

# MANDATORY DISCLOSURE

## 1. Name of the Institution

- **Address including Telephone, Mobile, E-Mail**

SOPHITORIUM ENGINEERING COLLEGE  
BANIATANGI, KHORDHA, ODISHA – 752060  
TEL PH- 06755- 243700, MOBILE: 9238392780  
E-Mail : info@sophitorium.org

## 2. Name and address of the Trust/ Society/ Company and the Trustees

- **Address including Telephone, Mobile, E-Mail**

HERITAGE CHARITABLE TRUST  
RAMACHANDRA PUR BAZAR, JATNI, KHORDHA, ODISHA-752050  
TEL PH : 0674-2492614 MOBILE: 9238392780  
E-Mail : info@sophitorium.org

## 3. Name and Address of the Vice Chancellor/ Principal/ Director

- **Address including Telephone, Mobile, E-Mail**

Dr HIMANSU MOHAN PADHY (PRINCIPAL)  
RAMACHANDRA PUR BAZAR, JATNI, KHORDHA, ODISHA-752050  
TEL PH- 06755- 243702, MOBILE: 9238392780  
E-Mail : principal@sophitorium.org

## 4. Name of the affiliating University:

BIJU PATNAIK UNIVERSITY OF TECHNOLOGY (BPUT), ROURKELA

## 5. Governance

- **Members of the Board and their brief background:**

The Board of Trustees has been formed as per the constitutional guidelines of TRUST. The organisation “SOPHITORIUM ENGINEERING COLLEGE” is established under “Heritage Charitable Trust”. The trust has been formed with contributions from a group of dedicated academicians. The board of trustees of the trust consists of a group of dedicated educationalists with a determined mind to promote education in ODISHA. In addition to the above they have extended different other activities as : Under the Sophitorium Life Skills Wing, we had conducted various social activities like Yoga Camps, Free Medical Camps, Relief Camps during disaster programmes etc. Under the Sophitorium Research Foundation, We have a pool of research scientists and we have undertaken the following projects

a. Dept. of Science & Technology, New Delhi Sponsored project on Participation of Youngsters in real time observation to benefit education.

b. Field study using Mobile Palmtops : Sponsored by OSDMA, Govt. of ODISHA and ISRO, Govt of India.

Members:

- i. Dr Himansu Mohan Padhy
  - Chairman of the Trust
  - Holds Ph.D Degree in Electronics
  - An Educationalist by Profession
  - Has discharged responsibilities in the position of Vice Principal, Professor and Head of Departments of different Engineering Colleges having more than 27 years of experience
  - Member of different professional bodies of international and national stature.
  - Involved in academic, administrative and development activities of different Engineering Colleges a Consultant and Visiting Professor.
  - Principal Investigator of different R & D Projects funded by Govt. of India.
  - Founder Secretary of the Technocrats Group of Organizations.
  
- ii. Dr Pranati Mishra
  - Secretary of the Trust
  - Holds Ph.D Degree in Electronics
  - An Educationalist by Profession
  - Has discharged responsibilities in the position of Assistant Professor and Head of Departments of different Engineering Colleges having more than 15 years of experience
  - Member of different professional bodies of international and national stature.
  - Involved in academic, administrative and development activities of different Engineering Colleges a Consultant and Visiting Professor.
  - Principal Investigator of different R & D Projects funded by Govt. of India

• **Members of Academic Advisory Body:**

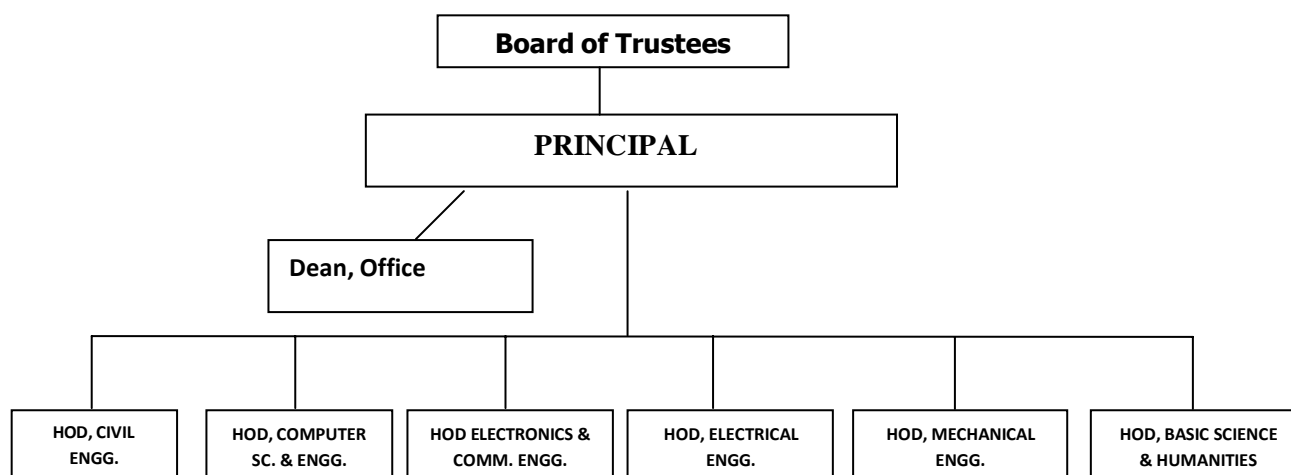
- ❖ Prof. (Dr.) Ganapati Panda, Professor & Head IIT, Bhubaneswar
- ❖ Prof. (Dr.) P K Sahu, Asst. Professor, IIT, Bhubaneswar
- ❖ Dr G Behera, Group Director, NRSC, Hyderabad
- ❖ Dr I Ahmed, Dept of Science & Technology, GOI, New Delhi
- ❖ Prof M C Khan, Ex-Vice Chancellor, Berhampur University
- ❖ Prof V S Murthy, IIT, Madras
- ❖ Prof S K Dash, IIT, Delhi
- ❖ Mr P K Dash, HPCL Pvt. Ltd

• **Frequency of the Board Meetings and Academic Advisory Body:**

The Board of Governor used to meet at least four times a year as per provision under the memorandum of association of the trust. How eve as per the need they used to meet to frame policies and monitor its implementation. The details of the meetings are recorded in the “Minutes Book” of the trust. The academic advisory body meets once every year.

- **Organizational chart and processes:**

For the day to day management the organizational hierarchy is maintained as given;



The Role and Responsibilities of the Key senior positions are defined as below:

**Board of Trustees:**

1. Overall management of the organization.
2. Determines the strategy of the college.
3. Overall administration of the organization.
4. Financial Management of the organization.
5. Review Students Complaint.
6. Continuous improvement.

**Principal:**

1. To ensure proper discipline in the college
2. To supervise day-to-day operation of the college including students health and safety.
3. To ensure that faculty heads are imparting education as per plan.
4. To interact with students, their representatives and listen to their problems and find solutions.
5. To see that quality policy and quality objectives are met
6. To ensure that the syllabus is followed in time.
7. To ensure that the examinations are held as per schedule.
8. To ensure that weak students are given adequate education and good students are recognized.
9. To arrange for bench marking of students
10. To interact with parents and also with customers from time to time to produce quality students.
11. To interact with chairman and directors for growth and prospectus of the college with an action plan.
12. Identification and training needs of Faculty and staff and arrangement to provide the same.
13. As he is the top executive stationed at college, it is his responsibility to make the college a best college with name and fame and imparting quality education. The parents should

feel safe and relaxed to hand over their children to a college under his dynamic leadership. Majority of the students are to achieve highest grade so that they will get admission in the next organization /college with ease.

