computer System/Virtual Lab	Available and working
9	Heat exchanger - Counter flow experiment	Computer System/Virtual Lab	Available and working

i. **APPLICATION OF LAB EXPERIMENTS ( FROM THE POINT OF VIEW OF STUDENTS):** The above experiments are very use full to understand of machine design & programming

**I. USEFULNESS FOR THE DEPARTMENT :**

- a) Development of industry relation
- b) R & D projects

I. **NAME OF LABORATORY:** Machine Design Lab (PME-554)

II. **DEPARTMENT:** MECHANICAL ENGINEERING

III. **LOCATION AND NO. :** Room No. 301, Second Floor, New Building

IV. **COURSE NAME :** B.Tech                      **BRANCH:** Mechanical Engineering                      **Semester:** 6<sup>th</sup>

V. **TOTAL NO. OF EXPERIMENTS REQUIRED :** 08 (AS PER UTU SYLLABUS )

VI. **TOTAL NO. OF EXPERIMENTS SETUP IN THE LAB.:** Computer system

VII. **NO. OF MANUALS IN THE LAB.:** 08

VIII. **NAME OF THE TEACHER IN CHARGE :**

IX. **NAME OF THE LAB ASSISTANT :**

X. **OBJECTIVE OF LAB.:** To understand different components of different machine for designing using software

**Table: Laboratory experiments**

S.No	Name of experiment	Equipment/software's	Status
1	WAP to Design a Spur Gear (C++)	Computer system/ C Compiler	Available & working
2	WAP to Design a Helical Gear (C++)	Computer system/ C Compiler	Available & working

3	WAP to Design a Bevel Gear (C++)	Computer system/ C Compiler	Available & working
4	WAP to Design a Worm Gear (C++)	Computer system/ C Compiler	Available & working
5	WAP to Design a Rolling contact Bearing (C++)	Computer system/ C Compiler	Available & working
6	WAP to Design a sliding contact Bearing (C++)	Computer system/ C Compiler	Available & working
7	WAP to Design a Key (C++)	Computer system/ C Compiler	Available & working
8	WAP to Design a shaft (C++)	Computer system/ C Compiler	Available & working

a) **APPLICATION OF LAB EXPERIMENTS ( FROM THE POINT OF VIEW OF STUDENTS):** The above experiments are very use full to understand of machine design & programming

b) **USEFULNESS FOR THE DEPARTMENT :**

c) Development of industry relation

d) R & D projects

e) Consultancy/Testing

f) **NAME OF LABORATORY: MANUFACTURING SCIENCE LAB –I (BMEP-305)**

g) DEPARTMENT: MECHANICAL ENGINEERING

h) LOCATION AND NO. : Central workshop

i) COURSE NAME : B.Tech BRANCH: Mechanical Engineering Semester: 3<sup>rd</sup>

j) TOTAL NO. OF EXPERIMENTS REQUIRED : 08

k) (AS PER UTU SYLLABUS)

l) TOTAL NO. OF EXPERIMENTS SETUP IN THE LAB.:08

m) NO. OF MANUALS IN THE LAB.: 08

n) NAME OF THE TEACHER IN CHARGE:

o) NAME OF THE LAB ASSISTANT : Mr. Rajendra singh Guasin

p) OBJECTIVE OF LAB.: To understand the various manufacturing processes.

Table: Laboratory experiments

S.No	Name of experiment	Equipment	Status
1	Design of pattern for a desired casting (containing hole)	Carpentry Tools & Lathe	Available & Working
2	Forging: hand forging processes.	Furnace ,Hammer and holding tools	Available & Working
3	Bending & spring back.	Tube bending Machine	Available & Working
4	Study of Linear Measuring Instruments.	Measuring Tape,VernierCalliper	Available & Working

		and other measuring tools	
5	Measurement of Taper Angle Using Slips, Rollers & Sine bar	Slips, Rollers & Sine Bar	Available & Working
6	Jigs & Fixture experiment	Jigs & fixtures Setup	Available & Working
7	Sand testing (at least one such as grain fineness number determination)	Mould Making Test	Available & Working
8	Making a mould	Mould Making Set	Available & Working

- I. **NAME OF LABORATORY:** Refrigeration and air Conditioning Lab
- II. **DEPARTMENT:** MECHANICAL ENGINEERING
- III. **LOCATION AND NO. :** R.No. 304, Second Floor, New Building
- IV. **COURSE NAME :** B.Tech                      **BRANCH:** Mechanical Engineering                      **Semester:** 6<sup>th</sup>
- V. **TOTAL NO. OF EXPERIMENTS REQUIRED :** 08 (AS PER UTU SYLLABUS )
- VI. **TOTAL NO. OF EXPERIMENTS SETUP IN THE LAB.:** 09
- VII. **NO. OF MANUALS IN THE LAB.:** 09
- VIII. **NAME OF THE TEACHER IN CHARGE :** Mr. Ajay Verma
- IX. **NAME OF THE LAB ASSISTANT:** Mr. Jaypal Singh Rawat
- X. **OBJECTIVE OF LAB.:** To provide a practical exposure to the students regarding refrigeration and air conditioning

Table: Laboratory experiments

S.No	Name of experiment	Equipment	Status
1	Study & determination of volumetric efficiency of compressor	compressor	Available & working
2	To study different types of expansion devices used in refrigeration system	Expansion Devices	Available & working
3	Study of window air conditioner	window air conditioner	Available & working
4	Experiment on air-conditioning test rig & calculation of Latent Heat factor	Latent Heat load system	Available & working
5	Experiment on air-conditioning test rig & calculation of Sensible Heat factor	Sensible Heat load system	Available & working
6	To study different types of evaporators used in refrigeration systems	Evaporators Devices	Available & working
7	Experiment on refrigeration test ring and calculation of various performance parameters.	Vapour compression refrigeration Test Rig	Available & working
8	To study basic components of air-conditioning system	Model of AC system	Available
9	To study different types of condensers used in refrigeration system	Condensers	Available & working

**APPLICATION OF LAB EXPERIMENTS ( FROM THE POINT OF VIEW OF STUDENTS):** The above experiments are very use full to understand regarding refrigeration and air conditioning used in day to day life.

**USEFULNESS FOR THE DEPARTMENT:**

- q) Create Industry Ready Students in field of RAC Industry
- r) R & D projects
- s) Consultancy /Testing
- I. **NAME OF LABORATORY:**Strength of Materials Lab (BEMP-304)
- II. **DEPARTMENT:** MECHANICAL ENGINEERING
- III. **LOCATION AND NO. :**Ground Floor, old Bulding, Block C
- IV. **COURSE NAME :**B.Tech **BRANCH:** Mechanical Engineering **Semester:** 3<sup>rd</sup>
- V. **TOTAL NO. OF EXPERIMENTS REQUIRED :** 08  
a. (AS PER UTU SYLLABUS )
- VI. **TOTAL NO. OF EXPERIMENTS SETUP IN THE LAB.:** 08
- VII. **NO. OF MANUALS IN THE LAB.:** 08
- VIII. **NAME OF THE TEACHER IN CHARGE :**Kuldeep Rawat
- IX. **NAME OF THE LAB ASSISTANT :** Mr. Jaypal Singh Rawat
- X. **OBJECTIVE OF LAB.:**To demonstrate the basic principles in the area of strength and mechanics of materials

TABLE: LABORATORY EXPERIMENTS

S.No	Name of experiment	Equipment/software's used	Status
1	Determine tensile Strength of a given specimen using UTM.	UTM	Available and working
2	Determine the deflection and bending stress of simply supported subjected to	Beam apparatus	Available and working
3	To conduct torsion test on mild steel specimen to find modulus of rigidity or to find angle of twist of the materials	Torsion M/C	Available and working
4	Determine the stiffness of the spring and modulus of rigidity of the spring wire	Spring Testing M/C	Available and working
5	To determine the Impact strength (Specific impact factor) through Izod test.	Impact Test M/C	Available and working
6	Find out the Shear strength of a given specimen using UTM.	UTM	Available and working
7	To perform the Charpy impact test on materials.	Impact Test M/C	Available and working
8	To determine a material's fatigue behavior by using Fatigue test machine.	Fatigue Test Machine	Available and working

I. **APPLICATION OF LAB EXPERIMENTS ( FROM THE POINT OF VIEW OF STUDENTS):** The above experiments are very use full to understand of machine design & programming

**II. USEFULNESS FOR THE DEPARTMENT :**

- t) Development of industry relation
- u) R & D projects.

I. **NAME OF LABORATORY:** Theory of Machines lab (BMEP-403)

II. **DEPARTMENT:** MECHANICAL ENGINEERING

III. **LOCATION AND NO. :**Second Floor, New Block

IV. **COURSE NAME :** B.Tech      **BRANCH:** Mechanical Engineering      **Semester:** 4<sup>th</sup>

V. **TOTAL NO. OF EXPERIMENTS REQUIRED :** 08  
(AS PER UTU SYLLABUS )

VI. **TOTAL NO. OF EXPERIMENTS SETUP IN THE LAB.:** 8

VII. **NO. OF MANUALS IN THE LAB.:** 8

VIII. **NAME OF THE TEACHER IN CHARGE :** Mr. Kuldeep Rawat

IX. **NAME OF THE LAB ASSISTANT :** Mr. Rajendra Singh Gusain

X. **OBJECTIVE OF LAB.:** To understand different components of different machine for designing

Table: Laboratory experiments

S.No	Name of experiment	Equipment	Status
1	Study of simple linkage	Linkage models/mechanisms	Available
2	Study of inversions of four bar linkage	Four bar linkage (models)	Available
3	Experiment of Gear trains	Gear trains (both simple and compound)	Available
4	Exp. on Governor	Governor	Available
5	Exp. on critical speed of shaft	whirling of shaft apparatus	Available
6	Exp. on Gyroscope	Gyroscope	Available
7	Exp. on Balancing	Balancing M/C (static & dynamic)	Available
8	Exp. on Gears (tooth profile, interference )	tooth profile, interference Apparatus	Available

**APPLICATION OF LAB EXPERIMENTS ( FROM THE POINT OF VIEW OF STUDENTS):** The above experiments are very use full to understand of machine design & programming

**USEFULNESS FOR THE DEPARTMENT :**

xiii. Development of industry relation

xiv. R & D projects

## **DEPARTMENT OF CIVIL ENGINEERING**

### DETAILS OF LABORATORIES

#### III SEMESTER

S.NO	NAME OF LABORATORY
1	SURVEYING LAB
2	STUDY OF HISTORICAL & ANCIENT CIVIL ENGINEERING PRACTICES LAB
3	BUILDING PLANNING AND ARCHITECTURE LAB

4	STRENGTH OF MATERIAL LAB
5	

IV SEMESTER

S.NO	NAME OF LABORATORY
1	ENGINEERING GEOLOGY & REMOTE SENSING
2	TRANSPORTATION ENGINEERING I LAB
3	STRUCTURE ANALYSIS I LAB
4	CONCRETE TECHNOLOGY LAB
5	SOFTWARE LAB

V SEMESTER

S.NO	NAME OF LABORATORY
1	SOIL MECHANICS LAB
2	STRUCTURE LAB

VI SEMESTER

S.NO	NAME OF LABORATORY
1	TRANSPORTATION LAB
2	ENVIRONMENT LAB

VII SEMESTER

S.NO	NAME OF LABORATORY
1	CAD LAB-1

VIII SEMESTER

S.NO	NAME OF LABORATORY
1	CAD LAB-2

**(I) NAME OF LABORATORY: (BCEP 303) SURVEYING LAB**

(II) DEPARTMENT: CIVIL ENGINEERING

(III) LOCATION AND NO: FIRST FLOOR

(IV) COURSE NAME: B.TECH BRANCH: CIVIL ENGINEERING

**SEMESTER: III**

(V) TOTAL NO OF EXPERIMENTS REQUIRED: 11

(AS PER UTU SYLLABUS)

(VI) TOTAL NO OF EXPERIMENTS SET UP IN LAB: 11

(VII) NO OF MANUALS IN THE LAB: 01(containing 11 experiments)

(VIII) NAME OF TEACHER IN CHARGE: Mr. Nidhi Chauhan

(IX) NAME OF LAB INSTRUCTOR: Mr. PERVESH GAUR

(X) OBJECTIVES OF LAB: To provide an exposure to the students regarding basic engineering survey.

TABLE: LABORATORY EXPERIMENTS

S.NO	NAME OF EXPERIMENT	EQUIPMENT/ SOFTWARE'S USED	STATUS
1	Chain survey of small area.	Chain and Accessories	Available and Working
2	Traversing an area with a Plane Table Surveying.	Plane Table & Accessories	Available and Working
3	To find out difference of level between two distant point by different methods of Leveling (dumpy/Auto/ tilting).	Dumpy/Auto/ tilting level.	Available and Working
4	Measurement of horizontal, vertical angle and closed traverse with Theodolite.	Vernier / Electronic Theodolite & Accessories	Available and Working
5	Setting out of building.	Theodolite/Levelling	Available and Working
6	Setting out a simple circular curve by Rankine Method.	Tape/Theodolite and Accessories	Available and Working
7	Height of object with and without accessible bases.	Vernier Theodolite	Available and Working
8	To measuring horizontal distances and difference in elevations by Tachometry.	Theodolite/ Levelling	Available and Working
9	To prepare a contour plan of a road by taking cross section.	Levelling and Staff	Available and Working
10	To find out the co-ordinates by GPS	GPS	Available and Working
11	Demonstration of working of Total Station	Total Station & Accessories	Available and Working

(XI) APPLICATIONS of LAB EXPERIMENTS (FROM THE POINT OF VIEW OF STUDENTS)

The survey lab practical are useful to understand procedure for various basic engineering survey.

(XII) USEFULLNESS FOR THE DEPARTMENT:

- (i) To provide help for various construction work in college campus.
- (ii) Consultancy

**(II) NAME OF LABORATORY: (BCEP 306) STUDY OF HISTORICAL & ANCIENT CIVIL ENGINEERING PRACTICES**

(II) DEPARTMENT: CIVIL ENGINEERING

(III) LOCATION AND NO: Not Required

(IV) COURSE NAME: B.TECH BRANCH: CIVIL ENGINEERING SEMESTER: III

(V) TOTAL NO OF EXPERIMENTS REQUIRED: 05

(AS PER UTU SYLLABUS)

(VI) TOTAL NO OF EXPERIMENTS SET UP IN LAB: Not Required

(VII) NO OF MANUALS IN THE LAB: Not Required

(VIII) NAME OF TEACHER IN CHARGE: Dr. Sujeet Kumar

(IX) NAME OF LAB INSTRUCTOR: Mr. Pervesh gaur

(X) OBJECTIVES OF LAB: To provide an exposure to the students regarding historical and Ancient Civil Engineering Practices.

S.NO	MODULE	EQUIPMENT/ SOFTWARE'S USED	STATUS
1	Basic Understanding of Civil Engineering.	Laptop & Projector.	Available and Working
2	History of Civil Engineering.	Laptop & Projector.	Available and Working
3	Overview of National Planning for Construction and Infrastructure Development	Laptop & Projector.	Available and Working
4	Repair & Rehabilitation of Structures.	Laptop & Projector	Available and Working
5	Case Studies of Civil engineering Projects.	Laptop & Projector	Available and Working

XI) APPLICATIONS OF LAB EXPERIMENTS (FROM THE POINT OF VIEW OF STUDENTS)

This practical will be useful to understand the draftsmanship within students of civil engineering.

**(III) NAME OF LABORATORY: (BCEP 304) BUILDING PLANNING & ARCHITECTURE LAB**

(II) DEPARTMENT: CIVIL ENGINEERING

(III) LOCATION: SECOND FLOOR

(IV) COURSE NAME: B.TECH BRANCH: CIVIL ENGINEERING SEMESTER: III

(V) TOTAL NO OF EXPERIMENTS REQUIRED: 05

(AS PER UTU SYLLABUS)

(VI) TOTAL NO OF EXPERIMENTS SET UP IN LAB: 50

(VII) NO OF MANUALS IN THE LAB: Not Required

(VIII) NAME OF TEACHER IN CHARGE: Mr. Pankaj Goswami

(IX) NAME OF LAB INSTRUCTOR: Mr. RAMCHARAN BADONI

(X) OBJECTIVES OF LAB: To provide an exposure to the students regarding historical and Ancient Civil Engineering Practices.

S.NO	MODULE	EQUIPMENT/ SOFTWARE'S USED	STATUS
1	Sketches of Various Building components.	Drawing Board & Accessories	Available and Working
2	Drawing of Various building components.	Drawing Board & Accessories.	Available and Working
3	Drawings of services and interiors of buildings.	Drawing Board & Accessories	Available and Working
4	Drawings of one /two bedroom buildings.	Drawing Board & Accessories	Available and Working
5	Drawing of residential and institutional buildings.	Drawing Board & Accessories	Available and Working

XI) APPLICATIONS of LAB EXPERIMENTS (FROM THE POINT OF VIEW OF STUDENTS)  
This practical will be useful to understand the evolution and current practices in civil engineering.

**(IV) NAME OF LABORATORY: (BCEP 304) BUILDING PLANNING & ARCHITECTURE LAB**

(II) DEPARTMENT: CIVIL ENGINEERING

(III) LOCATION: SECOND FLOOR

(IV) COURSE NAME: B.TECH BRANCH: CIVIL ENGINEERING **SEMESTER: III**

(V) TOTAL NO OF EXPERIMENTS REQUIRED: 05

(AS PER UTU SYLLABUS)

(VI) TOTAL NO OF EXPERIMENTS SET UP IN LAB: 50

(VII) NO OF MANUALS IN THE LAB: Not Required

(VIII) NAME OF TEACHER IN CHARGE: Mr. Pankaj Goswami

(IX) NAME OF LAB INSTRUCTOR: Mr. RAMCHARAN BADONI

(X) OBJECTIVES OF LAB: To provide an exposure to the students regarding historical and Ancient Civil Engineering Practices.

S.NO	MODULE	EQUIPMENT/ SOFTWARE'S USED	STATUS
1	Sketches of Various Building components.	Drawing Board & Accessories	Available and Working
2	Drawing of Various building components.	Drawing Board & Accessories.	Available and Working
3	Drawings of services and interiors of buildings.	Drawing Board & Accessories	Available and Working
4	Drawings of one /two bedroom buildings.	Drawing Board & Accessories	Available and Working
5	Drawing of residential and institutional buildings.	Drawing Board & Accessories	Available and Working

XI) APPLICATIONS of LAB EXPERIMENTS (FROM THE POINT OF VIEW OF STUDENTS)  
This practical will be useful to understand the evolution and current practices in civil engineering.

**(V) NAME OF LABORATORY: (BCEP 406) SOFTWARE LAB**

(II) DEPARTMENT: CIVIL ENGINEERING

(III) LOCATION: SECOND FLOOR

(IV) COURSE NAME: B.TECH BRANCH: CIVIL ENGINEERING **SEMESTER: IV**

(V) TOTAL NO OF EXPERIMENTS REQUIRED: 05

(AS PER UTU SYLLABUS)

(VI) TOTAL NO OF SET UP IN LAB: 20

(VII) NO OF MANUALS IN THE LAB: 02

(VIII) NAME OF TEACHER IN CHARGE: Dr. Amiya Ranjan Pandit

(IX) NAME OF LAB INSTRUCTOR: Mr. RAMCHARAN BADONI

(X) OBJECTIVES OF LAB: To provide an exposure to the students regarding latest software packages of Civil Engineering.