**Faculty Heads (HODs):**

1. To plan time frame chart to impart quality education for the year as per Syllabus for all classes.
2. To implement the above chart for all classes in the college.
3. To ensure that examinations are held as per schedule on time.
4. To identify weak students in each class and impart tutorials. Also ensure periodic evaluation to verify the result of improvement.
5. Identify good students and encourage and provide all help for all round improvement so that the student can seat for Competitive examination in the next organisation/College. Also he will participate in various competitions in national and international label.
6. Instruct teachers to make the class as interesting as possible. They must read out life stories of great man. It is quite possible that some of your students would rise to such great heights. This is to be done besides courses of study as per syllabus.
7. Identify training needs of your teachers and arrange to impart them.
8. Obtain sanction for resources from Director/Chairman for this purpose.

**Dean:**

1. Responsible for overall administration of the college.
2. Responsible for Planning and follow up of Training Program, meeting Training needs.
3. Responsible for deployment of Quality Policy/objective in his department.
4. Responsible for maintaining discipline in SEC college.
5. Interaction with students and their parents as and when required.
6. Arrange alternate teaching staff/ nonteaching staff in case of absenteeism.
7. Suggestion Scheme implementation.
8. Overall improvement of college.

**Faculty:**

1. Identify weak students and recommend to HOD for Tutorials
2. Identify good students and provide all support and help for further development.
3. Teachers to make the class as interesting as possible. They must read out life stories of great man. It is quite possible that some of your students would rise to such great heights. This is to be done besides courses of study as per syllabus.
4. Ensure that the student understands the subject taught in the class by you. Ask questions to weaker students. Avoid students learning by heart with out understanding it.
5. Ensure quality education is imparted as per time frame. Ensure examinations are held on time.

- **Nature and Extent of involvement of Faculty and students in academic affairs/improvements:**
  1. Regular seminars are conducted and students encouraged to participate
  2. Through Proctorial systems continuous effort is made to keep track of the performance of the students and applies the same to the parents.
  3. Tutorial Classes and extra classes beyond time table are taken by different departments for weak Students.
  4. Group Discussion and other communicative exercise are conducted to develop communication skill in Students
- **Mechanism/ Norms and Procedure for democratic/ good Governance:**
  1. All the Departments have been given complete autonomy under the direct stewardship of concerned HODs
  2. The Management at SEC does not interfere in the academic activities of the institute and the Principal has complete autonomy to take all academic decisions as he may deem fit.
  3. All Procedures as per the Consulting agency of ISO has been followed for a good governance.
- **Student Feedback on Institutional Governance/ Faculty performance:**
  1. Students are encouraged to give their comments/feedback on the institutional governance through e-mail: [info@sophitorium.org](mailto:info@sophitorium.org).
  2. Principal maintains a separate confidential complain box for the same purpose.
  3. Besides students feedback is treated as one of mandatory steps during selection of a Teacher.
- **Grievance Redressal mechanism for Faculty, staff and students:**

Faculties as well as Supporting Staffs put forth their grievances through the Principal. Management take utmost care to redress the same at the earliest.
- **Establishment of Anti Ragging Committee:**

Anti ragging committee, constituted by the Principal takes care with utmost sincerity that the campus is ragging free. Various notice, posters are published at various time to ensure our tag for ragging free campus. We are happy to declare that no case of ragging has been reported till date, since the establishment of the institution.
- **Establishment of Online Grievance Redressal Mechanism**

Yes, it is operative in the institution.
- **Establishment of Grievance Redressal Committee in the Institution and Appointment of OMBUDSMAN by the University**

Yes, the Principal, has appointed an OMBUDSMAN, who is heading the committee.
- **Establishment of Internal Complaint Committee (ICC)**

Yes, an internal complaint committee is appointed by the Director and is operating sincerely to redress the internal committee, if any
- **Establishment of Committee for SC/ ST**

One dedicated committee for the welfare of the SC/ ST students is operative in the institution under the guidance of a senior professor. One welfare officer is the member convener of the committee. The committee ensures the welfare of the SC/ ST students in the institution.

- **Internal Quality Assurance Cell**

The quality assurance Cell in the institution is sincerely working day and night to ensure the delivery of qualitative academic activities in the institution

## 6. Programmes

- Name of Programmes approved by AICTE : B.Tech
- Name of Programmes Accredited by AICTE : APPLIED
- Status of Accreditation of the Courses
  - Total number of Courses 05
  - No. of Courses for which applied for Accreditation 02
  - Status of Accreditation – Preliminary/ Applied for SAR and results awaited/  
Applied for SAR and visits completed/ Results of the visits awaited/ Rejected/  
Approved for ..... Courses : Preliminary
- For each Programme the following details are to be given:
  - Name : B.Tech in Civil Engineering
  - Number of seats 60
  - Duration : 4 Years
  - Cut off marks/rank of admission during the last three years :  
45% for General Category & 40% for SC/ST Category  
Physics and Mathematics as compulsory subjects  
along with one of the Chemistry/ Biotechnology/  
Biology/ Technical Vocational subject/ Computer  
Science/ Information Technology/ Informatics  
Practices/ Agriculture/ Engineering Graphics/  
Business Studies
  - Fee : 50,000/- per Annum
  - Placement Facilities : Yes
- Campus placement in last three years with minimum salary, maximum salary and average salary
  - Minimum Salary : 4,80,000/- per year
  - Maximum Salary : 8,40,000/- per year
  - Average Salary : 6,70,000/- per year
- Name : B.Tech in Civil Engineering (Direct 2<sup>nd</sup> Year Admission)
- Number of seats 60
- Duration : 3 Years
- Cut off marks/rank of admission during the last three years :  
45% for General Category & 40% for SC/ST Category  
Physics and Mathematics as compulsory subjects  
along with one of the Chemistry/ Biotechnology/  
Biology/ Technical Vocational subject/ Computer  
Science/ Information Technology/ Informatics  
Practices/ Agriculture/ Engineering Graphics/  
Business Studies
- Fee : 50,000/- per Annum
- Placement Facilities : Yes

- Campus placement in last three years with minimum salary, maximum salary and average salary
  - Minimum Salary : 4,80,000/- per year
  - Maximum Salary : 8,40,000/- per year
  - Average Salary : 7,10,000/- per year
  
- Name : B.Tech in Computer Science & Engineering
- Number of seats : 60
- Duration : 4 Years
- Cut off marks/rank of admission during the last three years :
  - 45% for General Category & 40% for SC/ST Category
  - Physics and Mathematics as compulsory subjects along with one of the Chemistry/ Biotechnology/ Biology/ Technical Vocational subject/ Computer Science/ Information Technology/ Informatics Practices/ Agriculture/ Engineering Graphics/ Business Studies
- Fee : 50,000/- per Annum
- Placement Facilities : Yes
- Campus placement in last three years with minimum salary, maximum salary and average salary
  - Minimum Salary : 3,60,000/- per year
  - Maximum Salary : 7,20,000/- per year
  - Average Salary : 5,20,000/- per year
  
- Name : B.Tech in Electrical Engineering
- Number of seats : 60
- Duration : 4 Years
- Cut off marks/rank of admission during the last three years :
  - 45% for General Category & 40% for SC/ST Category
  - Physics and Mathematics as compulsory subjects along with one of the Chemistry/ Biotechnology/ Biology/ Technical Vocational subject/ Computer Science/ Information Technology/ Informatics Practices/ Agriculture/ Engineering Graphics/ Business Studies
- Fee : 50,000/- per Annum
- Placement Facilities : Yes
- Campus placement in last three years with minimum salary, maximum salary and average salary
  - Minimum Salary : 4,80,000/- per year
  - Maximum Salary : 8,40,000/- per year
  - Average Salary : 5,80,000/- per year
  
- Name : B.Tech in Electronics & Communication Engineering
- Number of seats : 120
- Duration : 4 Years

- Cut off marks/rank of admission during the last three years :  
45% for General Category & 40% for SC/ST Category  
Physics and Mathematics as compulsory subjects  
along with one of the Chemistry/ Biotechnology/  
Biology/ Technical Vocational subject/ Computer  
Science/ Information Technology/ Informatics  
Practices/ Agriculture/ Engineering Graphics/  
Business Studies
- Fee : 50,000/- per Annum
- Placement Facilities : Yes
- Campus placement in last three years with minimum salary, maximum salary and average salary
  - Minimum Salary : 3,60,000/- per year
  - Maximum Salary : 7,20,000/- per year
  - Average Salary : 4,80,000/- per year
- Name : B.Tech in Mechanical Engineering
- Number of seats : 60
- Duration : 4 Years
- Cut off marks/rank of admission during the last three years :  
45% for General Category & 40% for SC/ST Category  
Physics and Mathematics as compulsory subjects  
along with one of the Chemistry/ Biotechnology/  
Biology/ Technical Vocational subject/ Computer  
Science/ Information Technology/ Informatics  
Practices/ Agriculture/ Engineering Graphics/  
Business Studies
- Fee : 50,000/- per Annum
- Placement Facilities : Yes
- Campus placement in last three years with minimum salary, maximum salary and average salary
  - Minimum Salary : 4,80,000/- per year
  - Maximum Salary : 8,40,000/- per year
  - Average Salary : 6,80,000/- per year
- **Name and duration of programme(s) having Twinning and Collaboration with Foreign University(s) and being run in the same Campus along with status of their AICTE approval. If there is Foreign Collaboration, give the following details** : NOT APPLICABLE  
Details of the Foreign University
  - Name of the University
  - Address
  - Website
  - Accreditation status of the University in its Home Country
  - Ranking of the University in the Home Country
  - Whether the degree offered is equivalent to an Indian Degree? If yes, the name of the agency which has approved equivalence. If no, implications for students in terms of pursuit of higher studies in India and abroad and job both within and outside the country
  - Nature of Collaboration



- Conditions of Collaboration
- Complete details of payment a student has to make to get the full benefit of Collaboration
- **For each Programme Collaborated provide the following:** NOT APPLICABLE
  - Programme Focus
  - Number of seats
  - Admission Procedure
  - Fee
  - Placement Facility
  - Placement Records for last three years with minimum salary, maximum salary and average salary
- **Whether the Collaboration Programme is approved by AICTE? If not whether the Domestic/Foreign University has applied to AICTE for approval** : NOT APPLICABLE

## 7. Faculty

- **Branch wise list Faculty members:**

Civil Engineering	24
Computer Science & Engineering	15
Electrical Engineering	15
Electronics & Communication Engineering	24
Mechanical Engineering	24

- Permanent Faculty 102
- Adjunct Faculty 0
- Permanent Faculty: Student Ratio : 19: 01
- Number of Faculty employed and left during the last three years : 28

## 8. Profile of Vice Chancellor/ Director/ Principal/ Faculty

For each Faculty give a page covering with Passport size photograph

### Dr. HIMANSU MOHAN PADHY (Principal)

#### Qualification :

- **Ph. D. in Electronics, Under the guidance of Dr. V.S. Murty, IIT, Madras.**
- **Master's degree in Electronics with 78.7% of marks .**
- **Graduation, with FIRST class Honours and Distinction having 73% of marks.**
- **FELLOW MEMBER, Institution of Electrical Engineers (INDIA)**
- **M.I.E. from Institution of Engineers (India)**
- **CHARTERED ENGINEER(I), from Institution of Engineers (India)**
- **M.I.E.T.E., from Institution of Electronics & Telecommunication Engineers (India)**

#### Experience : (Total TWENTY SEVEN years)

- ◆ Worked as SERVICE ENGINEER at M/s Computer Hardware Centre, New Delhi from June 1992 to Nov. 1994. : **Two Year and SIX months**; Job included: Maintenance of software and hardware to customers.
- ◆ Was **Lecturer** in the **Dept. of Electronics, Berhampur University** from 6<sup>th</sup> Dec. 1994 to 19<sup>th</sup> August 1999 with additional charge of **System administrator** of the

computer network of Berhampur University.: **Four Years Nine months**; Job included : Teaching to Post-Graduate students of Electronics, both Theory and Practical, managing the network and other day to day activities.

◆ Worked as **Sr. Lecturer** in the Department of Electronics Instrumentation and Electronics Communication Engineering, G.I.E.T., Gunupur along with the additional responsibility of **Academic Bursar** to look after all academic affairs of organisation, since 20<sup>th</sup> August 1999 till 31.01.03: **THREE years and SIX months**.

◆ Promoted to the post of **Assistant Professor**, since 01.02.03, with the same additional responsibility of Academic Bursar and continuing in the same post till 03.06.03.

◆ **Vice Principal, Professor and Head**, Department of Electronics & Telecommunication Engg.. Konark Institute of Science & Technology, Jatni, Khurda, Bhubaneswar w.e.f. 04.06.03 to 30-09-08

◆ **Professor** in Dept. of Electronics in Krupajal Engineering College from 1-10-09 to 30-04-09.

◆ **Principal**, Sophitorium Engineering College, Khurda, Odisha w.e.f 1.05.09 till date.

### **Contribution for the Development of the Laboratories :**

The undersigned had resumed his service at all the three previous organizations, at the very infancy of the institution and has shared a lot in the upliftment of the organization and also in setting up the laboratories. It is worth mentioning that the Laboratories set up in my present institution are defined as the MODEL LABORATORIES” by AICTE authorities. The laboratories, which I had set up are

- Digital Signal Processing Lab ( with 45 computer systems)
- VLSI Design Lab. ( With 45 Computer Systems)
- Instrumentation Design Lab ( With 45 Computer Systems)
- Micro Processor & Microcontroller Lab ( Having all hardware of Computer Systems).
- Process Control Instrumentation Lab ( with 45 Computer Systems)
- Alongwith all fundamental labs like Basic Electronics, Analog/ Digital Lab, Communication Labs etc.