S.NO	MODULE	EQUIPMENT/ SOFTWARE'S USED	STATUS
1	Introduction of general commands of Autocadd.	Autocadd.	Available and Working
2	Application of general commands of Autocadd.	Autocadd.	Available and Working
3	Introduction & Application of modified commands of Autocadd.	Autocadd.	Available and Working
4	Drawings of door, window, floor, coloumn etc using Autocadd	Autocadd.	
5	Drawing of complete house plan using wall command.	Autocadd.	Available and Working

(XI) APPLICATIONS of LAB EXPERIMENTS (FROM THE POINT OF VIEW OF STUDENTS)

This practical will be useful to understand the evolution and current practices in civil engineering.

**VI) NAME OF LABORATORY: CONCRETE TECHNOLOGY LAB**

(II) DEPARTMENT: CIVIL ENGINEERING

(III) LOCATION AND NO: GROUND FLOOR

(IV) COURSE NAME: B.TECH BRANCH: CIVIL ENGINEERING SEMESTER: IV

(V) TOTAL NO OF EXPERIMENTS REQUIRED: 06

(AS PER UTU SYLLABUS)

(VI) TOTAL NO OF EXPERIMENTS SET UP IN LAB: 06

(VII) NO OF MANUALS IN THE LAB: 01(containing 6 experiments)

(VIII) NAME OF TEACHER IN CHARGE: Dr. Saleema Panda

(IX) NAME OF LAB TECHNICIAN: Mr. AMANDEEP SINGH

(X) OBJECTIVES OF LAB: To provide an exposure to the students regarding concrete technology.

TABLE: LABORATORY EXPERIMENTS

S.NO	NAME OF EXPERIMENT	EQUIPMENT/ SOFTWARE'S USED	STATUS
1	Fineness modulus and grain size distribution	Set Of I.S sieves, Weighing Balance with weight box	Available and Working
2	Abrasion test on aggregate	Loss Angeles abrasion machine steel spheres(12 NOS), Set of IS Sieves	Available and Working
3	Slump Test	Slump Mould,Trowel, weighing machine and steel temping rod	Available and Working
4	Workability of concrete	Compaction Factor Appratus Vibrating table	Available and Working
5	Concrete mixed design as per Indian Standard recommendation guidelines.	CTM, Moulds, Cylinders	Available and Working
6	Effect of water cement ratio on the strength of concrete	CTM, Flexure Testing Machine, Moulds	Available and Working

(XI) APPLICATIONS PF LAB EXPERIMENTS (FROM THE POINT OF VIEW OF STUDENTS)

Above experiments are useful to understand basic concepts of testing of building material and concrete.

(XII) USEFULLNESS FOR THE DEPARTMENT:

(i) Development of relation with industry

(ii) Consultancy

iii) project

iv) testing laboratory

**(VII) NAME OF LABORATORY: BCEP-403 STRUCTURE ANALYSIS I LAB**

**(II) DEPARTMENT: CIVIL ENGINEERING**

**(III) LOCATION AND NO: FIRST FLOOR ( CE203)**

**(IV) COURSE NAME: B.TECH BRANCH: CIVIL ENGINEERING SEMESTER: IV**

**(V) TOTAL NO OF EXPERIMENTS REQUIRED: 6**

**(AS PER UTU SYLLABUS)**

**(VI) TOTAL NO OF EXPERIMENTS SET UP IN LAB:**

**(VII) NO OF MANUALS IN THE LAB: 01(containing 11 experiments)**

**(VIII) NAME OF TEACHER IN CHARGE: Mr. ABHISEKH KALA**

**(IX) NAME OF LAB INSTRUCTOR: Mr. N N MILKANI**

**(X) OBJECTIVES OF LAB:**

**TABLE: LABORATORY EXPERIMENTS**

S.NO	NAME OF EXPERIMENT	EQUIPMENT/ SOFTWARE'S USED	STATUS
1	Experiment on a 2 hinged arch for horizontal thrust and influence line for horizontal thrust	2 hinged arch	Available and Working
2	Experimental and analytical study of a 3 bar pin jointed truss	Pin joint truss apparatus	Available and Working
3	Experimental and analytical study of deflection and unsymmetrical bending of a cantilever beam	Elastically coupled beam	Available and working
4	Sway in portal frames-demonstration	Portal frame	Available and Working
5	To study the cable geometry and statics for different loading condition	Chain or cable and weight blocks	Available and Working
6	To plot stress –strain curve for concrete. Use of mechanical and electrical strain	Mechanical strain gauges	Available and Working

**(XI) APPLICATIONS OF LAB EXPERIMENTS (FROM THE POINT OF VIEW OF STUDENTS)**

To analyse the structures like framed structure, hinge arch ,reductant joint, and trusses

**(VIII) NAME OF LABORATORY: (BCEP 404) Transportation Engineering Lab**

**(II) DEPARTMENT: CIVIL ENGINEERING**

**(III) LOCATION AND NO: Workshop**

(IV) COURSE NAME: B.TECH BRANCH: CIVIL ENGINEERING

SEMESTER: III

(V) TOTAL NO OF EXPERIMENTS REQUIRED: 12

(AS PER UTU SYLLABUS)

(VI) TOTAL NO OF EXPERIMENTS SET UP IN LAB: 11

(VII) NO OF MANUALS IN THE LAB: 01(containing 11 experiments)

(VIII) NAME OF TEACHER IN CHARGE: Mr. Vimal Mohan

(IX) NAME OF LAB INSTRUCTOR:Mr. Pravesh Gaur

(X) OBJECTIVES OF LAB: to determine some of the properties of coarse aggregates and bitumen.

TABLE: LABORATORY EXPERIMENTS

S.NO	NAME OF EXPERIMENT	EQUIPMENT/ SOFTWARE'S USED	STATUS
1	Determination of aggregate crushing value.	Compressiontesting machine	Available and Working
2	Determination of Los Angeles abrasion value of aggregates.	Los Angeles machine	Available and Working
3	Determination of aggregate impact value.	Impact testing machine	Available and Working
4	Determination of penetration value of bitumen.	penetrometer	Available and Working
5	Determination of softening point value of bitumen.	Ring and Ball apparatus	Available and Working
6	Determination of ductility value of bitumen.	Briquettemould	Available and Working
7	Determination of flash and fire point of bitumen.	Pensky- Martensopencuptester	Available and Working
8	Determination of specific gravity of bitumen.	Bath thermometer	Available and Working
9	Determination of stripping value of aggregate	Thermostatically controlled water bath	Not Available
10	Determination of flakiness index and elongation index of coarse aggregate	Standard thickness gauge and length gauge	Available and Working
11	Determination of specific gravity and water absorption of coarse aggregate.	Thermostatically controlled Oven	Available and Working
12	CBR test for soil.	Loadingmachine	Available and Working

(XI) APPLICATIONS of LAB EXPERIMENTS (FROM THE POINT OF VIEW OF STUDENTS)

The transportation lab practicals are useful to understand the standard specification and characteristics of good pavements.

(XII) USEFULLNESS FOR THE DEPARTMENT:

- (i) Helpful in testing required for research projects.
- (ii) Consultancy

**(IX) NAME OF LABORATORY: ENGINEERING GEOLOGY& REMOTE SENSING LAB**

(II) DEPARTMENT: CIVIL ENGINEERING

(III) LOCATION AND NO: FIRST FLOOR

(IV) COURSE NAME: B.TECH. BRANCH: CIVIL ENGINEERING

SEMESTER: IV

(V) TOTAL NO OF EXPERIMENTS REQUIRED: 8

(AS PER UTU SYLLABUS)

(VI) TOTAL NO OF EXPERIMENTS SET UP IN LAB: 11

(VII) NO OF MANUALS IN THE LAB: 01(containing 11 experiments)

(VIII) NAME OF TEACHER IN CHARGE: Mr.

(IX) NAME OF LAB INSTRUCTOR: Mr.

(X) OBJECTIVES OF LAB: The main objective of lab is to identification and classification of the rocks.

TABLE: LABORATORY EXPERIMENTS

S.NO	NAME OF EXPERIMENT	EQUIPMENT/ SOFTWARE'S USED	STATUS
1	Study of physical properties of minerals	Pycnometer	Available and Working
2	Study of different group of minerals	Samples of Rocks	Available and Working
3	Study of Crystal and Crystal system	Samples of Rocks	Available and Working
4	Identification of minerals: Silica group: Quartz, Amethyst, Opal; Feldspar group	Sample of rocks/	Available and Working
5	Orthoclase, Plagioclase; Cryptocrystalline group: Jasper; Carbonate group:	Samples of Rocks/Microscope	Sample Available/Microscope not available
6	Calcite element group: Graphite; Pyroxene group: Talc; Mica group: Muscovite	Samples of Rocks	Available
7	Amphibole group: Asbestos, Olivine, Hornblende, Magnetite, Hematite, Corundum, Kyanite, Garnet, Galena, Gypsum	Samples of Rocks/Microscope	Sample Available/Microscope not available
8	Identification of rocks (Igneous Petrology)	Samples of Rocks/Microscope/Microscope	Sample Available/Microscope not available
9	Sedimentary Petrology	Samples of rocks/Microscope	Sample Available/Microscope not available
10	Metamorphic Petrology	Samples of rocks	ASample Available/Microscope not available
11	Study of topographical features from Geological maps, Identification of symbols in maps	Geological map	Available

(XI) APPLICATIONS OF LAB EXPERIMENTS (FROM THE POINT OF VIEW OF STUDENTS)

Above experiments are useful tounderstand basic fundamentals of different types of rocks and their identification on the basis of several techniques

(XII) USEFULLNESS FOR THE DEPARTMENT:

- (i) Study and projects.
- (ii) Consultancy

**(X) NAME OF LABORATORY: SOIL MECHANICS LAB**

(II) DEPARTMENT: CIVIL ENGINEERING

(III) LOCATION AND NO: SOIL MECANICS LAB WORKSHOP

(IV) COURSE NAME: B.TECH BRANCH: CIVIL ENGINEERING SEMESTER: V

(V) TOTAL NO OF EXPERIMENTS REQUIRED: 12

(AS PER UTU SYLLABUS)

(VI) TOTAL NO OF EXPERIMENTS SET UP IN LAB: 10

(VII) NO OF MANUALS IN THE LAB: 01

(VIII) NAME OF TEACHER IN CHARGE: Mr. ABHINAV RAWAT

(IX) NAME OF LAB TECHNICIAN: Mr. PERVESH GAUR

TABLE: LABORATORY EXPERIMENTS

S.NO	NAME OF EXPERIMENT	EQUIPMENT/ SOFTWARE'S USED	STATUS
1	To conduct sieve analysis of soil to classify the given coarse grained soil.	Set of Sieve, weighing Balance, Oven, Sieve Shaker	Available and Working
2	To conduct hydrometer analysis of soil. To study the grain size distribution of the fine grain soil.	Hydrometer, Dispersion Cup with Assesory, stop watch	Available and Working
3	To determine liquid limit and plastic limit of the given soil sample and to find the flow index and toughness index of the soil	Casagrande Liquid limit device, Oven, Sieve, Spatula.	Available and Working
4	To determine the shrinkage limit of the given soil sample.	Shrinkage dish, mercury, balance	Available and Working
5	To determine optimum moisture content and maximum density for a soil by conducting standard Proctor Compaction Test	Cylindrical Mould, Rammer, balance	Available and Working
6	To Determine the relative Density of Cohesion less Soil	Vibrating table of steel deck , mould with guide, sieves, density mould, dial gauge	Available and Working
7	To Determine the field density of soil at a given location by core cutter method and sand replacement method	Core cutter, rammer, steel trolley, balance	Available and Working
8	To determine the coefficient of permeability by the conducting constant head method and variable head test	Permeability apparatus with accessories, stop watch, measuring jar	Available and Working
9	To determine the shearing strength of the soil using the direct shear apparatus	Shear Box Apparatus, Grid Plates, Porous Stone	Available and Working
10	To determine the specific gravity of the soil solids	Pycnometer, balance, oven, distilled water	Available and Working

(XI) NAME OF LABORATORY: **STRUCTURE LAB**

(II) DEPARTMENT: CIVIL ENGINEERING

(III) LOCATION AND NO: GROUND FLOOR( ME02)

(IV) COURSE NAME: B.TECH BRANCH: CIVIL ENGINEERING **SEMESTER: V**

(V) TOTAL NO OF EXPERIMENTS REQUIRED: 10

(AS PER UTU SYLLABUS)

(VI) TOTAL NO OF EXPERIMENTS SET UP IN LAB: 11

(VII) NO OF MANUALS IN THE LAB: 01(containing 11 experiments)

(VIII) NAME OF TEACHER IN CHARGE: Mr. ABHISEKH KALA

(IX) NAME OF LAB INSTRUCTOR: Mr. N N MILKANI

TABLE: LABORATORY EXPERIMENTS

S.NO	NAME OF EXPERIMENT	EQUIPMENT/ SOFTWARE'S USED	STATUS
1	Comparison of experimental and theoretical result of forces in the members and the components displacements of the loaded joint D of a three bar	Redundant joint apparatus	Available and Working

	suspension system for vertical loads.		
2	To calculate experimentally and theoretically the loads in the three suspensions rods supporting an elastic beam with a concentrated load hung midway between two of the suspension rods under two conditions	Elasticity coupled beam apparatus	Available and Working
3	To verify Clerk' Maxwell theorem of reciprocal deflection with the help of truss model	Truss apparatus	Available and Working
4	To determine the horizontal thrust in a three hinged arch for a given system of loads experimentally and verify the same with calculated values	Three hinged arch apparatus	Available and Working
5	To study the behavior of a cantilever beam under symmetrical and unsymmetrical bending	unsymmetrical bending apparatus	Available and Working
6	To study experimentally a two hinged arch for the horizontal displacement of the roller end for a given system of loading and to compare the same with those obtained analytically	Two hinged arch apparatus	Available and Working
7	To determine the moment required to produce a given rotation at one end of beam when the other end is - 1- pinned 2- fixed	Deflected beam apparatus	Available and Working
8	To study the behavior of different types of columns and to calculate the Euler's buckling load for each case	Struts apparatus	Available and Working
9	Analysis of portal frame apparatus due to horizontal varying loads	Portal framed apparatus	Available and Working
10	To determine the elastic displacements of the curved members excrementally and compare these values with those obtained theoretically	Curved members	Available and Working
11	To verify Clarks Maxwell's theorem by means of a mild steel beam	Mild steel arrangement	Available and Working

(XI) APPLICATIONS PF LAB EXPERIMENTS (FROM THE POINT OF VIEW OF STUDENTS)

To analyse the structures like framed structure, hinge arch ,reductant joint, and trusses

(XII) NAME OF LABORATORY: **TRANSPORTATION LAB**

(II) DEPARTMENT: CIVIL ENGINEERING

(III) LOCATION AND NO: TRANSPORTATION LAB (WORK SHOP)

(IV) COURSE NAME: B.TECH BRANCH: CIVIL ENGINEERING **SEMESTER: VI**

(V) TOTAL NO OF EXPERIMENTS REQUIRED: 15

(AS PER UTU SYLLABUS)

(VI) TOTAL NO OF EXPERIMENTS SET UP IN LAB: 15

(VII) NO OF MANUALS IN THE LAB: 01

(VIII) NAME OF TEACHER IN CHARGE: Mr. ANAND KHEMWAL

(IX) NAME OF LAB TECHNECIAN: Mr. AMANDEEP

(X) OBJECTIVES OF LAB:

TABLE: LABORATORY EXPERIMENTS

S.NO	NAME OF EXPERIMENT	EQUIPMENT/	STATUS
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		SOFTWARE'S USED	
1	Specific gravity test of bitumen	Pycnometer	Available and Working
2	Ductility test of bitumen	Ductility machine	Available and Working
3	Flush point and fire point test of bitumen	Penesky	Available and Working
4	Float test of bitumen	Not available	-
5	Penetration test of bitumen	Penetrometer	Available and Working
6	Softening test of bitumen	Ring and Ball	Available and Working
7	Viscosity test of bitumen	Tar viscometer	Available and Working
8	Water content test of bitumen	Not required	-
9	Abrasion test of aggregate	Los Angeles abrasion machine	Available and Working
10	Shape test (flakiness and elongation) of aggregate	Flakiness and elongation apparatus	Available and Working
11	Impact value test of aggregate	Specific gravity apparatus	Available and Working
12	Compressive strength test of aggregate	Compressive Testing Machine	Available and Working
13	Viscosity of tar	Tar viscometer	Available and Working
14.	Marshal test for stability and flow value	Marshal apparatus	Available and Working

(XI) APPLICATIONS PF LAB EXPERIMENTS (FROM THE POINT OF VIEW OF STUDENTS)

All the experiments are helpful in judging the suitability of soil, bitumen, tar, cut backs, aggregates and bituminous mix of pavement design.

(XIII) NAME OF LABORATORY: **ENVIRONMENTAL LAB**

(II) DEPARTMENT: CIVIL ENGINEERING

(III) LOCATION AND NO: GROUND FLOOR

(IV) COURSE NAME: B.TECH BRANCH: CIVIL ENGINEERING SEMESTER: VI

(V) TOTAL NO OF EXPERIMENTS REQUIRED: 7

(AS PER UTU SYLLABUS)

(VI) TOTAL NO OF EXPERIMENTS SET UP IN LAB: 7

(VII) NO OF MANUALS IN THE LAB: 01(containing 11 experiments)

(VIII) NAME OF TEACHER IN CHARGE: Dr. ANJANA RAJPUT

(IX) NAME OF LAB INSTRUCTOR: Mr. PERVESH GAUR

(X) OBJECTIVES OF LAB:

TABLE: LABORATORY EXPERIMENTS

S.NO	NAME OF EXPERIMENT	EQUIPMENT/ SOFTWARE'S USED	STATUS
1	DETERMINATION OF TURBIDITY, COLOUR, AND CONDUCTIVITY	CONDUCTIVITY AND TURBIDITYMETER, NEPHELOMETERE	Available and Working

2	DETERMINATION OF PH, ALKALINITY AND ACIDITY.	pH Meter, Potentiometer Alkalinity and Acidity (Analytical method) Burette, Pipette, conical flask, funnel	Available and Working
3	DETERMINATION OF HARDNESS AND CHLORIDES	Complex metric titration , burette, pipette, conical flask, funnel	Available and Working
4	DETERMINATION OF RESIDUAL CHLORINE AND CHLORINE DEMAND	Chloroscopy	Available and Working
5	DETERMINATION OF DISSOLVED OXYGEN	DO meter	Available and Working
6	MEASUREMENT OF AIR POLLUTANTS WITH HIGH VOLUME SAMPLER.	HIGH VOLUME SAMPLER	Available and Working
7	MEASUREMENT OF SOUND LEVEL WITH SOUND LEVEL METER.	Sound Level Meter	Available and Working

(XI) APPLICATIONS PF LAB EXPERIMENTS (FROM THE POINT OF VIEW OF STUDENTS)

The environmental lab practical are useful to understand procedure for various water quality parameters.