### **Publication of Research papers :**

- 1.H.M.Padhy & V.S. Murty : Recent trends in Semiconductor Technology; . Physics Society.
- 2.H.M. Padhy, R. K. Patro & V. S. Murty : Properties of Sidoped GaAs layers grown on (411)A GaAs substrates by molecular beam epitaxy: J. National – 02 CSIR, India
- 3.N.K. Swarnakar & H.M.Padhy : Evolution of Mercury Cadmium Telluride as IR detector material; J. National CSIR India
- 4.H.M.Padhy & V S Murty: Properties of InAs/InAlAs heterostructures ; J. National IETE India.
- 5.G. Panda, S. K. Meher, B. Majhi & H. M. Padhy : An efficient approach to face recognition using radial basis functional neural network ; J. Technical Annual; Institution of Engineers (India)
- 6.V.S. Murty & H.M. Padhy: WAP enabled Telemedicine; J. National Seminar; CSIR.
- 7.H.M.Padhy, S K Padhy & V S Murty : Technology behind WAP; J. National ; CSIR (India)
8. H.M.Padhy, P.K.Sahu, Sanjay C. Gowre, J.C. Biswas, S.Mahapatra : Temperature insensitive fibre Bragg grating sensor for smart structure applications. J. International Conference on Automation - 06, Nagpur

9. H.M.Padhy, P.K.Sahu, S.Mahapatra, J.C. Biswas : Design and simulation of Multi channel FBG based dispersion compensator for communication application using an inverse scattering algorithm. J. International Conference on Codec – 06, Kolkata.
10. H. M. Padhy, P. K. Sahu, S. K. Gowre, S. K. Mohapatra, J. C. Biswas : Design and simulation of a PRBS coded Fibre Bragg Grating temperature sensor: J. International Conference, held 16-19 April 2007 at Prague, Czech Republic, Europe
11. H. M. Padhy, P. K. Sahu, P. Mishra, S. K. Mohapatra, J. C. Biswas: High performance Optical Time Domain Reflectometry Design and Implementation using Prometheus Orthonormal Code. ICIIS 2007, 8 – 11 August 2007, Second International Conference on Industrial and Information Systems, Department of Electrical and Electronic Engineering, University of Peradeniya, Sri Lanka. (Sponsorship for Travel grant received from AICTE, New Delhi)
12. H.M.Padhy, P Mishra, N Suresh Kumar: Infrared Rays are Green Energy in Medical Science Helps Increasing Blood Flow: International Journal of Electronics Communication and Computer Engineering: (ISSN:2249- 071X), Volume – 3, Issue – 5, Sept 2012.
13. H.M.Padhy, P. Mishra, R Sridevi, P Jagannadha Rao: ICT Enabled Techniques in Bio-Medical Instrumentation with simple Developed Graphics Tools”: Global Journal of Medical Research(ISSN:0975-5888): Volume 12, Issue – 10, October 2012.

#### **Project Guidance :**

1. Guided 40 students for realization of their project work for the award of the M. Tech. Degrees in Computer Sc and Electronics.
2. Guided so many no.s of projects in the under graduate level (B. Tech) as a part of their curriculum.

#### **Research Guidance :**

The following scholars are working under guidance of the undersigned for their Ph. D. work.

1. Ms. Deepanjita Sahu on Laser Electronics.
2. Mr. Bibekananda Sathi on Micro controller related system development.
3. And Many more

#### **Seminars/ Conference/ Training Organised :**

1. National Seminar on WAP conducted at GIET, Gunupur. The event was sponsored by CSIR, New Delhi.
2. “Induction Training Programme “ for fresh Teachers of Engineering Colleges, Conducted and Sponsored by NITTTR, Kolkatta.
3. “Entrepreneurship Development Programme” Sponsored by DST, New Delhi.
4. Winter School on Mathematical Modeling on Atmospheric Parameters, Sponsored by DST, New Delhi.

#### **Seminars/ Conference/ Training attended:**

1. Undergone a practical training on different electronic circuits at Solid State Physics Laboratory, DRDO, New Delhi.
2. Undergone a Summer School programme on UNIX & OOPS at BECS, Howrah.
3. Undergone a training programme at NIC, New Delhi on VSAT & INTERNET of AICTE.
4. Attended so many seminars and conferences and presented papers.

**For Communication Please :**e-mail: [hmp.sophi@gmail.com](mailto:hmp.sophi@gmail.com)[info@sophitorium.org](mailto:info@sophitorium.org)

Tel. No.: (+91) 06755-243700-09(O) between 8 a.m. to 6 p.m.

2492614 ( R) between 6 p.m. to 8 a.m.

Postal Address : Dr. Himansu Mohan Padhy, Principal

Sophitorium Engineering College,

Baniatangi, Khordha,

Odisha-752060

S. No	Name of Faculty Member	Department	Designation	Qualification	Experience	Date of Appointment (DD/MM/YYYY)	Scale of Pay
1.	HIMANSU MOHAN PADHY	ECE	PRINCIPAL	Ph.D	27	1/5/2009	37400 - 67000
2.	ABHAYA DIHUDI	MECHANICAL ENGG.	PROFESSOR	Ph.D	1	13/7/2017	37400 - 67000
3.	ABHIMANYU BARIK	CIVIL ENGINEERING	PROFESSOR	Ph.D	0	16/8/2017	37400 - 67000
4.	AKSHAY NAYAK	MECHANICAL ENGG.	ASST PROFESSOR	M. Tech	2	8/2/2017	15600 - 39100
5.	AMIYA BEHERA	CIVIL ENGINEERING	ASST PROFESSOR	MSC	1	7/12/2017	15600 - 39100
6.	ANANDA KUMAR SARANGI	ELECTRICAL ENGG	ASST PROFESSOR	M. Tech	1	18/9/2017	15600 - 39100
7.	ANANDA PRUSTY	ECE	ASST PROFESSOR	M. Tech	0	15/11/2017	15600 - 39100
8.	ANIRBAN GUPTA	CIVIL ENGINEERING	ASST PROFESSOR	M. Tech	1	15/7/2017	15600 - 39100
9.	ANJYADITA ACHARYA	ECE	ASST PROFESSOR	M. Tech	0	20/11/2017	15600 - 39100
10.	ANSUMAN MOHAPATRA	MECHANICAL ENGG.	ASST PROFESSOR	M. Tech	1	15/9/2017	15600 - 39100
11.	APURAJ MONDAL	ELECTRICAL ENGG	ASSOCIATE PROFESSOR	Ph.D	2	17/8/2017	37400 - 67000
12.	ARADHANA MISRA	ECE	ASST PROFESSOR	M. Tech	2	19/2/2014	15600 - 39100
13.	ARAKSHIT MOHANTY	ECE	PROFESSOR	Ph.D	0	26/10/2017	37400 - 67000
14.	ARUN GHADAI	ELECTRICAL ENGG	ASST PROFESSOR	M. Tech	0	17/8/2017	15600 - 39100
15.	BARSHA BAISHALI JENA	CIVIL ENGINEERING	ASST PROFESSOR	M. Tech	0	25/11/2017	15600 - 39100
16.	ASHISH BALIARSINGH	ECE	ASST PROFESSOR	M. Tech	0	11/9/2017	15600 - 39100
17.	ASHOK BEHERA	MECHANICAL ENGG.	ASST PROFESSOR	M. Tech	1	21/7/2017	15600 - 39100