(XII) USEFULLNESS FOR THE DEPARTMENT:

(i) To provide help for various water quality parameters.

(ii) Consultancy

#### **XIV). NAME OF LABORATORY : CAD LAB -1**

II) DEPARTMENT: CIVIL ENGINEERING

II). LOCATION AND NO. : GROUND FLOOR

IV). COURSE NAME: B-TECH BRANCH: CIVIL ENGINEERING SEM VII

V). TOTAL NO. OF EXPERIMENTS REQUIRED: 3

(AS PER UTU SYLLABUS)

VI). TOTAL NUMBER OF EXPERIMENTS SET UP IN THE LAB: 3

VII). NO. OF MANUALS IN LABS: 3

VIII). NAME OF TEACHER INCHARGE: MR. VARUN JOSHI

IX). NAME OF LAB INSTRUCTOR: MR. AMANDEEP SINGH

X). OBJECTIVES OF LAB: TO PROVIDE KNOWLEDGE TO THE STUDENTS REGARDING DESIGNING BY USING CAD SOFTWARE.

<b>S.No</b>	<b>Name of Experiments</b>	<b>Equipment Software Used</b>	<b>Status</b>
1.	Basic Commands used in Cad software	Cad Software	Working & Available
2.	3 BHK building Plan	Cad Software	Working & Available
3.	Design of Overhead water Tank	Cad Software	Working & Available
4.	Design Of Intz Tank	Cad Software	Working & Available
5.	Layout Of Ground Floor	Cad Software	Working & Available

(XI) APPLICATIONS PF LAB EXPERIMENTS (FROM THE POINT OF VIEW OF STUDENTS)

The CAD lab practical are useful to understand procedure for Designing Various Civil Engineering Projects

(XII) USEFULLNESS FOR THE DEPARTMENT:

(i) To provide help for various construction work in college campus.

(ii) Consultancy

**XV). NAME OF LABORATORY : CAD LAB -2**

II) DEPARTMENT: CIVIL ENGINEERING

II). LOCATION AND NO. : GROUND FLOOR

IV). COURSE NAME : B-TECH                      BRANCH : CIVIL ENGINEERING    **SEM VIII**

V).TOTAL NO. OF EXPERIMENTS REQUIRED: 3

(AS PER UTU SYLLABUS)

VI). TOTAL NUMBER OF EXPERIMENTS SET UP IN THE LAB: 3

VII). NO. OF MANUALS IN LABS: 3

VIII). NAME OF TEACHER INCHARGE: MR.VARUN JOSHI

IX). NAME OF LAB INSTRUCTOR: MR. AMANDEEP SINGH

X). OBJECTIVES OF LAB: TO PROVIDE KNOWLEDGE TO THE STUDENTS REGARDING DESIGNING BY USING CAD SOFTWARE.

S.No	Name of Experiments	Equipment Software Used	Status
	Design Of Beams	Cad Software	Working & Available
	Design of a column	Cad Software	Working & Available
	Design of a Multi storey Building	Cad Software	Working & Available
	Design Of a Circular water tank	Cad Software	Working & Available

(XI) APPLICATIONS PF LAB EXPERIMENTS (FROM THE POINT OF VIEW OF STUDENTS)

The CAD lab practical are useful to understand procedure for Designing Various Civil Engineering Projects

(XII) USEFULLNESS FOR THE DEPARTMENT:

(i) To provide help for various construction work in college campus.

(ii) Consultancy

## **DEPARTMENT OF ELECTRONICS & COMMUNICATION ENGINEERING**

### **DETAILS OF LABORATORIES**

**III SEMESTER**

S.N.	Name of the Laboratory
1.	Electronic Devices Lab
2.	Digital Electronics Lab

#### IV SEMESTER

S.N.	Name of the Laboratory
1.	Analog Circuit Lab
2.	Analog Communication Lab

#### V SEMESTER

S.N.	Name of the Laboratory
1.	Microprocessors & Interfacing Lab.
2.	EMFT Lab. (List of practical and equipment not available)
3.	Simulation Software Lab (Mat Lab, Multisim etc) (List of practical and equipment not available)
4.	VLSI Lab (List of practical and equipment not available)

#### VI SEMESTER

S.N.	Name of the Laboratory
1.	Digital Communication Lab.
2.	Open Source S/w Lab (List of practical and equipment not available)
3.	DSP Lab
4.	Antenna and Wave Propagation Lab (List of practical and equipment not available)

#### VII SEMESTER

S.N.	Name of the Laboratory
1.	OFC Lab

**VIII SEMESTER**

S.N.	Name of the Laboratory
1.	CAD of Electronics Lab

- I. **NAME OF LABORATORY:** Electronic Devices Lab (BECP - 304)  
 II. **DEPARTMENT:** ECE  
 III. **LOCATION AND NO. :** II Floor, ECE 01  
 IV. **COURSE NAME :** B.Tech                      **BRANCH:** ECE                      **Semester:** III  
 V. **TOTAL NO. OF EXPERIMENTS REQUIRED :** 8  
 (AS PER UTU SYLLABUS)  
 VI. **TOTAL NO. OF EXPERIMENTS SET UP IN THE LAB:** 10  
 VII. **NO. OF MANUALS IN THE LAB:** 10  
 VIII. **NAME OF THE TEACHER IN CHARGE:** Mr. Ashish Kr. Gupta  
 IX. **NAME OF THE LAB ASSISTANT:**  
 X. **OBJECTIVE OF LAB:** To implement the theoretical aspects in the practical work

**Table: List of Laboratory experiments**

S.No	Name of experiment	Equipment/Software's Used	Status
1	Study of Lab Equipment and Components	CRO, multimeter, and function generator, power supply- active, passive components and bread board	Working
2	P-N Junction diode Characteristics	Digital Multimeters, PN Diode, Resistor, Connecting Wires, Breadboard	Working
3	Study of Half wave and full wave rectifier circuit	Digital Multimeters, PN Diode, resistors, Connecting Wires, Breadboard, Step Down transformer, CRO	Working
4	Study of characteristics of Zener Diode	Digital Multimeters, Zener Diode, Connecting Wires, Breadboard	Working
5	Characteristics of Photo diode	Digital Multimeters, Photodiode, Connecting Wires, Breadboard	Working
6	V-I Characteristics of Solar cell	Digital Multimeters, Solar cell, resistors , Connecting Wires, Breadboard	Solar Cell Not Available
7	Zener Diode as Voltage Regulator	Digital Multimeters, Zener Diode, Capacitor, Connecting Wires, Breadboard	Working
8	Determination of characteristics of BJT in CE configuration.	BJT Kit, DMM, Discrete Components.	BJT kit is not Available
9	FET gain vs frequency determination	FET Kit, DMM, Discrete Components.	BJT kit is not Available
10	MOSFET gain vs frequency determination	MOSFET Kit, DMM, Discrete Components.	BJT kit is not Available

**(XI) APPLICATION OF LAB EXPERIMENTS (From the point of view of students)**

To get the maximum exposure of theory with the help of practical to make fundamentals of electronics clear to them.

**Remark:** One function Generator SCE\ECE\EC\FG\05 is not working in the lab

- I. **NAME OF LABORATORY:** Digital Electronics Lab (BECP 303)
- II. **DEPARTMENT:** ECE
- III. **LOCATION AND NO. :** II Floor, ECE 02
- IV. **COURSE NAME :** B.Tech                      **BRANCH:** II Year ECE                      **Semester:** III
- V. **TOTAL NO. OF EXPERIMENTS REQUIRED :** 8  
(AS PER UTU SYLLABUS)
- VI. **TOTAL NO. OF EXPERIMENTS SET UP IN THE LAB:**9
- VII. **NO. OF MANUALS IN THE LAB:** 9
- VIII. **NAME OF THE TEACHER IN CHARGE:** Mr Sunil Sharma
- IX. **NAME OF THE LAB ASSISTANT :**
- X. **OBJECTIVE OF LAB:** To implement the theoretical aspects in the practical work

**Table: List of Laboratory experiments**

S.No	Name of experiment	Equipment/Software's Used	Status
1	Implementation of basic gates using universal gates.	Digital lab Trainer, Bread Board, DMM, Connecting wires, Digital ICs	Working
2	Bread-board implementation of various flip-flops.	Digital lab Trainer, Bread Board, DMM, Connecting wires, Digital ICs	Working
3	Bread-board implementation of counters & shift registers.	Digital lab Trainer, Bread Board, DMM, Connecting wires, Digital ICs	Working
4	Experiments with clocked Flip-Flop	Digital lab Trainer, Bread Board, DMM, Connecting wires, Digital ICs	Working
5	Design of Counters	Digital lab Trainer, Bread Board, DMM, Connecting wires, Digital ICs	Working
6	Bread Board implementation of Adder/Subtractor (Half, Full)	Digital lab Trainer, Bread Board, DMM, Connecting wires, Digital ICs	Working
7	Transfer characteristics of TTL inverters	Digital lab Trainer, Bread Board, DMM, Connecting wires, Digital ICs	Working
8	Monoshot multivibrators using 74121 and 74123.	Digital lab Trainer, Bread Board, DMM, Connecting wires, Digital ICs	Working
9	Clock circuit realization using 555	Digital lab Trainer, Bread Board, DMM, Connecting wires, Digital ICs	Working
10	Demultiplexer / Decoder operation using IC-74138.	Digital lab Trainer, Bread Board, DMM, Connecting wires, Digital ICs	Working

**(XI) APPLICATION OF LAB EXPERIMENTS (From the point of view of students)**

To get the maximum exposure of Digital Electronics theory with the help of practical Knowledge for better understanding.

Remark:-IC -7408, IC-555 NOT PRESENT

- UNIVERSAL TRAINER KIT 558-SUPPLY IS MORE THEN 5V FOR TTL LOGIC
- PROJECT BOARD-01- FUSE NOT PRESENT

- I. **NAME OF LABORATORY:** Electronic Measurement & Instrumentation Lab (BECP 302)
- II. **DEPARTMENT:** EEE
- III. **LOCATION AND NO. :** III Floor, EEE 02
- IV. **COURSE NAME :** B.Tech                      **BRANCH:** II Year ECE                      **Semester:** III
- V. **TOTAL NO. OF EXPERIMENTS REQUIRED :** 8  
(AS PER UTU SYLLABUS)
- VI. **TOTAL NO. OF EXPERIMENTS SET UP IN THE LAB:** 10
- VII. **NO. OF MANUALS IN THE LAB:** 10
- VIII. **NAME OF THE TEACHER IN CHARGE:**
- IX. **NAME OF THE LAB ASSISTANT :**
- X. **OBJECTIVE OF LAB:** Measurement of various electrical quantities (Voltage, Current, Power).

**Table: List of Laboratory experiments**

S.No	Name of experiment	Equipment/Software's Used	Status
1	Study of L.C.R. Bridge and determination of the value of the given components	LCR Bridge	Not Working
2	Study of the PT-100 Transducer, J Type, K Type and pressure transducer	PT-100 Transducer	Working
3	Measurement of voltage, current and resistance using dc Potentiometer.	Voltmeter, ammeter and load	Not Working
4	Measurement of phase difference and frequency using CRO (Lissajous Pattern	CRO and function generator	Working
5	Measurement of low resistance Kelvin's double bridge.	Kelvin's Double Bridge	Not Working
6	Measurement of inductance by Anderson bridge.	Anderson bridge	Not Working
7	Measurement of capacitance by Owen's bridge.	Owen's bridge	Not Working
8	Measurement of Capacitance by De Sauty bridge.	De Sauty bridge	Not Working
9	Measurement of inductance by Hay's Bridge	Hay's Bridge	Not Working
10	Study of A to D converter	Analog to Digital Converter Kit	Working

**(XI) APPLICATION OF LAB EXPERIMENTS (From the point of view of students)**

To get the maximum exposure of Measurement theory with the help of practicals for better knowledge.

- I. **NAME OF LABORATORY:** Analog Communication Lab (BECP 403)
- II. **DEPARTMENT:** ECE
- III. **LOCATION AND NO. :** II Floor, ECE 04
- IV. **COURSE NAME :** B.Tech                      **BRANCH:** II Year ECE                      **Semester:** IV
- V. **TOTAL NO. OF EXPERIMENTS REQUIRED :** 8  
(AS PER UTU SYLLABUS)
- VI. **TOTAL NO. OF EXPERIMENTS SET UP IN THE LAB:** 10
- VII. **NO. OF MANUALS IN THE LAB:** 10
- VIII. **NAME OF THE TEACHER IN CHARGE:** Mrs. Shabnam Ara
- IX. **NAME OF THE LAB ASSISTANT :**
- X. **OBJECTIVE OF LAB:** To implement the theoretical aspects in the practical work

**Table: List of Laboratory experiments**

S.No	Name of experiment	Equipment/Software's Used	Status
1	To study amplitude modulation & determine its modulation factor & power in side bands.	CRO, Probes, Function Generator, Amplitude Mod/Demod kit, Connecting Wires	Kit Not Working
2	To study amplitude demodulation	CRO, Probes, Function Generator, Amplitude Mod/Demod kit, Connecting Wires	Kit Not Working
3	To study frequency modulation and determine its modulation factor	CRO, Probes, Function Generator, Frequency Mod/Demod kit, Connecting Wires	Working
4	To study frequency demodulator	CRO, Probes, Function Generator, Frequency Mod/Demod kit, Connecting Wires	Modulation part Working but demodulation part not working
5	To study sampling and reconstruction	CRO, Probes, Function Generator, Sampling and Reconstruction Kit, Connecting Wires	Kit Not Working
6	To study Pulse Amplitude Modulation	CRO, Probes, Function Generator, Pulse Amplitude Mod/Demod kit, Connecting Wires	Kit Not Working
7	To study Pulse Width Modulation	CRO, Probes, Function Generator, Pulse Width Mod/Demod kit, Connecting Wires	Kit Not Working
8	To study Pulse Position Modulation	CRO, Probes, Function Generator, Pulse Position Mod/Demod kit, Connecting Wires	Kit Not Working
9	To study DSB SC Modulation & Demodulation	CRO, Probes, Function Generator, DSB-SC Mod/Demod kit, Connecting Wires	Working
10	To study SSB SC Modulation & Demodulation	CRO, Probes, Function Generator, SSB-SC Mod/Demod kit, Connecting Wires	Working

**(XI) APPLICATION OF LAB EXPERIMENTS (From the point of view of students)**

To get the maximum exposure of Analog Communication theory with the help of practicals for better understanding.

- I. **NAME OF LABORATORY:** Analog Circuits Lab (BECP 405)
- II. **DEPARTMENT:** ECE
- III. **LOCATION AND NO. :** II Floor, ECE 02

- IV. **COURSE NAME :** B.Tech                      **BRANCH:** II Year ECE                      **Semester:** IV
- V. **TOTAL NO. OF EXPERIMENTS REQUIRED :** 10  
(AS PER UTU SYLLABUS)
- VI. **TOTAL NO. OF EXPERIMENTS SET UP IN THE LAB:** 10
- VII. **NO. OF MANUALS IN THE LAB:** 10
- VIII. **NAME OF THE TEACHER IN CHARGE:** Mr. Sunil Sharma
- IX. **NAME OF THE LAB ASSISTANT :**
- X. **OBJECTIVE OF LAB:** To implement the theoretical aspects in the practical work

**Table: List of Laboratory experiments**

S.No	Name of experiment	Equipment/Software's Used	Status
1	Adder and subtractor circuit using OPAMP.	Bread Board, Function generator, CRO, Probes, Wires, Discrete components, IC 741, Multimeter	Working
2	Log and antilog amplifiers.	Bread Board, Function generator, CRO, Probes, Wires, Discrete components, IC 741, Multimeter	Working
3	Voltage comparator and zero crossing detectors.	Bread Board, Function generator, CRO, Probes, Wires, Discrete components, IC 741, Multimeter	Working
4	Study of Differentiator circuit using OPAMP.	Bread Board, Function generator, CRO, Probes, Wires, Discrete components, IC 741, Multimeter	Working
5	Study of Integrator circuit using OPAMP	Bread Board, Function generator, CRO, Probes, Wires, Discrete components, IC 741, Multimeter	Working
6	Second order filters using operational amplifier for Low pass filter of cutoff frequency 1 KHz.	Bread Board, Function generator, CRO, Probes, Wires, Discrete components, IC 741, Multimeter	Working
7	Second order filters using operational amplifier for High pass filter of frequency 12 KHz	Bread Board, Function generator, CRO, Probes, Wires, Discrete components, IC 741, Multimeter	Working
8	Wien bridge oscillator using operational amplifier	Bread Board, Function generator, CRO, Probes, Wires, Discrete components, IC 741, Multimeter	Working
9	Astable multivibrator using IC 555	Bread Board, Function generator, CRO, Probes, Wires, Discrete components, IC 741, Multimeter	Working
10	Monostable multivibrator using IC 555	Bread Board, Function generator, CRO, Probes, Wires, Discrete components, IC 741, Multimeter	Working

**(XI) APPLICATION OF LAB EXPERIMENTS (From the point of view of students)**

To get the maximum exposure of Analog Integrated circuit theory with the help of practical for better understanding.

- I. **NAME OF LABORATORY:** Microprocessors & Interfacing Lab (BCEP 501)
- II. **DEPARTMENT:** ECE
- III. **LOCATION AND NO. :** II Floor, ECE 05
- IV. **COURSE NAME :** B.Tech                      **BRANCH:** III Year ECE                      **Semester:** V
- V. **TOTAL NO. OF EXPERIMENTS REQUIRED :** 8  
(AS PER UTU SYLLABUS)
- VI. **TOTAL NO. OF EXPERIMENTS SET UP IN THE LAB:** 10
- VII. **NO. OF MANUALS IN THE LAB:** 10
- VIII. **NAME OF THE TEACHER IN CHARGE:** Mr. Sunil Sharma
- IX. **NAME OF THE LAB ASSISTANT :**
- X. **OBJECTIVE OF LAB:** To implement the theoretical aspects in the practical work

**Table: List of Laboratory experiments**

S.No	Name of experiment	Equipment/Software's Used	Status
1	Study of 8085 microprocessor kit	8085 microprocessor kit	Working
2	To perform Addition of two 8 bit numbers	8085 microprocessor kit	Working
3	To perform Multiplication of two 8 bit numbers	8085 microprocessor kit	Working
4	To Find the maximum value in an array	8085 microprocessor kit	Working
5	To perform BCD to Hex conversion & Hex to BCD conversion	8085 microprocessor kit	Working
6	To Design Counter using timer	8085 microprocessor kit	Working
7	Study of 8086 microprocessor kit	8086 microprocessor kit	Working
8	Programming with 8086 –16-bit, 32 bit multiplication	8086 microprocessor kit	Working
9	Programming with 8086 –16-bit, 32 division	8086 microprocessor kit	Working
10	Interfacing with 8085/8086/8051 – 8279,8251	8085/8086 microprocessor kit, peripherals	Working

**(XI) APPLICATION OF LAB EXPERIMENTS (From the point of view of students)**

To get the maximum exposure of microprocessor theory with the help of practical for better understanding.