18.	ATISMRUTI SAHOO	COMPUTER SC. & ENGG	ASST PROFESSOR	M. Tech	0	4/4/2017	15600 - 39100
19.	AVIJIT SINGH	COMPUTER SC. & ENGG	ASST PROFESSOR	M. Tech	0	8/3/2017	15600 - 39100
20.	AVIJYI PRAMANIK	MECHANICAL ENGG.	ASST PROFESSOR	M. Tech	2	20/7/2017	15600 - 39100
21	AVIK PAUL	MECHANICAL ENGG.	ASST PROFESSOR	M. Tech	1	22/11/2017	15600 - 39100
22	BAIKUNTHA BEHERA	MECHANICAL ENGG.	ASST PROFESSOR	M. Tech	0	25/7/2017	15600 - 39100
23	BANAMBAR SWAIN	COMPUTER SC. & ENGG	PROFESSOR	Ph.D	0	17/10/2017	37400 - 67000
24	BAPAI DAS	COMPUTER SC. & ENGG	ASST PROFESSOR	M. Tech	0	20/9/2017	15600 - 39100
25	BIKASH CHANDRA BEHERA	ECE	ASSOCIATE PROFESSOR	Ph.D	0	23/6/2017	37400 - 67000
26	BIMAL MUDULI	COMPUTER SC. & ENGG	ASSO. PROFESSOR	Ph.D	0	25/8/2017	37400 - 67000
27	BINOD KUMAR BEHERA	MECHANICAL ENGG.	ASST PROFESSOR	M. Tech	2	19/5/2014	15600 - 39100
28	BINODINI BARIK	ELECTRICAL ENGG	ASSOCIATE PROFESSOR	Ph.D	2	11/10/2017	37400 - 67000
29	BIPLAB DAS	COMPUTER SC. & ENGG	ASST PROFESSOR	M. Tech	0	11/7/2017	15600 - 39100
30	BISMITA SAHOO	ECE	ASSOCIATE PROFESSOR	Ph.D	0	23/9/2017	37400 - 67000
31	BISWAJEET KAHAR	COMPUTER SC. & ENGG	ASST PROFESSOR	M. Tech	0	7/3/2017	15600 - 39100
32	BISWARANJAN MISHRA	ECE	ASSOCIATE PROFESSOR	Ph.D	4	1/5/2009	37400 - 67000
33	BISWASINI SAHU	ECE	ASST PROFESSOR	M. Tech	0	2/8/2017	15600 - 39100
34	CHIRANJIT SAHA	COMPUTER SC. & ENGG	ASST PROFESSOR	M. Tech	0	24/8/2017	15600 - 39100
35	BRAJA MOHAN MANGARAJ	COMPUTER SC. & ENGG	PROFESSOR	Ph.D	0	6/10/2017	37400 - 67000
36	CHITTARANJAN SWAIN	ELECTRICAL ENGG	ASST PROFESSOR	M. Tech	2	6/8/2017	15600 - 39100
37	DAMBURU PATRA	ELECTRICAL ENGG	ASST PROFESSOR	M. Tech	3	11/8/2017	15600 - 39100
38	DEBASISH SARANGI	CIVIL ENGINEERING	ASST PROFESSOR	M. Tech	0	11/3/2017	15600 - 39100
39	DEEPAK SETHI	CIVIL ENGINEERING	ASSOCIATE PROFESSOR	Ph.D	5	10/2/2017	37400 - 67000
40	DUKHISHYAM JENA	FIRST YEAR/OTHER	ASSOCIATE PROFESSOR	Ph.D	0	7/7/2017	37400 - 67000
41	GAUTAM SAHA	ELECTRICAL ENGG	ASST PROFESSOR	M. Tech	1	12/6/2017	15600 - 39100
42	BANAMBAR SWAIN	COMPUTER SC. & ENGG	PROFESSOR	Ph.D	0	17/10/2017	37400 - 67000

43	ARPITA MOHARANA	ELECTRICAL ENGG	ASST PROFESSOR	MBA	0	7/11/2017	15600 - 39100
44	GOUTAM MOHAPATRA	CIVIL ENGINEERING	ASST PROFESSOR	M. Tech	1	9/7/2017	15600 - 39100
45	HEMANTA JENA	CIVIL ENGINEERING	ASST PROFESSOR	M. Tech	1	11/3/2017	15600 - 39100
46	INDRAJEET BALIARSINGH	ECE	ASST PROFESSOR	M. Tech	0	11/10/2011	15600 - 39100
47	INDRAJIT BALIARSINGH	ECE	ASST PROFESSOR	M. Tech	2	1/1/2012	15600 - 39100
48	KAKALI SARKAR	MECHANICAL ENGG.	ASSOCIATE PROFESSOR	Ph.D	3	11/2/2017	37400 - 67000
49	KALANDI CHARAN SAMANTARAY	FIRST YEAR/OTHER	PROFESSOR	Ph.D	0	6/3/2017	37400 - 67000
50	KAMALAKANTA PATTANAIK	ELECTRICAL ENGG	PROFESSOR	Ph.D	1	12/1/2017	37400 - 67000
51	KESHAB BHUJABAL	MECHANICAL ENGG.	ASSOCIATE PROFESSOR	Ph.D	2	6/12/2017	37400 - 67000
52	KIRANBALA MISHRA	CIVIL ENGINEERING	ASST PROFESSOR	M. Tech	3	2/11/2014	15600 - 39100
53	LITU NAYAK	CIVIL ENGINEERING	ASST PROFESSOR	M. Tech	0	7/4/2017	15600 - 39100
54	LUCKY BANERJEE	MECHANICAL ENGG.	ASST PROFESSOR	M. Tech	0	6/7/2017	15600 - 39100
55	MADHUSMITA DAS	CIVIL ENGINEERING	ASST PROFESSOR	MBA	6	5/8/2012	15600 - 39100
56	MD SAMIM UDDIN	MECHANICAL ENGG.	PROFESSOR	Ph.D	0	15/9/2017	37400 - 67000
57	MANOJ KUMAR SAHOO	CIVIL ENGINEERING	ASSOCIATE PROFESSOR	Ph.D	4	8/10/2017	37400 - 67000
58	MANORANJAN MANGARAJ	CIVIL ENGINEERING	PROFESSOR	Ph.D	0	7/4/2017	37400 - 67000
59	MD. MASUBBI REHAMAN	MECHANICAL ENGG.	ASST PROFESSOR	M. Tech	1	8/9/2017	15600 - 39100
60	MITALI MAJUMDAR	COMPUTER SC. & ENGG	ASST PROFESSOR	M. Tech	0	21/9/2017	15600 - 39100
61	MONIKA MAHESWARI BISWAL	FIRST YEAR/OTHER	ASST PROFESSOR	M. Tech	0	4/3/2017	15600 - 39100
62	NANDA KISHORE BEHERA	COMPUTER SC. & ENGG	ASSO. PROFESSOR	Ph.D	0	7/1/2017	37400 - 67000
63	SONIA RAY	CIVIL ENGINEERING	ASSOCIATE PROFESSOR	Ph.D	4	29/9/2017	37400 - 67000
64	NIRANJAN PRADHAN	ECE	PROFESSOR	Ph.D	0	13/7/2017	37400 - 67000
65	PARIMITA MOHANTY	COMPUTER SC. & ENGG	ASST PROFESSOR	M. Tech	2	1/1/2012	15600 - 39100
66	PRADEEP KUMAR SAHU	FIRST YEAR/OTHER	ASSOCIATE PROFESSOR	Ph.D	0	9/6/2017	37400 - 67000
67	BISHNUPRIYA MOHANTY	FIRST YEAR/OTHER	ASST PROFESSOR	M. Tech	6	1/1/2012	37400 - 67000

68	PRAJNA PRAKASHINI PANDA	FIRST YEAR/OTHER	ASST PROFESSOR	M. Tech	0	4/11/2017	15600 - 39100
69	PRAMOD SAHOO	MECHANICAL ENGG.	PROFESSOR	Ph.D	2	6/2/2017	37400 - 67000
70	PRIYANKA PRIYADARSHINI PATRA	MECHANICAL ENGG.	ASST PROFESSOR	M. Tech	1	5/11/2017	15600 - 39100
71	PUSPAMITRA DASH	ECE	ASST PROFESSOR	M. Tech	0	2/9/2017	15600 - 39100
72	RADHASHYAM JENA	CIVIL ENGINEERING	PROFESSOR	Ph.D	0	12/2/2017	37400 - 67000
73	RAJALAXMI DAS	ECE	ASSOCIATE PROFESSOR	Ph.D	3	1/1/2011	37400 - 67000
74	RAJIBA LOCHAN PADHY	MECHANICAL ENGG.	ASSOCIATE PROFESSOR	Ph.D	4	12/1/2017	37400 - 67000
75	PRAJNA PARAMITA NANDA	ECE	ASST PROFESSOR	M. Tech	0	10/7/2017	15600 - 39100
76	SABITA MUDULI	CIVIL ENGINEERING	ASSOCIATE PROFESSOR	Ph.D	6	10/3/2017	37400 - 67000
77	SABITA SAHOO	CIVIL ENGINEERING	ASST PROFESSOR	M. Tech	0	9/6/2017	15600 - 39100
78	SADDAM ALI	MECHANICAL ENGG.	ASST PROFESSOR	M. Tech	2	8/8/2017	15600 - 39100
79	SADHU CHARAN MANGARAJ	ECE	PROFESSOR	Ph.D	0	7/10/2017	37400 - 67000
80	SAGARIKA DEHURY	CIVIL ENGINEERING	ASST PROFESSOR	M. Tech	0	5/11/2017	15600 - 39100
81	SAGARIKA DAS	ECE	PROFESSOR	Ph.D	0	25/11/2017	37400 - 67000
82	TAPANWITA SAHU	CIVIL ENGINEERING	ASSOCIATE PROFESSOR	Ph.D	2	19/7/2017	37400 - 67000
83	SAKTIMAN BADAJENA	ECE	ASST PROFESSOR	M. Tech	0	3/10/2015	15600 - 39100
84	SANGRAM KIESHARI BADAJENA	MECHANICAL ENGG.	ASST PROFESSOR	M. Tech	3	8/9/2016	15600 - 39100
85	SANGHAMITRA MOHAPATRA	CIVIL ENGINEERING	ASST PROFESSOR	M. Tech	0	12/1/2017	15600 - 39100
86	SANTOSH NAYAK	ECE	ASST PROFESSOR	M. Tech	0	2/8/2017	15600 - 39100
87	SANTOSH KUMAR CHHOTARAY	ECE	ASSOCIATE PROFESSOR	Ph.D	0	30/9/2017	37400 - 67000
88	SANTU DHARA	FIRST YEAR/OTHER	ASST PROFESSOR	M. Tech	0	8/12/2017	15600 - 39100
89	SARBESWAR SAMANTARAY	ELECTRICAL ENGG	PROFESSOR	Ph.D	2	6/3/2017	37400 - 67000
90	SHAKTI KANTA DAS	ELECTRICAL ENGG	ASST PROFESSOR	M. Tech	2	6/6/2017	15600 - 39100
91	SIULI DUTTA	ECE	ASST PROFESSOR	M. Tech	0	17/11/2017	15600 - 39100
92	SHUBHA MUKHERJEE	MECHANICAL ENGG.	ASSOCIATE PROFESSOR	Ph.D	4	8/11/2017	37400 - 67000

93	SILPA ROUT	ELECTRICAL ENGG	ASST PROFESSOR	M. Tech	2	2/2/2017	15600 - 39100
94	SISIRA KUMAR JAGADEV	MECHANICAL ENGG.	ASST PROFESSOR	M. Tech	2	20/11/2015	15600 - 39100
95	SUBHASHREE BEHERA	ECE	ASSOCIATE PROFESSOR	Ph.D	3	1/12/2014	37400 - 67000
96	SUBHASHREE BARIK	ELECTRICAL ENGG	ASST PROFESSOR	M. Tech	0	5/10/2017	15600 - 39100
97	SUCHIDEEPA DAS	CIVIL ENGINEERING	ASST PROFESSOR	M. Tech	0	20/7/2017	15600 - 39100
98	SUDHANSUBALA BEHERA	ECE	ASST PROFESSOR	M. Tech	0	4/9/2003	15600 - 39100
99	SUDHIR NAYAK	MECHANICAL ENGG.	PROFESSOR	Ph.D	1	19/9/2017	37400 - 67000
100	SUJIT KUMAR SINGH	MECHANICAL ENGG.	ASST PROFESSOR	M. Tech	1	10/2/2017	15600 - 39100
101	TAPAN KUMAR JENA	MECHANICAL ENGG.	ASST PROFESSOR	M. Tech	2	8/3/2017	15600 - 39100
102	TAPAN KUMAR MUDULI	CIVIL ENGINEERING	PROFESSOR	Ph.D	0	7/7/2017	37400 - 67000

## 9. Fee

- Details of fee, as approved by State Fee Committee, for the Institution : 50,000/- per Annum
- Time schedule for payment of fee for the entire programme : Commencement of Academic year
- No. of Fee waivers granted with amount and name of students : 10% of approved intake
- Number of scholarship offered by the Institution, duration and amount : 50% for 4 years
- Criteria for fee waivers/scholarship: On merit
- Estimated cost of Boarding and Lodging in Hostels : 15,000/-

## 10. Admission

- Number of seats sanctioned with the year of approval

S. No.	Program Name	Name of the Department	Year of Start	Intake	Increase in intake, if any	Year of increase	AICTE Approval
1	B.TECH	CIVIL ENGINEERING	2009	60	-	-	YES
		CIVIL ENGINEERING-2 <sup>ND</sup> YEAR DIRECT ADMISSION	2015	60			
2	B.TECH	COMPUTER SCIENCE & ENGINEERING	2010	60	-	-	YES
3	B.TECH	ELECTRICAL ENGINEERING	2009	60	-	-	YES
4	B.TECH	ELECTRONICS & COMMUNICATION ENGINEERING	2009	60	120	2011	YES
5	B.TECH	MECHANICAL ENGINEERING	2009	60	120	2014	YES



- Number of Students admitted under various categories each year in the last three years

Item	2019-20	2018-19	2017-18
Schedule Caste	92	151	59
Schedule Tribe	65	89	74
Other Backward Category	49	48	32
General	108	129	79

- Number of applications received during last two years for admission under Management Quota and number admitted : 349 Application received during last two years for admission under Management Quota and 345 Students Admitted

### 11. Admission Procedure

- Mention the admission test being followed, name and address of the Test Agency and its URL (website) : OJEE & JEE Main  
[www.ojee.nic.in](http://www.ojee.nic.in) & [www.jeemain.nic.in](http://www.jeemain.nic.in)
- Number of seats allotted to different Test Qualified candidate separately (AIEEE/ CET (State conducted test/ University tests/ CMAT/ GPAT)/ Association conducted test):  
: All seats allotted to OJEE / JEE Main Rank Holders only
- Calendar for admission against Management/vacant seats: September each Year
  - Last date of request for applications : As per Odisha Joint Entrance
  - Last date of submission of applications: As per Odisha Joint Entrance
  - Dates for announcing final results : As per Odisha Joint Entrance
  - Release of admission list (main list and waiting list shall be announced on the same day)  
: As per Odisha Joint Entrance
  - Date for acceptance by the candidate (time given shall in no case be less than 15 days)  
: As per Odisha Joint Entrance
  - Last date for closing of admission : As per Odisha Joint Entrance
  - Starting of the Academic session : June/July as per University notification
  - The waiting list shall be activated only on the expiry of date of main list  
: As per Odisha Joint Entrance
  - The policy of refund of the fee, in case of withdrawal, shall be clearly notified  
: As per Odisha Joint Entrance

### 12. Criteria and Weightages for Admission

Describe each criteria with its respective weightages i.e. Admission Test, marks in qualifying examination etc. :

Passed 10+2 examination with Physics and Mathematics as compulsory subjects along with one of the Chemistry/ Biotechnology/ Biology/ Technical Vocational subject/ Computer Science/ Information Technology/ Informatics Practices/ Agriculture/ Engineering Graphics/ Business Studies. Obtained at least 45% marks (40% marks in case of candidates belonging to reserved category) in the above subjects taken together.