- I. **NAME OF LABORATORY:** Circuit Design on PCB Lab (BCEP 506)
- II. **DEPARTMENT:** ECE
- III. **LOCATION AND NO. :** II Floor, ECE 03
- IV. **COURSE NAME :** B.Tech                      **BRANCH:** III Year ECE                      **Semester:** V
- V. **TOTAL NO. OF EXPERIMENTS REQUIRED :** 6  
(AS PER UTU SYLLABUS)
- VI. **TOTAL NO. OF EXPERIMENTS SET UP IN THE LAB:** 6
- VII. **NO. OF MANUALS IN THE LAB:** 6
- VIII. **NAME OF THE TEACHER IN CHARGE:** Mr. Sunil Sharma
- IX. **NAME OF THE LAB ASSISTANT :**
- X. **OBJECTIVE OF LAB:** To design PCBs for the circuits.

**Table: List of Laboratory experiments**

S.No	Name of experiment	Equipment/Software's Used	Status
1	Study of Electronic Components and PCB machines	Discrete Components, PCB Machines	Working
2	Artwork and printing of simple PCB	Roller Tinning machine, UV Exposure, and Oven	Working
3	Etching & Drilling of PCB	Dye Developer Machine, Drilling Machine	Working
4	Fabrication of regulated power supply	Roller Tinning machine, UV Exposure, Oven, Dye Developer Machine, Drilling Machine	Working

5	Testing of power supply fabricated in Exp. 4	Roller Tinning machine, UV Exposure, Oven, Dye Developer Machine, Drilling Machine	Working
6	Testing and designing of any Modulator and Demodulator Circuit	Roller Tinning machine, UV Exposure, Oven, Dye Developer Machine, Drilling Machine	Working

**(XI) APPLICATION OF LAB EXPERIMENTS (From the point of view of students)**

To get the maximum exposure of theory with the help of Circuit designing and testing.

- I. **NAME OF LABORATORY:** DSP Lab (BCEP 601)
- II. **DEPARTMENT:** ECE
- III. **LOCATION AND NO. :** III Floor, ECE 07
- IV. **COURSE NAME :** B.Tech                      **BRANCH:** III Year ECE                      **Semester:** VI
- V. **TOTAL NO. OF EXPERIMENTS REQUIRED :** 8  
(AS PER UTU SYLLABUS)
- VI. **TOTAL NO. OF EXPERIMENTS SET UP IN THE LAB:** 9
- VII. **NO. OF MANUALS IN THE LAB:** 9
- VIII. **NAME OF THE TEACHER IN CHARGE:** Mr. Ashish Kumar Gupta
- IX. **NAME OF THE LAB ASSISTANT :**
- X. **OBJECTIVE OF LAB:** To implement the theoretical aspects in the practical work

**Table: List of Laboratory experiments**

S.No	Name of experiment	Equipment/Software's Used	Status
1	Linear Convolution.	PC with Latest configuration and MatLab	Desktop Systems required
2	Circular Convolution	PC with Latest configuration and MatLab	
3	Fast Fourier Transform.	PC with Latest configuration and MatLab	
4	FIR Filter implementation	PC with Latest configuration and MatLab	
5	IIR Filter implementation using Window Function	PC with Latest configuration and MatLab	
6	IIR Filter implementation using various windows.	PC with Latest configuration and MatLab	
7	Amplitude Modulation	PC with Latest configuration and MatLab	
8	Frequency Modulation	PC with Latest configuration and MatLab	
9	Computational Experiments with Digital bank of Filters	PC with Latest configuration and MatLab	

**(XI) APPLICATION OF LAB EXPERIMENTS (From the point of view of students)**

To get the maximum exposure of DSP theory with the help of practical for better understanding.

- I. **NAME OF LABORATORY:** Digital Communication Lab (BCEP 603)
- II. **DEPARTMENT:** ECE
- III. **LOCATION AND NO. :** II Floor, ECE 04
- IV. **COURSE NAME :** B.Tech                      **BRANCH:** III Year ECE                      **Semester:** VI
- V. **TOTAL NO. OF EXPERIMENTS REQUIRED :** 8  
(AS PER UTU SYLLABUS)
- VI. **TOTAL NO. OF EXPERIMENTS SET UP IN THE LAB:** 9

- VII. **NO. OF MANUALS IN THE LAB:** 9
- VIII. **NAME OF THE TEACHER IN CHARGE:** Mrs. Shabnam Ara
- IX. **NAME OF THE LAB ASSISTANT :**
- X. **OBJECTIVE OF LAB:** To implement the theoretical aspects in the practical work

**Table: List of Laboratory experiments**

S.No	Name of experiment	Equipment/Software's Used	Status
1	To study sampling and reconstruction of the sampled signal	sampling and reconstruction kit,CRO, probes,connecting wires	Working
2	To study Pulse Code Modulation and Demodulation	Pulse Code Modulation kit,CRO, probes,connecting wires	Working
3	To study Delta Modulation and Demodulation	Delta Modulation kit,CRO, probes,connecting wires	Working
4	To study Adaptive Delta Modulation and Demodulation	Adaptive Delta Modulation kit,CRO, probes,connecting wires	Working
5	To study ASK modulation system	ASK modulation kit,CRO, probes,connecting wires	Working
6	To study PSK modulation system	PSK modulation kit,CRO, probes,connecting wires	Kit Not Working
7	To study FSK modulation system	FSK modulation kit,CRO, probes,connecting wires	Kit Not Working
8	To Study TDM/PCM Transmitter /Receiver	TDM/PCM Kit,CRO, probes,connecting wires	Working
9	To Study different Line Coding Techniques	Communication trainee kit,CRO, probes,connecting wires	Working

**(XI) APPLICATION OF LAB EXPERIMENTS (From the point of view of students)**

To get the maximum exposure of Digital Communication theory with the help of practical for better understanding.

- I. **NAME OF LABORATORY:** OFC and VLSI Simulation Lab (PEC 751)
- II. **DEPARTMENT:** ECE
- III. **LOCATION AND NO.:** II Floor, ECE 06
- IV. **COURSE NAME:** B. Tech                      **BRANCH:** IV Year ECE                      **Semester:** VII
- V. **TOTAL NO. OF EXPERIMENTS REQUIRED:** 8  
(AS PER UTU SYLLABUS)
- VI. **TOTAL NO. OF EXPERIMENTS SET UP IN THE LAB:** 10
- VII. **NO. OF MANUALS IN THE LAB:** 10
- VIII. **NAME OF THE TEACHER IN CHARGE:** Mr. Ashish Kr. Gupta
- IX. **NAME OF THE LAB ASSISTANT:**
- X. **OBJECTIVE OF LAB:** To implement the theoretical aspects in the practical work

**Table: List of Laboratory experiments**

S.No	Name of experiment	Equipment/Software's Used	Status
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1	To set up Fiber Optic Analog link.	Optical Trainer Kit, Connecting Wires, CRO, Probes	Working
2	To set up fiber Optic Digital link.	Optical Trainer Kit, Connecting Wires, CRO, Probes	Working
3	Measurement of Propagation loss and numerical aperture.	Optical Trainer Kit, Connecting Wires, CRO, Probes	Working
4	Characterization of laser diode and light emitting diode.	Optical Trainer Kit, Connecting Wires, CRO, Probes	Working
5	3-input NAND gate.	PC with latest configuration, VHDL software	Simulation Lab
6	Half adder, Full Adder	PC with latest configuration, VHDL software	Simulation Lab
7	D-Latch, T Flip Flop	PC with latest configuration, VHDL software	Simulation Lab
8	Serial in-serial out shift register	PC with latest configuration, VHDL software	Simulation Lab
9	Bidirectional shift Register	PC with latest configuration, VHDL software	Simulation Lab
10	3 Bit synchronous counter	PC with latest configuration, VHDL software	Simulation Lab

### (XI) APPLICATION OF LAB EXPERIMENTS (From the point of view of students)

To get the maximum exposure of Optical Fiber and VLSI Design theory with the help of practical for better understanding.

Remark: - Repair required in Optical Trainer Kit no. SCE/ECE/OFC/EFOT-01

Repair required in Optical Trainer Kit no. SCE/ECE/OFC/FOT-01

- I. **NAME OF LABORATORY:** CAD of Electronics Lab(PEC852)
- II. **DEPARTMENT:** ECE
- III. **LOCATION AND NO. :** III Floor, ECE 07
- IV. **COURSE NAME :** B.Tech **BRANCH:** IV Year ECE **Semester:** VIII
- V. **TOTAL NO. OF EXPERIMENTS REQUIRED :** 8  
(AS PER UTU SYLLABUS)
- VI. **TOTAL NO. OF EXPERIMENTS SET UP IN THE LAB:** 8
- VII. **NO. OF MANUALS IN THE LAB:** 8
- VIII. **NAME OF THE TEACHER IN CHARGE:** Mr. Khalid Ali Khan
- IX. **NAME OF THE LAB ASSISTANT :**
- X. **OBJECTIVE OF LAB:** To implement the theoretical aspects in the practical work

**Table: List of Laboratory experiments**

S.No	Name of experiment	Equipment/Software's Used	Status
1	Design, simulation and analysis of two input NAND and NOR gate	PC with latest configuration, EDWIN XP software	Desktop Systems
2	Design, simulation and analysis of Push Pull Amplifier.	PC with latest configuration, EDWIN XP software	
3	Design, simulation and analysis of NMOS and CMOS inverter.	PC with latest configuration, EDWIN XP software	
4	Design, simulation and analysis of Differential amplifier.	PC with latest configuration, EDWIN XP software	
5	Design, simulation and analysis of	PC with latest configuration, EDWIN XP software	

	Full Adder, Sub-tractors circuit.		required
6	Design, simulation and analysis of Up/ Down, Mod-m counter.	PC with latest configuration, EDWIN XP software	
7	Design, simulation and analysis of 512X8 ROM.	PC with latest configuration, EDWIN XP software	
8	Design, simulation and analysis of Static/ Dynamic hazards removal circuits.	PC with latest configuration, EDWIN XP software	

**(XI) APPLICATION OF LAB EXPERIMENTS (From the point of view of students)**

To get the maximum exposure of Circuit Simulation for better understanding.

## DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

### DETAILS OF LABORATORIES

**I/II SEMESTER**

S.N.	Name of the Laboratory
1.	Fundamentals of Computer Programming Lab

**III SEMESTER**

S.N.	Name of the Laboratory
1.	Computer Workshop (Using Python)
2.	Data Structure Lab
3.	Digital Electronics Lab
4	Object Oriented Programming Lab

**IV SEMESTER**

S.N.	Name of the Laboratory
1.	Software Engineering Lab
2.	Database Management System Lab Lab
3.	Theory of Automata and Formal Languages Lab
4.	Computer Org. & Architecture Lab
5.	Programming Practices (Introduction to MATLAB)

**V SEMESTER**

S.N.	Name of the Laboratory
1.	Operating System Lab.
2.	Computer Network Lab.
3.	Design and analysis and Algorithm Lab.
4.	Virtual Lab(Advance Java Lab)

**VI SEMESTER**

S.N.	Name of the Laboratory
1.	Microprocessors and Applications Lab.
2.	Compiler Design Lab.
3.	Data Analytics lab
4.	Open Source Lab/ Matlab Programming

**VII & VIII SEMESTER**

S.N.	Name of the Laboratory
1.	System Administration Lab
2.	Web Technology Lab

- I. **NAME OF LABORATORY:** C Programming Lab (BCSP101\BCSP201)
- II. **DEPARTMENT:** Computer Science Engineering
- III. **LOCATION AND NO.** : I FLOOR, LAB NO. 1
- IV. **COURSE NAME:** B. TECH. **BRANCH:** I YEAR **SEMESTER:**I/II
- V. **TOTAL NO. OF EXPERIMENTS REQUIRED:**12  
(AS PER UTTARAKHAND TECHNICAL UNIVERSITY SYLLABUS)
- VI. **TOTAL NO OF EXPERIMENTS SET UP IN LAB:**12
- VII. **NO OF MANUALS IN LAB:**15
- VIII. **OBJECTIVE OF LAB:** Introduction to C programming language, its usage & application to learn various programming concepts and constructs

**TABLE: LIST OF LABORATORY EXPERIMENTS**

S. No.	Name of Experiment	Equipment/Software's used	Status
1.	Familiarization with programming environment.	PC/ LINUX Vi Editor, gcc	Working
2.	WAP to implement Simple computational problems using arithmetic expressions.	PC/ LINUX Vi Editor, gcc	Working
3.	WAP to implement Problems involving if-then-else structures	PC/ LINUX Vi Editor, gcc	Working
4.	WAP to implement Iterative problems e.g., sum of series.	PC/ LINUX Vi Editor, gcc	Working
5.	WAP to implement 1D Array manipulation.	PC/ LINUX Vi Editor, gcc	Working
6.	WAP to implement Matrix problems, String operations.	PC/ LINUX Vi Editor, gcc	Working
7.	WAP to implement Simple functions.	PC/ LINUX Vi Editor, gcc	Working
8.	WAP to implement Programming for solving Numerical methods problems 1.	PC/ LINUX Vi Editor, gcc	Working
9.	WAP to implement Programming for solving Numerical methods problems 2.	PC/ LINUX Vi Editor, gcc	Working
10.	WAP to implement Recursive functions.	PC/ LINUX Vi Editor, gcc	Working
11.	WAP to implement Pointers and structures.	PC/ LINUX Vi Editor, gcc	Working
12.	WAP to implement File operations Laboratory.	PC/ LINUX Vi Editor, gcc	Working

**XI APPLICATION OF LAB EXPERIMENTS (FROM THE POINT OF VIEW OF STUDENTS):**

- a) Study and understand basic concept of programming using C Language
- b) Improves the logical and conceptual ability

- I. **NAME OF LABORATORY:** Computer Workshop (Using Python) BCSP-306
- II- **DEPARTMENT:** Computer Science Engineering
- III- **NAME LOCATION AND NO.** : I FLOOR LAB NO. 1
- IV- **COURSE NAME:** B. TECH. **BRANCH:** CSE **SEMESTER:** III
- V- **TOTAL NO. OF EXPERIMENTS REQUIRED:** 15  
(AS PER UTTARAKHAND TECHNICAL UNIVERSITY SYLLABUS)
- VI- **TOTAL NO OF EXPERIMENTS SET UP IN LAB:** 15
- VII- **NO OF MANUALS IN LAB:** 15
- VIII- **OBJECTIVE OF LAB:** Solving Numerical Problems using C programming language, as per the methods in CBNST.

**TABLE: LIST OF LABORATORY EXPERIMENTS**

S. No.	Name of Experiment	Equipment/Software's used	Status
1.	Installation & working with IDE	PC, WINDOWS/LINUX, IDE/Python 3.7	Working
2.	How to declare and use variables and operators	PC, WINDOWS/LINUX, IDE/Python 3.7	Working
3.	Programming using Basic Libraries (Numpy, Pandas, SK Learn etc)	PC, WINDOWS/LINUX, IDE/Python 3.7	Working
4.	To write a Python program to print HELLO INDIA.	PC, WINDOWS/LINUX, IDE/Python 3.7	Working
5.	To write a Python program that takes in command line arguments as input and print the number of arguments.	PC, WINDOWS/LINUX, IDE/Python 3.7	Working
6.	To write a Python program find the division of student.	PC, WINDOWS/LINUX, IDE/Python 3.7	Working
7.	To write a program implements Fibonacci series.	PC, WINDOWS/LINUX, IDE/Python 3.7	Working
8.	To write a Python program for factorial.	PC, WINDOWS/LINUX, IDE/Python 3.7	Working
9.	To write a Python program to use of functions.	PC, WINDOWS/LINUX, IDE/Python 3.7	Working
10.	To write a Python program to implement list.	PC, WINDOWS/LINUX, IDE/Python 3.7	Working
11.	To write a Python program to implement tuples.	PC, WINDOWS/LINUX, IDE/Python 3.7	Working
12.	To write a Python program Insertion sort.	PC, WINDOWS/LINUX, IDE/Python 3.7	Working
13.	To write a Python program merge sort.	PC, WINDOWS/LINUX, IDE/Python 3.7	Working
14.	To write a Python program first n prime numbers.	PC, WINDOWS/LINUX, IDE/Python 3.7	Working
15.	Implementation of Data Science concepts using Python	PC, WINDOWS/LINUX, IDE/Python 3.7	Working

**XI APPLICATION OF LAB EXPERIMENTS (FROM THE POINT OF VIEW OF STUDENTS):**

- a) The course is designed to provide Basic knowledge of Python. Python programming is intended for software engineers, system analysts, program managers and user support personnel who wish to learn the Python programming language.
- b) Learning Outcomes: Problem solving and programming capability.

**I. NAME OF LABORATORY:** Data Structure Lab BCSP- 303

**II. DEPARTMENT:** Computer Science Engineering

**III. LOCATION AND NO. :** I FLOOR LAB NO. 2

**IV. COURSE NAME:** B. TECH.      **BRANCH:** CSE      **SEMESTER:** III

**V. TOTAL NO. OF EXPERIMENTS REQUIRED:** 12  
(AS PER UTTARAKHAND TECHNICAL UNIVERSITY SYLLABUS)

**VI. TOTAL NO OF EXPERIMENTS SET UP IN LAB:** 12

**VII. NO OF MANUALS IN LAB:** 15

**VIII. OBJECTIVE OF LAB:** Implement the basic concepts of Data Structure and to learn usage

**TABLE: LIST OF LABORATORY EXPERIMENTS**

S. No.	Name of Experiment	Equipment/Software's used	Status
1.	Implementation of Array ADT and String ADT	PC, WINDOWS/LINUX, TURBO C++	Working

		IDE/VI Editor, gcc	
2.	Programs for Stack, Queues and Circular Queues using Arrays	PC, WINDOWS/LINUX, TURBO C++ IDE/VI Editor, gcc	Working
3.	Program to convert an Infix Expression into Postfix and Postfix Evaluation	PC, WINDOWS/LINUX, TURBO C++ IDE/VI Editor, gcc	Working
4.	Program to implement a Singly Linked List	PC, WINDOWS/LINUX, TURBO C++ IDE/VI Editor, gcc	Working
5.	Programs to implement Stack & Queues using Linked Representation	PC, WINDOWS/LINUX, TURBO C++ IDE/VI Editor, gcc	Working
6.	Programs implement Double Linked List and Circular Linked List	PC, WINDOWS/LINUX, TURBO C++ IDE/VI Editor, gcc	Working
7.	Program for Polynomial Arithmetic using Linked List	PC, WINDOWS/LINUX, TURBO C++ IDE/VI Editor, gcc	Working
8.	Program to implement Hashing	PC, WINDOWS/LINUX, TURBO C++ IDE/VI Editor, gcc	Working
9.	Programs to implement Insertion Sort, Selection Sort, Heap Sort, and Shell Sort	PC, WINDOWS/LINUX, TURBO C++ IDE/VI Editor, gcc	Working
10.	Program to implement Quick Sort and Merge Sort	PC, WINDOWS/LINUX, TURBO C++ IDE/VI Editor, gcc	Working
11.	Programs to implement Tree Traversals on Binary Trees and Graphs Search Methods	PC, WINDOWS/LINUX, TURBO C++ IDE/VI Editor, gcc	Working
12.	Programs to implement operations on AVL Trees and Splay Trees	PC, WINDOWS/LINUX, TURBO C++ IDE/VI Editor, gcc	Working

#### XI APPLICATION OF LAB EXPERIMENTS (FROM THE POINT OF VIEW OF STUDENTS):

From student point of view, concepts of data structure help the students to think about proper utilization of computer memory & processor. It also helps to understand how to organize the data in computer system for better performance.