OR

Passed Diploma (in Engineering and Technology) examination with at least 45% marks (40% marks in case of candidates belonging to reserved category) subject to vacancies in the First Year, in case the vacancies at lateral entry are exhausted.

- Mention the minimum level of acceptance, if any : As per Odisha Joint Entrance
- Mention the cut-off levels of percentage and percentile score of the candidates in the admission test for the last three years

Passed 10+2 examination with Physics and Mathematics as compulsory subjects along with one of the Chemistry/ Biotechnology/ Biology/ Technical Vocational subject/ Computer Science/ Information Technology/ Informatics Practices/ Agriculture/ Engineering Graphics/ Business Studies. Obtained at least 45% marks (40% marks in case of candidates belonging to reserved category) in the above subjects taken together.

OR

Passed Diploma (in Engineering and Technology) examination with at least 45% marks (40% marks in case of candidates belonging to reserved category) subject to vacancies in the First Year, in case the vacancies at lateral entry are exhausted.

- Display marks scored in Test etc. and in aggregate for all candidates who were admitted : Students are admitted by OJEE central counseling as per merit

### 13. List of Applicants

- Students are admitted by OJEE central counseling as per merit

### 14. Results of Admission Under Management seats/Vacant seats

- Students are admitted by OJEE central counseling as per merit

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

- Number of Class Rooms and size of each : 24 nos. 74.72 sqm each
- Number of Tutorial rooms and size of each : 04 nos. 78.86 sqm each
- Number of Laboratories and size of each : 51 nos. 202.97 sqm
- Number of Drawing Halls with capacity of each : 01 nos 152.73 sqm
- Number of Computer Centres with capacity of each : 04 nos. 60 computers each
- Central Examination Facility, Number of rooms and capacity of each : 24 nos. 20 students' capacity in each room
- Barrier Free Built Environment for disabled and elderly persons : Yes
- Occupancy Certificate : Yes
- Fire and Safety Certificate : Yes
- Hostel Facilities : yes

#### • Library

- Number of Library books/ Titles/ Journals available (program-wise)  
Titles: 2422  
Volume: 18233  
Journals: 67
- List of online National/ International Journals subscribed : Yes
- E- Library facilities : Yes

#### • Laboratory and Workshop

- List of Major Equipment/Facilities in each Laboratory/ Workshop

## **ELECTRICAL ENGINEERING LAB EQUIPMENTS**

1. DIGITAL STORAGE OSCILLOSCOPE (DSO)
2. MAGNETIC LEVITATION SYSTEM
3. SERVOMOTOR CONTROL AND INSTRUMENTATION
4. TWIN ROTOR MIMO SYSTEM
5. AC GENERATOR PROTECTION PANEL, EQUIP/08/06-07
6. RELAY TESTING KIT
7. STATIC VAR COMPENSATOR
8. ARTIFICIAL TRANSMISSION LINE A B C D
9. DC NETWORK ANALYSER & DETERMINATION OF ABCD PARAMETER
10. ADAPTIVE POWER FACTOR CONTROLLER, EQUIP/61/04-05
11. NUMERICAL RELAY
12. AIR CIRCUIT BREAKER (DIGITAL TRIP RELAY) & ACCESSORIES
13. SCADA BASED ELECTRIC POWER TRANSMISSION SYSTEM
14. HIGH VOLTAGE PRO
15. CURRENT PROBE 100A AC/DC; TEKTRONIX
16. DIGITAL POWER METER; WT 230
17. AGILENT DSO 100MH 2 CHANEL OSCILLOSCOPE
18. VOLTAGE PROBE; AGILENT 1007, 100 :1, 250MHZ HIGH
19. JTAG EMULATOR FOR INTERFACING THE DSP, XDSS510PP
20. THREE PHASE POWER QUALITY ANALYZER, FLUKE 434
21. ARBITRARY FUNCTION GENERATOR AFG 3102
22. PROGRAMMABLE POWER SUPPLIES AGILENT-6030A
23. 4-CH DSO, TEKTRONICX – TPS2024
24. 2-CHANNEL, 10 MHZ FUNCTION GENERATOR 33210A
25. PASSIVE CURRENT PROBE TEKTRONICX
26. ELECTRIC VEHICLE
27. 3-PHASE IGBT BASED PWM INVERTER

28. AC MACHINE 3 PHASE – 1HP
29. AC MACHINE 3 PHASE – 3HP
30. DC MACHINE – 1HP
31. DC MACHINE – 3HP
32. PRIMER SPARTAN 3 DEVELOPMENT KIT
33. UNIVERSAL DEVELOPMENT BOARD
34. AD 0809 INTERFACE CARD
35. FPGA BASED SPEED CONTROL OF BLDC DRIVE
36. SPEED CONTROL SYNCHRONOUS (PMSM) MOTOR COUPLED WITH DC GENERATOR SETUP
37. SPEED CONTROL OF 3 PHASE WOUND ROTOR INDUCTION MOTOR WITH DC GENERATOR SETUP
38. LVDT KIT
39. STRAIN GAUGE KIT
40. PHOTO TRANSDUCERS KIT
41. OPTICAL TRANSDUCER KIT
42. CRO TRAINER
43. KELVIN'S DOUBLE BRIDGE
44. DIGITAL STORAGE OSCILLOSCOPE D36060CA (APLAB)
45. LCR Q METER 4910 (APLAB)
46. DIGILENT NI MYRIO MECHATRONICS KIT
47. DIGITAL GAUGE METER, MODEL NO. - D20AC
48. DECADE CAPACITANCE BOX, MODEL NO. - 709
49. D.C. MOTOR 230V AC, 16.8A
50. 3 PH INDUCTION MOTOR 400 V DC, 4.75 A
51. 3 PH TRANSFORMER(2NOS.) 400/230V Y CONNECTED 10A
52. SINGLE PH TRANSFORMER(2NOS.) 220/110V AC, 13.62/27.25 A
53. SINGLE PH TRANSFORMER (6 NOS) 230/115V AC 13.2/26.1A
54. DC MOTOR & GENERATOR SET (4 NOS.) 230V DC 13A, 230V AC 20.5A

55. 3 PH INDUCTION MOTOR AMPLIDINE SET 400V AC
56. DC MOTOR AND DC SERIES GENERATOR SET 230 V 19.3 A, 230 V 23A
57. CHARGER AND DC GENERATOR SET 2.4 KVA, 230 /400V, 12/7A, 4 KW 220 V 21.8A
58. 3 PH INDUCTION MOTOR AND DC GENERATOR SET 2.2KW, 1.6KW
59. DC MOTOR AND SINGLE PH ALTERNATOR 230V 20A, 230 V 13A
60. DC MOTOR AND 3 PH ALTERNATOR 230 19.3A, 230/400 V DELTA/STAR 7.5/14.35A
61. 3 PH INDUCTION MOTOR 400 VAC 4.95A
62. DC SERIES MOTOR AND SERIES GENERATOR 2.3 KW
63. SINGLE PHASE INDUCTION MOTOR AND DC GENERATOR SET 3 KW, 5 BHP
64. REGULATED DC POWER SUPPLY, 250V, 60A (01 UNIT)