- XI. **NAME OF LABORATORY :** Digital Electronics Lab (BCEP 303)  
 XII. **DEPARTMENT :** Computer Science Engineering  
 XIII. **LOCATION AND NO. :** II Floor, ECE 02  
 XIV. **COURSE NAME :** B.Tech **BRANCH:** CSES **emester:** III  
 XV. **TOTAL NO. OF EXPERIMENTS REQUIRED :** 10  
 (AS PER UTU SYLLABUS)  
 XVI. **TOTAL NO. OF EXPERIMENTS SET UP IN THE LAB:** 10  
 XVII. **NO. OF MANUALS IN THE LAB:** 10  
 XVIII. **OBJECTIVE OF LAB:** To implement the theoretical aspects in the practical work

**Table: List of Laboratory experiments**

S.No	Name of experiment	Equipment/Software's Used	Status
1	Introduction to Digital Electronics lab- nomenclature of digital ICS.	Digital lab Trainer, Bread Board, DMM, Connecting wires, Digital ICs	Working
2	Implementation of the given Boolean function using logic gates in both sop and pos forms.	Digital lab Trainer, Bread Board, DMM, Connecting wires, Digital ICs	Working
3	Verification of state tables of RS, JK, T and D flip-flops using NAND & NOR gates.	Digital lab Trainer, Bread Board, DMM, Connecting wires, Digital ICs	Working
4	Implementation and verification of decoder/de-multiplexer and encoder using logic gates.	Digital lab Trainer, Bread Board, DMM, Connecting wires, Digital ICs	Working

5	Implementation of 4x1 multiplexer using logic gates.	Digital lab Trainer, Bread Board, DMM, Connecting wires, Digital ICs	Working
6	Implementation of 4-bit parallel adder using 7483 IC.	Digital lab Trainer, Bread Board, DMM, Connecting wires, Digital ICs	Working
7	To design and verify operation of half adder and full adder.	Digital lab Trainer, Bread Board, DMM, Connecting wires, Digital ICs	Working
8	To design & verify the operation of magnitude comparator.	Digital lab Trainer, Bread Board, DMM, Connecting wires, Digital ICs	Working
9	Design and verify the 4-bit synchronous counter.	Digital lab Trainer, Bread Board, DMM, Connecting wires, Digital ICs	Working
10	Design and verify the 4-bit asynchronous counter.	Digital lab Trainer, Bread Board, DMM, Connecting wires, Digital ICs	Working

**(XI) APPLICATION OF LAB EXPERIMENTS (From the point of view of students)**

To get the maximum exposure of Digital Electronics theory with the help of practical Knowledge for better understanding.

- I. NAME OF LABORATORY:** Object Oriented Programming & Methodology BCSP-305
- II. DEPARTMENT:** Computer Science Engineering
- III. LOCATION AND NO. :** I FLOOR LAB NO. 2
- IV. COURSE NAME:** B. TECH.      **BRANCH:** CSE      **SEMESTER:** III
- V. TOTAL NO. OF EXPERIMENTS REQUIRED:** 13  
(AS PER UTTARAKHAND TECHNICAL UNIVERSITY SYLLABUS)
- VI. TOTAL NO OF EXPERIMENTS SET UP IN LAB:**13
- VII. NO OF MANUALS IN LAB:** 15

**OBJECTIVE OF LAB:** Implement the basic concepts of Object Oriented Programming and to learn its usage.

**TABLE: LIST OF LABORATORY EXPERIMENTS**

S. No.	Name of Experiment	Equipment/Software's used	Status
1.	To write a Java program to print HELLO INDIA.	PC, WINDOWS, NetBeans IDE/JDK1.6	Working
2.	To write a java program that takes in command line arguments as input and print the number of arguments.	PC, WINDOWS, NetBeans IDE/JDK1.6	Working
3.	To write a java program find the division of student.	PC, WINDOWS, NetBeans IDE/JDK1.6	Working
4.	To write a program implements the concept of inheritance.	PC, WINDOWS, NetBeans IDE/JDK1.6	Working
5.	To write a java program method overloading.	PC, WINDOWS, NetBeans IDE/JDK1.6	Working
6.	To write a java program for method over riding.	PC, WINDOWS, NetBeans	Working

		IDE/JDK1.6	
7.	To write a java program exception handling.	PC, WINDOWS, NetBeans IDE/JDK1.6	Working
8.	To write a java program to run applet for drawing various shapes.	PC, WINDOWS, NetBeans IDE/JDK1.6	Working
9.	To write a java program to design a login using JFrame.	PC, WINDOWS, NetBeans IDE/JDK1.6	Working
10.	To write a java program to validate the logging details of user using JDBC concept.	PC, WINDOWS, NetBeans IDE/JDK1.6	Working
11.	To write a Java program Insertion sort.	PC, WINDOWS, NetBeans IDE/JDK1.6	Working
12.	To write a Java program merge sort.	PC, WINDOWS, NetBeans IDE/JDK1.6	Working
13.	To write a Java program first n prime numbers.	PC, WINDOWS, NetBeans IDE/JDK1.6	Working

**XI APPLICATION OF LAB EXPERIMENTS (FROM THE POINT OF VIEW OF STUDENTS):**

From student point of view, concept of object oriented programming is very important from point of view of modularity and customizability.

- I. NAME OF LABORATORY:** Software Engineering Lab BCSP-403
- II. DEPARTMENT:** Computer Science Engineering
- III. LOCATION AND NO. :** I FLOOR, LAB NO. 3
- IV. COURSE NAME:** B. TECH.      **BRANCH:** CSE      **SEMESTER:** IV
- V. TOTAL NO. OF EXPERIMENTS REQUIRED:** 11  
(AS PER UTTARAKHAND TECHNICAL UNIVERSITY SYLLABUS)
- VI. TOTAL NO OF EXPERIMENTS SET UP IN LAB:** 11
- VII. NO OF MANUALS IN LAB:** 15
- VIII. OBJECTIVE OF LAB:** To make students familiar with UNIX Environment, commands and Shell Script.

**TABLE: LIST OF LABORATORY EXPERIMENTS**

S. No.	Name of Experiment	Equipment/Software's used	Status
1.	Phases in software development project, overview, need, coverage of topics	PC/ LINUX LUCID Chart	Working
2.	To assign the requirement engineering tasks	PC/ LINUX LUCID Chart	Working
3.	To perform the system analysis : Requirement analysis, SRS	PC/ LINUX LUCID Chart	Working
4.	To perform the function oriented diagram : DFD and Structured chart	PC/ LINUX LUCID Chart	Working
5.	To perform the user's view analysis : Use case diagram	PC/ LINUX LUCID Chart	Working
6.	To draw the structural view diagram : Class diagram, object diagram	PC/ LINUX LUCID Chart	Working
7.	To draw the behavioral view diagram : Sequence diagram, Collaboration diagram	PC/ LINUX LUCID Chart	Working
8.	To draw the behavioral view diagram : State-chart diagram, Activity diagram	PC/ LINUX LUCID Chart	Working
9.	To draw the implementation view diagram: Component diagram	PC/ LINUX LUCID Chart	Working
10.	To draw the environmental view diagram : Deployment diagram	PC/ LINUX LUCID Chart	Working
11.	To perform various testing using the testing tool unit testing, integration testing.	PC/ LINUX LUCID Chart, Selenium	Working

**XI APPLICATION OF LAB EXPERIMENTS (FROM THE POINT OF VIEW OF STUDENTS):**

Students will be capable to acquire the generic software development skill through various stages of software life cycle. He will also be able to ensure the quality of software through software development with various protocol based environment. After completion of course student will be able to generate test cases for software testing. Students will also be able to handle software development models through rational method. Rational Rose Enterprise Edition software is used to serve the objectives. The course contains Basic Structural Modeling, Advance Structural Modeling, Basic Behavioral Modeling, Advance Behavioral Modeling, Architectural Modeling, UML Notation, UML Stranded Elements, Designing Test cases, Test Suits, Rational Unified Process etc.

- I. NAME OF LABORATORY:** Database Management System Lab BCSP-402
- II. DEPARTMENT:** Computer Science Engineering
- III. LOCATION AND NO. :** I FLOOR LAB NO. 6
- IV. COURSE NAME:** B. TECH.      **BRANCH:** CSE      **SEMESTER:** IV
- V. TOTAL NO. OF EXPERIMENTS REQUIRED:** 10  
(AS PER UTTARAKHAND TECHNICAL UNIVERSITY SYLLABUS)
- VI. TOTAL NO OF EXPERIMENTS SET UP IN LAB:** 10
- VII. NO OF MANUALS IN LAB:** 15
- VIII. OBJECTIVE OF LAB:** Implement the basic concepts of DBMS and give basic knowledge of SQL Environment and to learn its usage

**TABLE: LIST OF LABORATORY EXPERIMENTS**

<b>S. No.</b>	<b>Name of Experiment</b>	<b>Equipment/Software's used</b>	<b>Status</b>
1.	Write the queries for Data Manipulation and Data Definition Language.	PC, Windows, mysql	Working
2.	Write SQL queries using logical operations and operators.	PC, Windows, mysql	Working
3.	Write SQL query using group by function.	PC, Windows, mysql	Working
4.	Write SQL queries for group functions.	PC, Windows, mysql	Working
5.	Write SQL queries for sub queries, nested queries.	PC, Windows, mysql	Working
6.	Write programme by the use of PL/SQL.	PC, Windows, mysql	Working
7.	Write SQL queries to create views	PC, Windows, mysql	Working
8.	Write an SQL query to implement JOINS.	PC, Windows, mysql	Working
9.	Write a query for extracting data from more than one table.	PC, Windows, mysql	Working
10.	Write a query to understand the concepts for ROLL BACK, COMMIT & CHECK POINTS.	PC, Windows, mysql	Working

**XI APPLICATION OF LAB EXPERIMENTS (FROM THE POINT OF VIEW OF STUDENTS):**

Students understand the importance and issues related to Database Management System as it is very important from the point of view of industries

**NAME OF LABORATORY:** Computer Organization & Architecture Lab (BCSP -404)

XI. **DEPARTMENT:** Computer Science Engineering

XII. **LOCATION AND NO. :** I FLOOR LAB NO. 5

XIII. **COURSE NAME :** B.Tech                      **BRANCH:** CSE              **Semester:** IV

XIV. **TOTAL NO. OF EXPERIMENTS REQUIRED :** 16  
(AS PER UTU SYLLABUS)

XV. **TOTAL NO. OF EXPERIMENTS SET UP IN THE LAB:** 16

XVI. **NO. OF MANUALS IN THE LAB:** 10

XVII. **OBJECTIVE OF LAB:** To implement the theoretical aspects in the practical work

**Table: List of Laboratory experiments**

S.No	Name of experiment	Equipment/Software's Used	Status
1	Bread-board implementation of various flip-flops.	Bread Board Kit	Working
2	Bread-board implementation of counters & shift registers.	Bread Board Kit	Working
3	Determination of Delay time and NAND, NOR, Ex-OR, AND & OR Gates.	Bread Board Kit	Working
4	Bread Board Implementation of Flip-Flops.	Bread Board Kit	Working
5	Experiments with clocked Flip-Flop.	Bread Board Kit	Working
6	Design of Counters.	Bread Board Kit	Working
7	Bread Board implementation of counters & shift registers.	Bread Board Kit	Working
8	Implementation of Arithmetic algorithms.	Bread Board Kit	Working
9	Bread Board implementation of Adder/Subtractor (Half, Full)	Bread Board Kit	Working
10	Transfer characteristics of TTL inverters & TTL Schmitt Trigger inverter.	Bread Board Kit	Working
11	Transfer characteristics of CMOS inverters series and CD40 series and	Bread Board Kit	Working
12	Estimation of Gate delay of CD40 series CMOS inverter.	Bread Board Kit	Working
13	Monoshot multivibrators using 74121 and 74123.	Bread Board Kit	Working
14	Clock circuit realization using 555 and CMOS inverter and quartz crystal.	Bread Board Kit	Working
15	Adder/ subtractor operation using IC7483 4 bit/ 8 bit.	Bread Board Kit	Working
16	Demultiplexer / Decoder operation using IC-74138.	Bread Board Kit	Working

**(XI) APPLICATION OF LAB EXPERIMENTS (From the point of view of students)**

To get the maximum exposure of Computer Organization with the help of practical Knowledge for better understanding.

**NAME OF LABORATORY:** Theory of Automata & Formal Languages Lab (BCSP -405)

- I. **DEPARTMENT:** Computer Science Engineering
- II. **LOCATION AND NO. :** I FLOOR LAB NO. 4
- III. **COURSE NAME :** B.Tech                      **BRANCH:** CSE                      **Semester:** IV
- IV. **TOTAL NO. OF EXPERIMENTS REQUIRED :** 15  
(AS PER UTU SYLLABUS)
- V. **TOTAL NO. OF EXPERIMENTS SET UP IN THE LAB:** 15
- VI. **NO. OF MANUALS IN THE LAB:** 15
- VII. **OBJECTIVE OF LAB:** To implement the theoretical aspects in the practical work

**Table: List of Laboratory experiments**

S.No	Name of experiment	Equipment/Software's Used	Status
1	Design a Program for creating machine that accepts three consecutive one.	PC, Windows, JFLAP	Working
2	Design a Program for creating machine that accepts the string always ending with 101.	PC, Windows, JFLAP	Working
3	Design a Program for Mode 3 Machine	PC, Windows, JFLAP	Working
4	Design a program for accepting decimal number divisible by 2.	PC, Windows, JFLAP	Working
5	Design a program for creating a machine which accepts string having equal no. of 1's and 0's.	PC, Windows, JFLAP	Working
6	Design a program for creating a machine which count number of 1's and 0's in a given string.	PC, Windows, JFLAP	Working
7	Design a Program to find 2's complement of a given binary number.	PC, Windows, JFLAP	Working
8	Design a Program which will increment the given binary number by 1.	PC, Windows, JFLAP	Working
9	Design a Program to convert NFA to DFA.	PC, Windows, JFLAP	Working
10	Design a Program to create PDA machine that accept the well-formed parenthesis.	PC, Windows, JFLAP	Working
11	Design a PDA to accept WCWR where w is any string and WR is reverse of that string and C is a Special symbol.	PC, Windows, JFLAP	Working
12	Design a Turing machine that's accepts the following language $L = \{anbn^n \mid n > 0\}$ .	PC, Windows, JFLAP	Working
13	Introduction, Setup & Installation of JFLAP software/relevant software for Theory of Automata & Formal Languages.	PC, Windows, JFLAP	Working
14	Create DFA to NFA and vice versa using JFLAP software/relevant software for Theory of Automata & Formal Languages.	PC, Windows, JFLAP	Working
15	Convert Regular Expression into NFA using JFLAP software/relevant software for Theory of Automata & Formal Languages	PC, Windows, JFLAP	Working

**(XI) APPLICATION OF LAB EXPERIMENTS (From the point of view of students)**

After completing the lab, the student will be able to: Model, compare and analyse different computational models using combinatorial methods. Apply rigorously formal mathematical methods to prove properties of languages, grammars and automata.

- I. **NAME OF LABORATORY:** Programming Practices (Introduction to MATLAB) Lab (BCSP -406)
- II. **DEPARTMENT:** Computer Science Engineering
- III. **LOCATION AND NO. :** I FLOOR LAB NO. 3
- IV. **COURSE NAME :** B.Tech                      **BRANCH:** CSE                      **Semester:** IV

- V. **TOTAL NO. OF EXPERIMENTS REQUIRED : 8**  
(AS PER UTU SYLLABUS)
- VI. **TOTAL NO. OF EXPERIMENTS SET UP IN THE LAB: 10**
- VII. **NO. OF MANUALS IN THE LAB: 10**
- VIII. **OBJECTIVE OF LAB:** To implement the theoretical aspects in the practical work

**Table: List of Laboratory experiments**

S.No	Name of experiment	Equipment/Software's Used	Status
1	Study of 8085 microprocessor kit	8085 microprocessor kit	Working
2	To perform Addition of two 8 bit numbers	8085 microprocessor kit	Working
3	To perform Multiplication of two 8 bit numbers	8085 microprocessor kit	Working
4	To Find the maximum value in an array	8085 microprocessor kit	Working
5	To perform BCD to Hex conversion & Hex to BCD conversion	8085 microprocessor kit	Working
6	To Design Counter using timer	8085 microprocessor kit	Working
7	Study of 8086 microprocessor kit	8086 microprocessor kit	Working
8	Programming with 8086 –16-bit, 32 bit multiplication	8086 microprocessor kit	Working
9	Programming with 8086 –16-bit, 32 division	8086 microprocessor kit	Working
10	Interfacing with 8085/8086/8051 – 8279,8251	8085/8086 microprocessor kit, peripherals	Working

**(XI) APPLICATION OF LAB EXPERIMENTS (From the point of view of students)**

To get the maximum exposure of microprocessor theory with the help of practical for better understanding.

- I. **NAME OF LABORATORY:** Operating Systems Lab BCSP- 501
- II. **DEPARTMENT:** Computer Science Engineering
- III. **LOCATION AND NO. :** I FLOOR LAB NO. 2
- IV. **COURSE NAME:** B. TECH.      **BRANCH:** CSE      **SEMESTER:** V
- V. **TOTAL NO. OF EXPERIMENTS REQUIRED: 8**  
(AS PER UTTARAKHAND TECHNICAL UNIVERSITY SYLLABUS)
- VI. **TOTAL NO OF EXPERIMENTS SET UP IN LAB: 8**
- VII. **NO OF MANUALS IN LAB: 15**
- VIII. **OBJECTIVE OF LAB:** Implement the concepts of Operating System.

**TABLE: LIST OF LABORATORY EXPERIMENTS**

S. No.	Name of Experiment	Equipment/Software's used	Status
1.	Simulation of the CPU scheduling algorithms a)	PC, Windows/Linux, TURBO C++	Working

	Round Robin b) SJF c) FCFS d) Priority	IDE/Vi Editor, gcc	
2.	Simulation of MUTEX and SEMAPHORES..	PC, Windows/Linux, TURBO C++ IDE/Vi Editor, gcc	Working
3.	Simulation of Bankers Deadlock Avoidance and Prevention algorithms	PC, Windows/Linux, TURBO C++ IDE/Vi Editor, gcc	Working
4.	Implementation of Process Synchronization (Reader-Writer, Sleeping Barber and Dining Philosopher's Problem)	PC, Windows/Linux, TURBO C++ IDE/Vi Editor, gcc	Working
5.	Simulation of page Replacement Algorithms a) FIFO b) LRU c) LFU	PC, Windows/Linux, TURBO C++ IDE/Vi Editor, gcc 6	Working
6.	Simulation of paging techniques of memory management	PC, Windows/Linux, TURBO C++ IDE/Vi Editor, gcc	Working
7.	Simulation of file allocation Strategies a) Sequential b) Indexed c) Linked	PC, Windows/Linux, TURBO C++ IDE/Vi Editor, gcc	Working
8.	Simulation of file organization techniques a) Single Level Directory b) Two Level c) Hierarchical d) DAG	PC, Windows/Linux, TURBO C++ IDE/Vi Editor, gcc	Working

#### **XI APPLICATION OF LAB EXPERIMENTS (FROM THE POINT OF VIEW OF STUDENTS):**

- a) Understand and learn basic concepts related to Operating System so that students could understand the basics of interaction between hardware and OS.
- b) Important to understand the concept from the point of view of developing hardware dependent applications

**I. NAME OF LABORATORY:**Computer Networks Lab BCSP 502

**II. DEPARTMENT:** Computer Science Engineering

**III. LOCATION AND NO. :** I FLOOR LAB NO. 6

**IV. COURSE NAME:** B. TECH.      **BRANCH:** CSE      **SEMESTER:** V

**V. TOTAL NO. OF EXPERIMENTS REQUIRED:** 7  
(AS PER UTTARAKHAND TECHNICAL UNIVERSITY SYLLABUS)

**VI. TOTAL NO OF EXPERIMENTS SET UP IN LAB:** 7

**VII. NO OF MANUALS IN LAB:** 15

**VIII. OBJECTIVE OF LAB:** Implement the basic concepts of Computer Networks and work on Simulators

**TABLE: LIST OF LABORATORY EXPERIMENTS**

<b>S. No.</b>	<b>Name of Experiment</b>	<b>Equipment/Software's used</b>	<b>Status</b>
1.	Implementation of the Data Link Layer framing method such as character stuffing and bit stuffing.	PC, Windows/Linux, TURBO C++ IDE/Vi Editor, gcc	Working
2.	Implementation of CRC algorithm	PC, Windows/Linux, TURBO C++ IDE/Vi Editor, gcc	Working
3.	Implementation of a Hamming (7,4) code to limit the noise. We have to code the 4 bit data in to 7 bit data by adding 3 parity bits.	PC, Windows/Linux, TURBO C++ IDE/Vi Editor, gcc	Working
4.	Implementation of LZW compression algorithm.	PC, Windows/Linux, TURBO C++ IDE/Vi Editor, gcc	Working
5.	Write a socket program to implement a listener and a talker.	PC, WINDOWS, NetBeans IDE/JDK1.6	Working
6.	Simulation of a network of 3 nodes and measure the	Cisco Packet Tracer	Working

	performance on the same network.		
7.	Write a program to encrypt 64-bit text using DES algorithm	PC, Windows/Linux, TURBO C++ IDE/Vi Editor, gcc	Working

**XI APPLICATION OF LAB EXPERIMENTS (FROM THE POINT OF VIEW OF STUDENTS):**

- a) Very important to understand the basic concept of networks
- b) Establishing Networks and communication system

**I. NAME OF LABORATORY:** AlgorithmsLab BCSP 503

**II. DEPARTMENT:** Computer Science Engineering

**III. LOCATION AND NO. :** I FLOOR LAB NO. 2

**IV. COURSE NAME:** B. TECH.      **BRANCH:** CSE      **SEMESTER:** V

**V. TOTAL NO. OF EXPERIMENTS REQUIRED:** 7  
(AS PER UTTARAKHAND TECHNICAL UNIVERSITY SYLLABUS)

**VI. TOTAL NO OF EXPERIMENTS SET UP IN LAB:** 7

**VII. NO OF MANUALS IN LAB:** 15

**VIII. OBJECTIVE OF LAB:** Implement different Algorithm Techniques.

**TABLE: LIST OF LABORATORY EXPERIMENTS**

S. No.	Name of Experiment	Equipment/Software's used	Status
1.	Divide and conquer method (quick sort, merge sort, Strassen's matrix multiplication)	PC, Windows/Linux, TURBO C++ IDE/Vi Editor, gcc	Working
2.	Greedy method (knapsack problem, job sequencing, optimal merge patterns, minimal spanning trees).	PC, Windows/Linux, TURBO C++ IDE/Vi Editor, gcc	Working
3.	Dynamic programming (multistage graphs, OBST, 0/1 knapsack, traveling sales person problem).	PC, Windows/Linux, TURBO C++ IDE/Vi Editor, gcc	Working
4.	Back tracking (n-queens problem, graph coloring problem, Hamiltonian cycles).	PC, Windows/Linux, TURBO C++ IDE/Vi Editor, gcc	Working
5.	Sorting: Insertion sort, Heap sort, Bubble sort	PC, Windows/Linux, TURBO C++ IDE/Vi Editor, gcc6	Working
6.	Searching: Sequential and Binary Search	PC, Windows/Linux, TURBO C++ IDE/Vi Editor, gcc	Working
7.	Selection: Minimum/ Maximum, Kth smallest element	PC, Windows/Linux, TURBO C++ IDE/Vi Editor, gcc	Working

**XI APPLICATION OF LAB EXPERIMENTS (FROM THE POINT OF VIEW OF STUDENTS):**

- a) To be able to give a program structure to the Algorithms
- b) Increase Logical Thinking
- c) Improves ability to build industry based applications

**I. NAME OF LABORATORY:** Virtual Lab(Advance Java Lab)BCSP-506

**II. DEPARTMENT:** Computer Science Engineering

**III. LOCATION AND NO. :** I FLOOR LAB NO. 2

**IV. COURSE NAME:** B. TECH.      **BRANCH:** CSE      **SEMESTER:** V

**V. TOTAL NO. OF EXPERIMENTS REQUIRED:** 7  
(AS PER UTTARAKHAND TECHNICAL UNIVERSITY SYLLABUS)

- VI. TOTAL NO OF EXPERIMENTS SET UP IN LAB: 7**
- VII. NO OF MANUALS IN LAB: 15**
- VIII. OBJECTIVE OF LAB: Implement the concepts of Advance Java and their usage.**

**TABLE: LIST OF LABORATORY EXPERIMENTS**

**XI APPLICATION OF LAB EXPERIMENTS (FROM THE POINT OF VIEW OF STUDENTS):**

- a) Use standard IDE namely NetBeans
- b) Understand the JAVA Technology Road Map that includes J2SE and J2EE and its various libraries
- c) Understand Client side Web Technologies like JavaScript along with server side Technologies
- d) Improves ability to build industry based applications

- I. NAME OF LABORATORY: Microprocessor and application Lab BCSP-601**
- II. DEPARTMENT: Computer Science Engineering**
- III. LOCATION AND NO. : I FLOOR LAB NO. 2**
- IV. COURSE NAME: B. TECH.      BRANCH: CSE      SEMESTER: VI**
- V. TOTAL NO. OF EXPERIMENTS REQUIRED: 8  
(AS PER UTTARAKHAND TECHNICAL UNIVERSITY SYLLABUS)**
- VI. TOTAL NO OF EXPERIMENTS SET UP IN LAB: 8**
- VII. NO OF MANUALS IN LAB: 15**
- VIII. OBJECTIVE OF LAB: Implement the concepts of Operating System.**

**XI APPLICATION OF LAB EXPERIMENTS (FROM THE POINT OF VIEW OF STUDENTS):**

- c) Understand and learn basic concepts related to Operating System so that students could understand the basics of interaction between hardware and OS.
- d) Important to understand the concept from the point of view of developing hardware dependent applications

- I. NAME OF LABORATORY: Compiler Design Lab BCSP-602**
- II. DEPARTMENT: Computer Science Engineering**
- III. LOCATION AND NO. : I FLOOR LAB NO. 2**
- IV. COURSE NAME: B. TECH.      BRANCH: CSE      SEMESTER: VI**
- V. TOTAL NO. OF EXPERIMENTS REQUIRED: 5  
(AS PER UTTARAKHAND TECHNICAL UNIVERSITY SYLLABUS)**
- VI. TOTAL NO OF EXPERIMENTS SET UP IN LAB: 5**
- VII. NO OF MANUALS IN LAB: 15**
- VIII. OBJECTIVE OF LAB: Implement and understanding working of phases of compiler and learn to use tools like YACC and LEX.**

**TABLE: LIST OF LABORATORY EXPERIMENTS**

<b>S. No.</b>	<b>Name of Experiment</b>	<b>Equipment/Software's used</b>	<b>Status</b>
1.	Simulation of a Finite state Automata to recognize the tokens of various control statements.	PC, Windows/Linux, TURBO C++ IDE/VI Editor, gcc	Working
2.	Simulation of a Finite state machine to distinguish among Integers, Real Numbers & Numbers with Exponents.	PC, Windows/Linux, TURBO C++ IDE/VI Editor, gcc	Working
3.	Program in LEX tool to recognize the tokens and to return the token found for a C like Language	PC, Windows/Linux, TURBO C++ IDE/VI Editor, gcc	Working
4.	Parsing of arithmetic and algebraic expressions and equations.	PC, Windows/Linux, TURBO C++ IDE/VI Editor, gcc	Working
5.	Use of YACC tool to parse the statements of C like Language.	PC, Windows/Linux, TURBO C++ IDE/VI Editor, gcc 6, YACC tool	Working

**XI APPLICATION OF LAB EXPERIMENTS (FROM THE POINT OF VIEW OF STUDENTS):**

- a) Understand the working of different phases of compilers.
- b) Understand how to program different phases of Language translators and interpreters

**I. NAME OF LABORATORY:** Data Analytics Lab BCSP-603

**II. DEPARTMENT** Computer Science Engineering

**III. LOCATION AND NO. :** I FLOOR LAB NO. 6

**IV. COURSE NAME:** B. TECH.      **BRANCH:** CSE      **SEMESTER:** VI

**V. TOTAL NO. OF EXPERIMENTS REQUIRED:** 7  
(AS PER UTTARAKHAND TECHNICAL UNIVERSITY SYLLABUS)

**VI. TOTAL NO OF EXPERIMENTS SET UP IN LAB:** 7

**VII. NO OF MANUALS IN LAB:** 15

**VIII. OBJECTIVE OF LAB:** Implement the concepts of Artificial Intelligence and their usage.

**XI APPLICATION OF LAB EXPERIMENTS (FROM THE POINT OF VIEW OF STUDENTS):**

- a) Understand the fields related to AI.
- b) As our industries are progressing and technologies are changing the students should know about new technologies and research going on.
- c) Understand how to program small applications related to AI domain

**NAME OF LABORATORY:** Open Source Lab/Matlab Programming BCSP-606

**I. DEPARTMENT:** Computer Science Engineering

**II. LOCATION AND NO. :** I FLOOR LAB NO. 5

**III. COURSE NAME:** B. TECH.      **BRANCH:** CSE      **SEMESTER:** VI

**IV. TOTAL NO. OF EXPERIMENTS REQUIRED:** 7

(AS PER UTTARAKHAND TECHNICAL UNIVERSITY SYLLABUS)

V. TOTAL NO OF EXPERIMENTS SET UP IN LAB: 7

VI. NO OF MANUALS IN LAB: 15

VII. OBJECTIVE OF LAB: Understanding the basic concepts of OOPs and .Net Framework

XI APPLICATION OF LAB EXPERIMENTS (FROM THE POINT OF VIEW OF STUDENTS):

Understand basic concepts related to visual programming and how they can be used to build projects and industry based applications

I. NAME OF LABORATORY: System Administration Lab PCS-751/PIT-751

II. DEPARTMENT: Computer Science Engineering

III. LOCATION AND NO. : I FLOOR LAB NO. 4

IV. COURSE NAME: B. TECH. BRANCH: CSE SEMESTER: VII

V. TOTAL NO. OF EXPERIMENTS REQUIRED: 10  
(AS PER UTTARAKHAND TECHNICAL UNIVERSITY SYLLABUS)

VI. TOTAL NO OF EXPERIMENTS SET UP IN LAB: 10

VII. NO OF MANUALS IN LAB: 15

VIII. OBJECTIVE OF LAB: To learn basic concept of System Administration in LINUX and WINDOWS Environment

TABLE: LIST OF LABORATORY EXPERIMENTS

S. No.	Name of Experiment	Equipment/Software's used	Status
1.	Installation of operating system (Window 7 and LINUX)	PC, Windows 7, LINUX	Working
2.	Installation of office productivity software (MS Office/ Open Office)	PC, Windows 7, LINUX	Working
3.	User Management	PC, LINUX	Working
4.	Security Management	PC, LINUX	Working
5.	Startup & Shutdown scripts	PC, LINUX	Working
6.	Network planning – subnet creation	PC, LINUX	Working
7.	Firewall configuration	PC, LINUX	Working
8.	Basic properties of Windows Registry	PC, Windows 7	Working
9.	Study of Important Windows Services	PC, Windows 7	Working
10.	Study of Important LINUX Services	PC, LINUX	Working

I. NAME OF LABORATORY: Web Technology Lab PCS-852

II. DEPARTMENT: Computer Science Engineering

III. LOCATION AND NO. : I FLOOR LAB NO. 4

IV. COURSE NAME: B. TECH. BRANCH: CSE SEMESTER: VIII

V. TOTAL NO. OF EXPERIMENTS REQUIRED: 6  
(AS PER UTTARAKHAND TECHNICAL UNIVERSITY SYLLABUS)

VI. TOTAL NO OF EXPERIMENTS SET UP IN LAB: 6

VII. NO OF MANUALS IN LAB: 15

VIII. OBJECTIVE OF LAB: To learn basic concept of Web Development

TABLE: LIST OF LABORATORY EXPERIMENTS

S. No.	Name of Experiment	Equipment/Software's used	Status
1.	Installation and configuration of Apache server	PC, Windows 7, Netbeans	Working
2.	Development of static website of an online Departmental Store. The website should be user friendly and should have the following pages: <input type="checkbox"/> Home page <input type="checkbox"/> Registration and user login <input type="checkbox"/> User profile page <input type="checkbox"/> Items catalog <input type="checkbox"/> Shopping cart <input type="checkbox"/> Payment by credit card <input type="checkbox"/> Order confirmation	PC, Windows 7, Netbeans	Working
3.	Add validations to the above site for registration, user login, user profile and payment by credit card using Java Script.	PC, Windows 7, Netbeans	Working
4.	Installation and configuration of TOMCAT web server. Convert the static web pages of Prog. 2 into dynamic web pages using servlets and cookies.	PC, Windows, TOMCAT web server	Working
5.	Creation of a XML document of 20 students of UKTech. Add their roll numbers, marks obtained in 5 subjects, total and percentage and save this XML document at the server. Write a program that takes students' roll number as an input and returns the students marks, total and percentage by taking the students' information from the XML document.	PC, Windows 7, Notepad ++, Web Browser	Working
6.	Design a website using existing web services (Google map, weather forecast, market information etc.) using AJAX.	AJAX	Working

**XI APPLICATION OF LAB EXPERIMENTS (FROM THE POINT OF VIEW OF STUDENTS):**

Understand basic concepts related to Web Technology and how they can be used to build projects and industry based applications.

## ELECTRICAL AND ELECTRONICS ENGINEERING LAB DETAILS

(i) NAME OF LABORATORY : (PEE- 553 Applied Instrumentation Laboratory )

(ii) DEPARTMENT :EEE

(iii) LOCATION AND NO. : III rd floor Academic Block

(iv) COURSE NAME : B.Tech Branch:EEE SEMESTER V

(v) TOTAL NO. OF EXPERIMENTS REQUIRED: 11  
(AS PER UTU SYLLABUS)

(vi) TOTAL NO. OF EXPERIMENTS SET UP IN THE LAB.: 11

(vii) NO OF MANUALS IN THE LAB.:6

(viii) NAME OF TEACHER IN CHARGE: Vipin Chandra Bhat

(ix) OBJECTIVES OF LAB : To learn about the control of operation of machines

**TABLE: LABORATORY EXPERIMENTS**

S.NO.	Name of Experiments	Apparatus required	Status
1	Measurement of Displacement using LVDT	LVDT Demonstration kit	Available & working
2	Measurement using Strain Gauge based displacement	Strain Guage	Available & working

3	Measurement of Temperature by RTD	RTD demonstration kit	Available & working
4	Measurement of temperature by thermocouple	Thermo couple demonstration kit	Available & working
5	Study of P,PI,PID controllers	PID controller KIT	Available & working
6	Study of Storage oscilloscope and determination of Transient response of RLC circuit	Oscilloscope	Available & working
7	Measurement of flow rate by anemometer	Air velocity trainer kit	Available & working
8	Measurement of load using strain gauge based load cell.	Load cell & strain guage	Available & working
9	Design and test a signal conditioning circuit for any transducer	oscilloscope	Available & working
10	Measurement of displacement using magnetic pickup.	Displacement transducer	Available & working
11	Measurement of water level using strain gauge based water level transducer		Available & working

**(XI)APPLICATIONS OF LAB EXPERIMENTS (FROM THE POINT OF VIEW OF STUDENTS)**

Study of how to control motors and other electrical machines studied in past semester, achieved.

**(XII)USEFULNESS FOR THE DEPARTMENT:**

- (i) Development of industry relation
- (ii) R&D projects
- (iii) Consultancy/Testing

**(I)NAME OF LABORATORY (BEEP-101/201 BASIC ELECTRICAL ENGINEERING LAB )**

**(ii) DEPARTMENT :EEE**

**(iii) LOCATION AND NO. III rd floor Academic Block**

**(IV)COURSE NAME : B.Tech Branch: All SEMESTER I/II**

**(V)TOTAL NO. OF EXPERIMENTS REQUIRED: 10**

**(AS PER UTU SYLLABUS)**

**(VI)TOTAL NO. OF EXPERIMENTS SET UP IN THE LAB.:10**

**(VII)NO OF MANUALS IN THE LAB.: 10**

**(VIII)NAME OF TEACHER IN CHARGE: Kuldeep Godiyal**

**(IX)OBJECTIVES OF LAB : To learn about basic concepts of machines and networks**

**TABLE: LABORATORY EXPERIMENTS**

S.NO.	Name of Experiments	Apparatus required	Status
1	Basic safety precautions. Introduction and use of measuring instruments	Voltmeter, ammeter, multi-meter, oscilloscope. Real-life resistors, capacitors and inductors.	Available & working
2	Measuring the steady-state and transient time-response of R-L, R-C, and R-L-C circuits to a step change in voltage	storage oscilloscope	Available & working
3	Observation of the no-load current waveform on an oscilloscope	storage oscilloscope	Available & working
4	Voltage and Current relationships (line-line	Two wattmeter with voltmeter	Available &

	voltage, phase-to-neutral voltage, line and phase currents). Phase-shifts between the primary and secondary side. Cumulative three-phase power in balanced three-phase circuits.	and ammeter	working
5	Demonstration of cut-out sections of machines	dc machine (commutator-brush arrangement), induction machine (squirrel cage rotor), synchronous machine (field winding - slip ring arrangement) and single-phase induction machine	Available & working
6	Synchronous speed of two and four-pole, three-phase induction motors. Direction reversal by change of phase-sequence of connections.	three-phase induction motor	Available & working
7	Synchronous Machine operating as a generator: stand-alone operation with a load. Control of voltage through field excitation	Parallel operation kit	Available & working
8	Demonstration of Components of LT switchgear.	LT switchgear.	Available & working

**(XI)APPLICATIONS OF LAB EXPERIMENTS (FROM THE POINT OF VIEW OF STUDENTS)**

Study of electrical machines and basic networks studied during semester through a practical approach.

**(XII)USEFULNESS FOR THE DEPARTMENT:**

- (iv) Development of industry relation
- (v) R&D projects
- (vi) Consultancy/Testing

**(I)NAME OF LABORATORY : (PEE- 652 Control System Laboratory )**

**(ii) DEPARTMENT :EEE**

**(iii) LOCATION AND NO. : III rd floor Academic Block**

**(IV)COURSE NAME : B.Tech Branch: EEE SEMESTER V I**

**(V)TOTAL NO. OF EXPERIMENTS REQUIRED: 11**

**(AS PER UTU SYLLABUS)**

**(VI)TOTAL NO. OF EXPERIMENTS SET UP IN THE LAB.: 11**

**(VII)NO OF MANUALS IN THE LAB.:6**

**(VIII)NAME OF TEACHER IN CHARGE: Rahul Dubey**

**(IX)OBJECTIVES OF LAB : To learn about the control of operation of machines**

**TABLE: LABORATORY EXPERIMENTS**

S.NO.	Name of Experiments	Apparatus required	Status
1	To use D.C. potentiometers as an error detectors.	Potentiometers error detectors.	Available & working
2	To verify characteristics of (a) self excited magnetic amplifiers, with (i) Positive feedback (ii) Negative feedback	Magnetic amplifiers, Demonstration unit ,Solid state power supply, variac transformer,C.R.O.	Available & working

3	To draw characteristics of (a) Series connected (b) Parallel connected magnetic amplifier.	Magnetic amplifiers Demonstration unit ,Solid state power supply, variac transformer,C.R.O.	Available & working
4	To draw characteristics of synchro torque transmitters. Also draw the characteristics error detector using of two synchros.	Synchro transmitter receiver pair	Available & working
5	To study speed control of universal motor using SCR and stroboscope	C.R.O. ,Tachometer Universal motor trainer kit	Available & working
6	Speed control of AC motor using TRAIC.	Speed control kit of induction motor, induction motor 1/8 H.P.	Available & working
7	determine time domain response of a second order system for step input and obtain performance parameters	Software based (matlab)	Available & working
8	To convert transfer function of a system into state space form and vice-versa.	Software based (matlab)	Available & working
9	Plot root locus diagram of an open loop transfer function and determine range of gain 'k' stability	Software based (matlab)	Available & working
10	To plot a Bode diagram of an open loop transfer function	Software based (matlab)	Available & working
11	To draw a Nyquist plot of an open loop transfer function and examine the stability of the closed loop system.	Software based (matlab)	Available & working

**(XI)APPLICATIONS OF LAB EXPERIMENTS (FROM THE POINT OF VIEW OF STUDENTS)**

**Study of how to control motors and other electrical machines studied in past semester, achieved.**

**(XII)USEFULNESS FOR THE DEPARTMENT:**

- (vii) Development of industry relation
- (viii)R&D projects
- (ix) Consultancy/Testing

**(i)NAME OF LABORATORY : (PEE- 652 Control System Laboratory )**

**(ii) DEPARTMENT :EEE**

**(iii) LOCATION AND NO. : III rd floor Academic Block**

**(IV)COURSE NAME : B.Tech Branch: ME SEMESTER V I**

**(V)TOTAL NO. OF EXPERIMENTS REQUIRED: 11**

**(AS PER UTU SYLLABUS)**

**(VI)TOTAL NO. OF EXPERIMENTS SET UP IN THE LAB.: 11**

**(VII)NO OF MANUALS IN THE LAB.:6**

**(VIII)NAME OF TEACHER IN CHARGE: Rahul Dubey**

**(IX)OBJECTIVES OF LAB : To learn about the control of operation of machines**

**TABLE: LABORATORY EXPERIMENTS**

S.NO.	Name of Experiments	Apparatus required	Status
1	To use D.C. potentiometers as an error detectors.	Potentiometers error detectors.	Available & working
2	To verify characteristics of (a) self excited magnetic amplifiers, with (i) Positive feedback (ii) Negative feedback	Magnetic amplifiers, Demonstration unit ,Solid state power	Available & working

		supply, variac transformer,C.R.O.	
3	To draw characteristics of (a) Series connected (b) Parallel connected magnetic amplifier.	Magnetic amplifiers Demonstration unit ,Solid state power supply, variac transformer,C.R.O.	Available & working
4	To draw characteristics of synchro torque transmitters. Also draw the characteristics error detector using of two synchros.	Synchro transmitter receiver pair	Available & working
5	To study speed control of universal motor using SCR and stroboscope	C.R.O. ,Tachometer Universal motor trainer kit	Available & working
6	Speed control of AC motor using TRAIC.	Speed control kit of induction motor, induction motor 1/8 H.P.	Available & working
7	determine time domain response of a second order system for step input and obtain performance parameters	Software based (matlab)	Available & working
8	To convert transfer function of a system into state space form and vice-versa.	Software based (matlab)	Available & working
9	Plot root locus diagram of an open loop transfer function and determine range of gain 'k' stability	Software based (matlab)	Available & working
10	To plot a Bode diagram of an open loop transfer function	Software based (matlab)	Available & working
11	To draw a Nyquist plot of an open loop transfer function and examine the stability of the closed loop system.	Software based (matlab)	Available & working

**(XI)APPLICATIONS OF LAB EXPERIMENTS (FROM THE POINT OF VIEW OF STUDENTS)**

Study of how to control motors and other electrical machines studied in past semester, achieved.

**(XII)USEFULNESS FOR THE DEPARTMENT:**

- (x) Development of industry relation
- (xi) R&D projects
- (xii) Consultancy/Testing

**(I)NAME OF LABORATORY : (ELECTROMECHANICAL ENERGY CONVERSION- I LAB (PEE-301 )**

**(ii) DEPARTMENT :EEE**

**(iii) LOCATION AND NO. : Ground Floor (EMEC-Lab)**

**(IV)COURSE NAME : B.Tech Branch:EEE SEMESTER III**

**(V)TOTAL NO. OF EXPERIMENTS REQUIRED: 10**

**(AS PER UTU SYLLABUS)**

**(VI)TOTAL NO. OF EXPERIMENTS SET UP IN THE LAB.:10**

**(VII)NO OF MANUALS IN THE LAB.: 10**

**(VIII)NAME OF TEACHER IN CHARGE: Arvind Singh Bisht**

**(IX)OBJECTIVES OF LAB : To learn about the controlling and testing of rotating and stationary electrical machines.**

**TABLE: LABORATORY EXPERIMENTS**

S No	Name of Experiment	Equipment/Software's used	Status
1	To obtain magnetization characteristics of a d.c. shunt generator	d.c. shunt generator and measuring instruments	working
2	To obtain load characteristics of a d.c. compound generator (a) Cummulatively compounded (b) Differentially compounded	compound generator and measuring instruments	Working
3	To obtain load characteristics of a dc shunt generator	dc shunt generator and measuring instruments	Working
4	To obtain efficiency of a dc shunt machine using Swinburn's test	dc shunt machine and measuring instruments	Working
5	To obtain speed-torque characteristics of a dc shunt motor	dc shunt motor and measuring instruments	Working
6	To obtain speed control of dc shunt motor using (a) armature resistance control (b) field control	dc shunt motor and measuring instruments	Working
7	To obtain efficiency and voltage regulation of a single phase transformer by Sumpner's test		Working
8	To obtain equivalent circuit efficiency and voltage regulation of a single phase transformer using OC. and SC test.	single phase transformer and measuring instruments	Working
9	To obtain speed-torque characteristics of a dc series motor	dc series motor and measuring instruments	Working
10	To rotate a dc motor clockwise as well as anticlockwise.	dc motor	Working

**P.T.O**

**(XI)APPLICATIONS OF LAB EXPERIMENTS (FROM THE POINT OF VIEW OF STUDENTS)**

**Use of particular machine in industry.**

**(XII)USEFULNESS FOR THE DEPARTMENT:**

- (i) Development of industry relation
- (ii) R&D projects
- (iii) Consultancy/Testing

**(XIII) PHOTO OF LAB.**

**(I)NAME OF LABORATORY : (ELECTROMECHANICAL ENERGY CONVERSION- II LAB (PEE-454 )**

**(ii) DEPARTMENT :EEE**

**(iii) LOCATION AND NO. : Ground Floor**

**(IV)COURSE NAME : B.Tech Branch:EEE**

**SEMESTER IV**

**(V)TOTAL NO. OF EXPERIMENTS REQUIRED: 10**

**(AS PER UTU SYLLABUS)**

(VI)TOTAL NO. OF EXPERIMENTS SET UP IN THE  
LAB.:10

(VII)NO OF MANUALS IN THE LAB.: 10

(VII)NAME OF LAB ASSISTANT: Rahul Sharma

(X)OBJECTIVES OF LAB : To learn about the controlling and testing of rotating and stationary electrical machines.

TABLE: LABORATORY EXPERIMENTS

S No	Name of Experiment	Equipment/Software's used	Status
1	To obtain magnetization characteristics of a d.c. shunt generator	d.c. shunt generator and measuring instruments	working
2	To obtain load characteristics of a d.c. compound generator (a) Cummulatively compounded (b) Differentially compounded	compound generator and measuring instruments	Working
3	To obtain load characteristics of a dc shunt generator	dc shunt generator and measuring instruments	Working
4	To syudy blocked rotor test on single phase induction motor	Single induction motor and supply	Working
5	To obtain speed-torque characteristics of a dc shunt motor	dc shunt motor and measuring instruments	Working
6	To obtain speed control of dc shunt motor using (a) armature resistance control (b) field control	dc shunt motor and measuring instruments	Working
7	To obtain efficiency and voltage regulation of a single phase transformer by Sumpner's test	single phase transformer and measuring instruments	Working
8	To study blocked rotor test on three phase induction motor	Three phase induction motor and measuring instruments.	Working
9	To obtain speed-torque characteristics of a dc series motor	dc series motor and measuring instruments	Working
10	To study V and inverted V curves of synchronous motor	Three phase synchronous motor and measuring instruments.	Working

P.T.O

(XI)APPLICATIONS OF LAB EXPERIMENTS (FROM THE POINT OF VIEW OF STUDENTS)

Use of particular machine in industry.

(XII)USEFULNESS FOR THE DEPARTMENT:

- (i) Development of industry relation
- (ii) R&D projects
- (iii) Consultancy/Testing

(XIII) PHOTO OF LAB.

(I)NAME OF LABORATORY : (Electric Drive LAB PEE 851 )  
(ii) DEPARTMENT :EEE  
(iii) LOCATION AND NO. : Ground floor Academic Block

(IV) COURSE NAME : B.Tech Branch:EEE

SEMESTER VIII

(V) TOTAL NO. OF EXPERIMENTS REQUIRED: 10  
(AS PER UTU SYLLABUS)

(VI) TOTAL NO. OF EXPERIMENTS SET UP IN THE  
LAB.:10

(VII) NO OF MANUALS IN THE LAB.:10

(VIII) NAME OF TEACHER IN CHARGE: Kuldeep Godiyal

(IX) NAME OF LAB ASSISTANT: Rahul Sharma

(X) OBJECTIVES OF LAB : : Measurement and Study of Characteristics of various electrical Drives.

TABLE: LABORATORY EXPERIMENTS

S No	Name of Experiment	Equipment/Software's used	Status
1	To study speed control of separately excited dc motor by varying armature voltage using fully controlled bridge converter	Panel for dc motor by varying armature voltage using fully controlled bridge converter	working
2	To study speed control of separately excited dc motor by varying armature voltage using Single phase half controlled bridge converter.	Panel for varying armature voltage using Single phase half controlled bridge converter.	working
3	To study speed control of separately excited dc motor by varying armature voltage using Single phase half controlled bridge converter.	Panel for separately excited dc motor with Single phase half controlled bridge converter.	working
4	To study speed control of separately excited dc motor using single phase dual converter (Static Ward-Leonard Control)	Panel for separately excited dc motor with single phase dual converter (Static Ward-Leonard Control)	Working
5	To study closed loop control of separately excited dc motor	Panel for closed loop control of separately excited dc motor	Working
6	To study speed control of single phase induction motor using single phase ac voltage controller.	Panel for speed control of single phase induction motor with single phase ac voltage controller.	working
7	To study speed control of three phase induction motor using three phase ac voltage controller	To study speed control of three phase induction motor using three phase ac voltage controller	working
8	To study starting transient response of three phase induction motor	MAT LAB	working
9	To study speed control of three phase induction motor using (a) constant/V/F control (b) Constant Voltage and frequency control	MAT LAB	working
10	To study starting transient response of separately excited dc motor	MAT LAB	working

**(XI)APPLICATIONS OF LAB EXPERIMENTS (FROM THE POINT OF VIEW OF STUDENTS)**

Study of how to measure electrical quantities studied in theory classes, achieved.

**(XII)USEFULNESS FOR THE DEPARTMENT:**

- (i) Development of industry relation
- (ii) R&D projects
- (iii) Consultancy/Testing

**(I)NAME OF LABORATORY : (NETWORK LAB ) BEEP 305****(ii) DEPARTMENT :EEE****(iii) LOCATION AND NO. : III rd floor Academic Block****(IV)COURSE NAME : B.Tech Branch:EEE/ECE SEMESTER III****(V)TOTAL NO. OF EXPERIMENTS REQUIRED: 10****(AS PER UTU SYLLABUS)****(VI)TOTAL NO. OF EXPERIMENTS SET UP IN THE LAB.:9****(VII)NO OF MANUALS IN THE LAB.:10****(VIII)NAME OF TEACHER IN CHARGE: Vipin Chandra Bhatt****(IX)NAME OF LAB ASSISTANT: Rahul Sharma****(X)OBJECTIVES OF LAB : : Measurement of various electrical quantities (Voltage, current, power, passive elements)****TABLE: LABORATORY EXPERIMENTS**

S No	Name of Experiment	Equipment/Software's used	Status
1	Verification of principle of superposition with dc and ac sources	DC Network Theorem Kit	working
2	Verification of Thevenin, Norton and Maximum power transfer theorems in ac circuits	AC Network Theorem Kit	working
3	Verification of Tellegen's theorem for two networks of the same topology.	AC Network Theorem Kit	working
4	Determination of transient response of current in RL and RC circuits with step voltage input	DSO	working
5	Determination of transient response of current in RLC circuit with step voltage input for under damp, critically damp and over damp cases	DSO	Working
6	Determination of frequency response of current in RLC circuit with sinusoidal ac input	DSO	Working
7	Determination of z and h parameters (dc only) for a network and computation of Y and ABCD parameters	Network Kit	Working

8	Determination of driving point and transfer functions of a two port ladder network and verify with theoretical values.	Network Kit	Working
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P.T.O

**(XI)APPLICATIONS OF LAB EXPERIMENTS (FROM THE POINT OF VIEW OF STUDENTS)**

Study of how to measure electrical quantities studied in theory classes, achieved.

**(XII)USEFULNESS FOR THE DEPARTMENT:**

- (i) Development of industry relation
- (ii) R&D projects
- (iii) Consultancy/Testing

**(I) NAME OF LABORATORY : (Power Electronics LAB PEE 653 )**

**(ii) DEPARTMENT :EEE**

**(iii) LOCATION AND NO. : III rd floor Academic Block**

**(IV)COURSE NAME : B.Tech Branch:EEE SEMESTER VI**

**(V)TOTAL NO. OF EXPERIMENTS REQUIRED: 10  
(AS PER UTU SYLLABUS)**

**(VI)TOTAL NO. OF EXPERIMENTS SET UP IN THE LAB.:10**

**(VII)NO OF MANUALS IN THE LAB.:10**

**(VIII)NAME OF TEACHER IN CHARGE: Arvind Singh Bisht**

**(IX)OBJECTIVES OF LAB : : Measurement and Study of Characteristics of various electrical Drives.**

**TABLE: LABORATORY EXPERIMENTS**

S No	Name of Experiment	Equipment/Software's used	Status
1	To study V-I characteristics of SCR and measure latching and holding currents.	SCR Characteristic kit	working
2	To study UJT trigger circuit for half wave and full wave control.	UJT Trainer Kit	working
3	To study single-phase half wave controlled rectified with (i) resistive load (ii) inductive load Without freewheeling diode	1-phase fully controlled bridge rectifier trainer kit	working
4	To study MOSFET/IGBT based single-phase bridge inverter.	Triggering of IOGBT/MOSFET Trainer kit	Working
5	To study single phase (i) fully controlled (ii) half controlled bridge rectifiers with resistive And inductive loads	1-phase fully controlled bridge rectifier trainer kit	Working
6	To study MOSFET/IGBT based single-phase series-resonant inverter.	Triggering of IOGBT/MOSFET Trainer kit	working
7	To study three-phase fully/half controlled bridge	1-phase fully controlled full and half bridge rectifier trainer kit	working

	rectifier with resistive and inductive load.		
8	To study triggering of (i) IGBT (ii) MOSFET (iii) power transistor	Triggering of IOGBT/MOSFET Trainer kit	working
9	To study single-phase ac voltage regulator with resistive and inductive loads.	1-phase fully controlled bridge rectifier trainer kit	working
10	To obtain simulation of SCR and GTO thyristor.	MAT LAB	working

P.T.O

**(XI)APPLICATIONS OF LAB EXPERIMENTS (FROM THE POINT OF VIEW OF STUDENTS)**

Study of how to measure electrical quantities studied in theory classes, achieved.

**(XII)USEFULNESS FOR THE DEPARTMENT:**

- (i) Development of industry relation
- (ii) R&D projects
- (iii) Consultancy/Testing

(I)NAME OF LABORATORY : (Power System LAB PEE 751 )  
(ii) DEPARTMENT :EEE  
(iii) LOCATION AND NO. : Ground floor Academic Block

(IV)COURSE NAME : B.Tech Branch: EEE SEMESTER VII  
(V)TOTAL NO. OF EXPERIMENTS REQUIRED: 10  
(AS PER UTU SYLLABUS)

(VI)TOTAL NO. OF EXPERIMENTS SET UP IN THE  
LAB.:10

(VII)NO OF MANUALS IN THE LAB.:10

(VIII)NAME OF TEACHER IN CHARGE: Rahul Dubey

(IX)OBJECTIVES OF LAB : : Measurement of various electrical quantities (Voltage, current, power, passive elements)  
**TABLE: LABORATORY EXPERIMENTS**

S No	Name of Experiment	Equipment/Software's used	Status
1	To determine direct axis reactance (xd) and quadrature axis reactance (xq) of a salient pole Alternator.	salient pole Alternator.	working
2	To determine negative and zero sequence reactances of an alternator.	Panel for negative and zero sequence reactances of an alternator.	working
3	To determine sub transient direct axis reactance (xd) and sub transient quadrature axis reactance (xq) of an alternator	Panel for an alternator	working
4	To determine fault current for L-G, L-L, L-L-G and L-L-L faults at the terminals of an alternator at very low excitation	Panel for L-G, L-L, L-L-G and L-L-L faults	Working
5	To study the IDMT over current relay and determine the time current characteristics	IDMT over current relay	Working
6	To study percentage differential relay	differential relay	working
7	To obtain steady state, transient and sub-transient short circuit currents in an alternator	a salient pole Alternator.	working
8	To obtain formation of Y-bus and perform load flow analysis	MAT LAB	working
9	To perform symmetrical fault analysis in a power system	MAT LAB	working
10	To perform unsymmetrical fault analysis in a power system	MAT LAB	working

P.T.O

(XI)APPLICATIONS OF LAB EXPERIMENTS (FROM THE POINT OF VIEW OF STUDENTS)

Study of how to measure electrical quantities studied in theory classes, achieved.

(XII)USEFULNESS FOR THE DEPARTMENT:

- (i) Development of industry relation
- (ii) R&D projects
- (iii) Consultancy/Testing

(I)NAME OF LABORATORY : (MEASUREMENT LAB ) BEEP 301  
(ii) DEPARTMENT :EEE

(iii) LOCATION AND NO. : III rd floor Academic Block

(IV) COURSE NAME : B.Tech Branch:EEE/ECE SEMESTER III

(V) TOTAL NO. OF EXPERIMENTS REQUIRED: 8  
(AS PER UTU SYLLABUS)

(VI) TOTAL NO. OF EXPERIMENTS SET UP IN THE  
LAB.:8

(VII) NO OF MANUALS IN THE LAB.:8

(VIII) NAME OF TEACHER IN CHARGE: Vipin Chandra Bhatt

(IX) NAME OF LAB ASSISTANT: Rahul Sharma

(X) OBJECTIVES OF LAB : : Measurement of various electrical quantities (Voltage, current, power, passive elements)

TABLE: LABORATORY EXPERIMENTS

S No	Name of Experiment	Equipment/Software's used	Status
1	Calibration of AC voltmeter and AC ammeter	Calibration of AC voltmeter and AC ammeter STANDARD AND PRACTICAL	working
2	Measurement of inductance using Maxwell's Bridge	Maxwell's Bridge	working
3	Measurement of capacitance using Schering Bridge	Schering Bridge	working
4	Measurement of low resistance using Kelvin's Double Bridge	KELVIN BRIDGE	working
5	Measurement of Power using CT and PT	CT & PT	Working
6	Measuring displacement using LVDT	LVDT	Working
7	PC based data logging of temperature sensor using Lab VIEW/ MATLAB	MATLAB	Working
8	Signal conditioning of analog signal using Lab VIEW/ MATLAB	MATLAB	Working

P.T.O

(XI) APPLICATIONS OF LAB EXPERIMENTS (FROM THE POINT OF VIEW OF STUDENTS)

Study of how to measure electrical quantities studied in theory classes, achieved.

(XII) USEFULNESS FOR THE DEPARTMENT:

- (i) Development of industry relation
- (ii) R&D projects
- (iii) Consultancy/Testing

## DEPARTMENT OF APPLIED SCIENCES

### Detail of chemistry lab

S.no	List Of practical	Required Apparatus/ Chemical
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1.	Determination of alkalinity in the given water sample	Burette, pipette, volume metric flask, Conical flask, beaker, dropper Hcl, phenolphthalein and methyl orange
2.	Determination of temporary & permanent hardness in water sample using EDTA as standard solution.	Burette, pipette, volume metric flask, Conical flask, beaker EDTA, EBT
3.	Determination of Equivalent weight of Iron by the chemical displacement Method. The equivalent weight of copper is 63.5	Burette, pipette, desiccators Conical flask, beaker, dropper Copper sulphate, KI, Starch
4.	Determination of iron content in the given ore by using external indicator	Burette, pipette, volume metric flask, Conical flask, beaker, tiles, Iron ore, Potassium dichromate, Potassium Ferricyanide
5.	Determination of available chlorine in bleaching powder	Burette, pipette, volume metric flask, Conical flask, beaker, dropper, motor and pestle Bleaching powder ,KI, Acetic acid, Starch
6.	Determination of chloride content in the given water sample by Mohr's method	Burette, pipette, volume metric flask, Conical flask, beaker, dropper, Silver Nitrate, Potassium chromate
7.	Determination of viscosity index of lubricating oil.	Ostwald Viscometer Stop watch, Thermostat Polystyrene and benzene or toluene
8.	Determination of iron concentration in sample of water by colorimetric method. Measurements are carried out at $\lambda_{max}$ 480nm.	Spectrophotometer, Ammonium iron(III)sulphate, hydrochloric acid, Potassium Permanganate ,Bromine water, Nitric acid, Potassium thiocyanate
9.	Determination of heat of neutralization of Hydrochloric acid & Sodium hydroxide	Thermos Flask, Glass Stirrer, Thermometer, Stop watch, beaker, Measuring Cylinder, Sodium Hydroxide, Hydrochloric acid
10.	Determination of saponification value of lubricating oil & vegetable oil.	Water bath, condenser, round bottom flask, Burette, pipette, Conical flask, Hydrochloric acid, KOH and phenolphthalein
11.	Separation of metal ions by paper chromatography	Filter paper sheet, sporting capillaries ,developing tank with cover, potassium chromate, Lead Nitrate, Silver Nitrate, Nitric acid

#### Other apparatus and chemical

S.no	INSTRUMENTS & CHEMICALS	S.no	Ammonium Chloride
1.	Ph meter	32.	Calcium Chloride
2.	Digital Spectro- colorimeter	33.	Calcium carbonate
3.	Separating Funnel	34.	Oxalic acid
4.	Magnetic Stirrer	35.	Buffer solutions
5.	Heating Mantle	36.	Acetone
6.	Water Bath	37.	Ammonia buffer solution
7.	Oven	39.	Citric acid
8.	Digital Balance	40.	Ferrous Sulphate
9.	Gas supply(30 connection)	41.	Ferrous Sulphide
10.	Burner	42.	Methylene Blue
11.	Distillation Plant	43.	Iodine
12.	Spirit lamp	44.	Sodium Hydroxide

13.	Desiccators	45	Sodium Carbonate
14.	Sheet of filter paper	46.	Sulphuric acid
15.	Watch glass	47.	Sodiumdisulphate
16.	Special brushes	48.	Sodium Sulphite
17.	Round Bottom Flask(3000ml)	49	Sodium Chloride
18.	Stop Watch	50	Potassium Chloride
19.	Porcelain Dish	51	O-Cresol
20.	Burette	52	Phenol
21.	Burette stand with clamps	53	Silicon Grease
22.	Beaker (glass)(500ml, 250ml,100ml)	54	Ranksolv
23.	Pipette Glass	55	Copper Sulphate Hydrate
24.	Measuring Cylinder (100ml,50ml, 10ml)	56	Potassium Hexa- Cynoferrate
25.	Funnel(glass)	57	Iron sulphatehepta hydrate
26.	Funnel(plastic)	58.	Heptene
27.	Measuring Cylinder (500ml,250ml)	59	Propene 2-ol
28.	Separating funnel holder	60	Ammonium Chloride
29.	tongs		
30.	Reagent bottles		

## Detail of Physics lab

- |              |   |   |
|--------------|---|---|
| <b>(i)</b>   | <b>Name of laboratory</b>                               | <b>Physics</b>  |
| <b>(ii)</b>  | Department  | Applied Science   |
| <b>(iii)</b> | Location and No.  | First Floor (AS P 02)   |
| <b>(iv)</b>  | Course name : B.Tech.      Branch : I Year Lab          | Year Lab Semester :<br>I/II   |
| <b>(v)</b>   | Total no. of experiments required (as per UTU sullabus) | 10  |
| <b>(vi)</b>  | Total no. of experiments setup in the lab               | 12  |
| <b>(vii)</b> | No. of manuals in the lab                               | 12  |
| <b>(x)</b>   | Objectives of lab                                       | To provide basic knowledge of engineering physics related equipment handling and to get familiar students with various physical phenomenon. |

S.No.	Name of Experiment	Equipment/Software's used	Status
1	To study the Hall effect and calculate the Hall coefficient, carrier density and mobility of the charge carrier.	Constant current source, electromagnetic Hall effect setup, Hall probe, manual, digital Gauss meter.	Working
2	To draw hysteresis curve for a given specimen of Ferromagnetic material and calculate the retentivity, coercivity and magnetic susceptibility.	CRO, hysteresis loop tracer, sample thin rod, pick up coil, laboratory manual, connecting wire, oscilloscope operating manual.	Working
3	To determine the value of coefficient of viscosity of water by Poiscuille's method	Capillary tube of uniform bore and a constant level raiser board manometer, stop watch, travelling microscope, clip stand.	Working
4	To determine the specific resistance of a given wire material by using Carey Foster's bridge.	Leclanche cell, Carrey foster bridge, decimal Ohm box, galvanometer, thick copper strip, one way plug key, sliding rheostate of 10 ohm, connecting wire, jokey, resistance wire, screw guage, ammonium chloride (500g)	Working
5	To verify the Stefan's law of radiation by electrical method.	Stefan's setup	Working

6	To determine the variation of magnetic field along the axis of current carrying circular coil and estimate the radius of coil.	Compass box, constant current source, commutator, set of wire for connection, coil bench, spirit level.	Working
7	Determination of focal length of two lenses by Nodal slide and locate the position of cardinal points.	nodal slide arrangement, optical bench, plane mirror, cross slit, lamp, convex lens ( $f = 20\text{cm}$ ), lens stand.	Working
8	To calibrate given ammeter and voltmeter by using the potentiometer.	Potentiometer (1200cm), jokey, rheostat (105 ohm), rheostat (22 ohm), galvanometer, ammeter, voltmeter, standardcell (carrying a 1.26 V, 1.5 V and 2.8 V), two way key, , resistor box (1 ohm), connecting wires.	Working
9	To determine the specific rotation of cane-sugar solution using Half Shade Polarimeter.	Light source + keeping box, polarimeter (with a sensitive device), flask (100 cc), beaker, funnel, pipette, analytical balance and weight box.	Working
10	Determination of wavelength of monochromatic light with Newton's ring method.	plano-convex lens, plane glass plate, optical arrangement for Newton' ring, sodium lamp + keeping box, travelling microscope, sodium lamp transformer.	Working
11	To determine the wavelength of spectral lines using Plane Transmission Grating	Spectrometer, mercury lamp, prism, reading lens, plane transmission grating.	Working
12	Determination of wavelength of monochromatic light by Fresnel's Biprism.	Optical bench with four upright stand, convex lens, Fresnel's biprism micrometer eyepiece, sodium lamp + keeping box, touch and reading lens.	Working

### Computing Facilities:

<b>Internet Bandwidth</b>	:	1000 MBPS
<b>Number and configuration of system</b>	:	830 system
<b>Total no. of system connected by LAN</b>	:	1:1
<b>Total no. of system connected by WAN</b>	:	1:1
<b>Major software packages available</b>	:	Yes
<b>Special purpose facilities available</b>	:	Yes
(Conduct of online Meetings/Webinars/Workshops,etc.)		
<b>Facilities for Conduct of classes/courses in online Mode (Theory &amp; Practical)</b>	:	Yes
<b>Innovation Cell</b>	:	Yes
<b>Social Media Cell</b>	:	Yes
<b>Games and sports Facilities</b>	:	Yes

### List of facilities available

#### A. Games and Sports Facilities

- The college has playfields within its campus for Athletics events, Football, Cricket, Volleyball, Basketball, Badminton court etc.
- Every year the affiliating university conducts Inter-Institute sports activities and the college conduct Inter-Department Tournaments for Football, Cricket, Volleyball, Basket Ball, Table Tennis, Badminton, Carom, Chess and Yoga Camp .
- The college has teams for above mentioned games who participate in different competitions at various levels.
- The college provides training facilities for the college team for each game including athletics, requisite equipment, and also has facility of Gymnasium with all exercise and physical training instruments along with qualified trainer.
- The college has a constituted a committee who are responsible for overall planning, supervision and execution of all sports related activities.

### Sports Facilities To Develop The Fitness and Concentration Level of The Students.

Nowadays, students are so busy compiling their projects and assessment, so they need time to restrain and boost their power. Since there is a fuss in the academics and it is hard for each student to excel in studies so, it is an advantage to be a part of any extracurricular activity. It will not only help you to reduce your stress but can also help you to develop yourself as a successful athlete. Therefore, it is necessary to have **sports** facilities in college. The **Shivalik College of Engineering Dehradun** is one of the most popular colleges known for its Sports facilities.

Today, I am going to discuss some points about the importance of Sports in College.

### **Active Students**

The right promotion of the sports facilities in the college will result in the engagement of a large number of students and faculty. The sports always attract students and it will lead to a healthier environment. The sports facility in a common area in the college campus will force the students to be more active. The authorities have to take responsibility to ensure the engagement and participation of the students in the sports.

### **Hosting Sports events**

Sports facilities at the **college campus** will allow the college to host various events. Some events like Inter College Sports Fest, Sports Meet, Indoor Games Competitions, Sports Function, etc. These events will attract the students to come to college. The events will engage the students and help them to discover their talent in sports.

### **Attracts students and visitors**

In the current scenario, the students like the college, which have better facilities. Sports facility is one of those facilities, which attract students and visitors. A good sports facility in the college will conduct a message to the visitors that, the college is diligence and dedicated to providing a friendly and healthy environment for the students.

### **Improve the Academic performance**

The students engaged in sports have good academic performance in college. The students evolve the coordination and enthusiasm for the studies as well as the athletic program. The sports facilities will improve and develop the fitness and concentration level of the students.

### **Skills Development**

Playing sports build many skills in a student like teamwork, leadership, self- confidence, etc. Other than these qualities, student succeeds in developing the ability of thinking in critical situations. Time management is one focused ability a student develops which will help him in managing time between college, friends, and family.

If you do not want to play these sports than engage yourself in less intense sports like swimming, martial arts, yoga, and gymnastics. These sports provide physical fitness and mental peace to the students.

1. **Outdoor and Indoor Sports Facilities:** Every student is encouraged to take active part in at least one outdoor activity. Shivalik College of Engineering has set up facilities/grounds for Cricket, Football, Basketball, Volleyball, Table-Tennis, Badminton, Chess, Carrom, etc., and league matches are encouraged. We are also planning an inter-college sports tournaments to develop a spirit of healthy competition.
2. **Special Coaching:** We are proud to have quite a few states-level players who have played in the Nationals. One of our students was selected for the heats of a 5000 meter race in the Commonwealth games. Another student has represented India in Basketball .We plan to arrange special coaching for them so that they make our nation proud.
3. **Gymnasium:** In order to ensure a sound body and mind, students are given special attention on health and fitness. A modern gym, with all the latest gadgets has been set up in the hostel.
4. **Adventure:** Taking advantage of the natural beauty of the surrounding Shivalik hills, an 'adventure club' has been formed by students, who organize camps for nature-walks, trekking and hiking.
5. While games, sports and athletics directly contribute to physical development of students, other co-curricular activities also indirectly contribute to it. These activities provide a useful channel for the growth and development of the body.

### **B. Cultural events/ activities.**

- The Shivalik College of Engineering organizes its annual cultural and techno-managerial festival "**SHIVAFEST**" with great fan fair and enthusiasm. This event brings to the campus artists and celebrity of

national and international repute. Inter department Competitions in cultural events like Music, Dance, Debate, Quiz, management and technical events are also organized periodically.

- The college provides special trainings to cultural team members and supports with requisite (musical instruments, sound systems, peripherals etc.).
- The Shivalik College of Engineering has National Service Scheme (NSS) and National Cadet Corps(NCC) cell with a large number of student volunteers and programme officers who conduct several societal and need-based programmes in the college and also outside by adopting villages and slums.
- The programmes usually undertaken by NSS units are plantation of trees, blood donation camps, participation in National Integration camp, health check- up camps, yoga and meditation camp, awareness rallies etc.
- Students also learn from activities that are centric to their course of study by participating in activity clubs.

<b>Extra- Curricular Activities</b>	:	Yes
<b>Soft Skill Development Facilities</b>	:	Yes
<b>Teaching Learning Process</b>	:	Yes
<b>Academic Sessions</b>	:	2025-2026
<b>Examination system</b>	:	Semester wise
<b>Period of declaration of results</b>	:	As per university calendar
<b>Counseling / Mentoring</b>	:	Teacher mentoring system in followed.
<b>Career Counseling:</b>	A full fledged training and Placement cell is functioning in the College	

<b>Medical facilities</b>	:	Yes
<b>Student Insurance</b>	:	Yes
<b>Students Activity Body</b>	:	Yes

<b>Cultural activities</b>	:	Yes (College and University level)
<b>Sports activities</b>	:	Yes (College and University level)
<b>Literary activities</b>	:	Yes (College and University level)
<b>Magazine / Newsletter</b>	:	Yes (College and University level
Monthly/Yearly Magazine)		
<b>Technical activities / TechFest</b>	:	Yes
<b>Industrial Visits / Tours</b>	:	Yes (In accordance to the syllabus requirement)

**Alumni activities** : Yes, <https://alumni.shivalikcollege.edu.in>

<b>Name of the Information Officer for RTI</b>	:	Dr. T. S. Sidhu
<b>Designation</b>	:	Director
<b>Phone number</b>	:	0135-2693401-02
<b>with STD code</b>		
<b>FAX number</b>	:	0135-2693425
<b>with STD code</b>		
<b>Email</b>	:	info@sce.org.in

CAY=Current Academic Year

\*Repeat this template for each department / staff.

#Repeat this template for additional quota, if any.

**17. List of Research Projects/Consultancy Works.** : Yes, <https://shivalikcollege.edu.in/research/>

**Number of Projects carried out, funding agency, Grant received.**

Publication (if

MOUs with Industries/Societies:  
[us/collaborations/](https://shivalikcollege.edu.in/about-us/collaborations/)

: Yes, [https://shivalikcollege.edu.in/about-](https://shivalikcollege.edu.in/about-us/collaborations/)

18. LOA and Subsequent EOA till the current Academic Year : Yes,  
<https://shivalikcollege.edu.in/about-us/affiliation-approvals/>

19. Accounted Audited Statement for last three years : Yes,

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