### **ELECTRONICS & COMMUNICATION ENGINEERING**

VOLTMETER

CRO

RHEOSTAT

DECADE INDUCTANCE BOX

MICROWAVE TEST BENCH MODEL: SX9004

CRO-20MHZ

FIBER OPTIC TRAINER KIT

AUDIO INPUT/OUTPUT KIT

PCB FOR CONSTRUCTION OF TRANSMITTER-RECEIVER

DETECTORS FOR GLASS FIBER @ 850 NM WITH ST RECEPTACLES

AM, FM, PAM & PCM MODULATION / DEMODULATION KIT

DADA FORMATTING & CAREER MODULATION TX KIT

SAMPLING AND RECONSTRUCTION TRAINER KIT

LINE CODING/ DECODING KIT

DCPM DEMODULATION TRAINER

2 CHANNEL 4 TRACE HIGH SENSITIVITY 50 MHZ TRIGGERING  
OSCILLOSCOPES

MHZ FUNCTION GENERATOR WITH DIGITAL READOUT FOR FREQUENCY  
AND AMPLITUDE

10 MHZ MICRO CONTROLLER BASED MODULATION- FUNCTION –PULSE  
GENERATOR –WITH INTERNAL MODULATION

8085 MICRO PROCESSOR TRAINER KIT

8051 MICRO CONTROLLER TRAINER KIT

SMPS DESIGN

PROCESS CONTROL TIMER

DSP AND MP BASED SYSTEM DESIGN

### **CIVIL ENGINEERING LAB EQUIPMENTS**

VICAT APPARATUS

LE – CHATELEIR APPARATUS

MOULD (50MM)

GAUGING TROWEL

SLUMP TEST APPARATUS

COMPACTION FACTOR APPARATUS

MOULD (150MM)

TAMPING ROD.

EDI COMPRESSION TESTING MACHINE 2000 KN. & CTM

FLEXURE TEST ATTACHMENT

MORTAR MIXTURE CAPACITY 4.75 LTR.

HIGH SPEED STIRRER WITH DISPERSIOR CAP. & BAFFLE

JAW CRUSHER THREE PHASE

VICAT APPARATUS WITH DASHPOT

LE – CHATELIER MOULD

LE – CHATELIER FLASK

EXTENSIBILITY MOULD

VIBRATING TABLE

BEAM MOULD (100\*100\*500) (150\*150\*700)

CYLINDRICAL MOULD (150\*300)

CEMENT AUTOCLAVE

HEAT OF HYDRATION

CURING TANK FOR 6/12 MOULD OF 1.50/ 70.6MM

MOULD STEEL FOR 70.6MM CUTES

AIR PERMEABILITY APPARATUS

ALUMINIUM BOX (373\*273\*160)

MODULAR HEAVY DUTY TABLE (FURNITURE)

COMPRESSION TESTING MACHINE (1000 KN) ELECTRICALLY  
OPERATED SINGLE GAUGE

REBOUND HAMMER

ULTRASONIC TESTING INSTRUMENTS

VIBRATION MACHINE WITH BUTTEN DIGITAL TIMER

SIEVE 200MM DIA SPUN BRASS FRAME FOR GRADING OF FINE AND  
COURSE AGREEGATE  
CONCRETE MIXER DRUM TYPE 1 CU FEET  
LONGITUDINAL COMPRESSO-METER FOR MODULUS OF ELASTICITY  
DRYING SHRINKAGE AND MOISTURE MOVEMENT  
BULK DENSITY VOIDS AND BULKING  
DENSITY BASKET  
CRUSHING VALUE APPARATUS  
PERMEABILITY APPARATUS  
ARROWS  
AUTO LEVEL WITH STAND  
CROSS STAFF WITH STAND  
DIGITAL PLANIMETER  
DUMPY LEVEL WITH STAND  
LEVELLING STAFF – 1  
LEVELLING STAFF – 2  
METALLIC TAPE – 1  
METALLIC TAPE – 2  
PLANE TABLE  
PLUMB BOB  
RANGING ROD – 1  
RANGING ROD – 1  
SURVEYOR COMPASS WITH TRIPOD  
TOTAL STATION  
TRANSIT VERNIER THEODOLITE WITH STAND  
AUTO LEVEL WITH STAND  
EULER'S BUCKLING LOAD APPARATUS  
UNSYMMETRICAL BENDING APPARATUS  
TWO HINGED APPARATUS  
APPARATUS TO VERIFY MOMENT AREA METHOD FOR DEFLECTION  
CURVED MEMBER APPARATUS  
MAXWELL RECIPROCAL THEOREM  
THREE HINGE APPARATUS  
REDUNDANT JOINT APPARATUS  
STAAD PRO' SOFTWARE (CDS)  
ATENA (NONLINEAR SOFTWARE)  
AUTO PLOTTER (PRINTER)  
LAB BENCHTOP PH METER (COMPLETE SET)  
LAB BENCHTOP CONDUCTIVITY METER (COMPLETE SET)  
DO METER (COMPLETE SET)  
DIGITAL TITRATOR (WITH EDTA CARTRIDGE)  
PORTABLE TURBIDITY METER(COMPLETE SET)  
PORTABLE TSS ANALYSER(COMPLETE SET)  
ACIDITY REAGENT SET  
ALKALINITY REAGENT SET  
COD ANALYSIS SYSTEM(COMPLETE SET)  
RESIDUAL CHLORINE APPARATUS(COMPLETE SET)

1000 ML CAPACITY (10.0 ML GRADUATION INTERVAL,  $\pm 5.0$  ML  
TOLERANCE)  
GLASS ROD STIRRER  
OUTER DIAMETER 7 MM X 150 MM LONG

OUTER DIAMETER 7 MM X 255 MM LONG  
OUTER DIAMETER 7 MM X 305 MM LONG  
TEST TUBES WITH RIM  
12 X 75 (OD X LENGTH)  
15 X 150  
18 X 150  
LDPE WASH BOTTLE  
500 ML CAPACITY  
LDPE NARROW MOUTH WASH BOTTLE  
125ML CAPACITY  
AUTOCLAVABLE PP MATERIAL MEASURING BEAKER  
500 ML CAPACITY  
1000 ML CAPACITY  
PIPETTE STAND VERTICAL 28 PLACES  
BURETTE CLAMP MADE OF PP MATERIAL  
TEST TUBE STAND MADE OF RPP MATERIAL, 31 PLACES  
FOR TUBE DIA 13 MM  
SPECIMEN CONTAINER MADE OF PP MATERIAL  
250 ML CAPACITY  
500 ML CAPACITY  
1000 ML CAPACITY  
FLASKS, BOILING, FLORENCE, FLAT BOTTOM,(OD X HT. X NECK OD)  
100 ML (64 X 105 X 26)  
250 ML (85 X 140 X 34)  
500 ML (105 X 170 X 33)  
IMHOFF CONE, MATERIAL SAN  
1000 ML  
FUNNEL PLAIN, 60° ANGLE, LONG STEM  
25MM DIA  
50MM DIA  
WHATMAN FILTER PAPER GRADE 1  
25 MM DIA  
55MM DIA  
EVAPOURTING DISH FLAT BOTTOM, WITH POUR OUT  
80 X 45 (O.D X HEIGHT MM)  
150 X 80 (O.D X HEIGHT MM)  
DESICCATOR WITH COVER AND PORCELAIN PLATE, PLASTIC KNOB,  
I. S. 6128 : 2007  
100 (APPROX ID GROUND FLANGE MM)  
250 (APPROX ID GROUND FLANGE MM)  
CRUCIBLE, GOOCH TYPE, LOW FORM, WITH SINTERED DISC  
15 X 20 X 44 (CAPACITY IN ML,DIA OF DISC IN MM, HT IN MM)  
30 X 30 X 50 (CAPACITY IN ML,DIA OF DISC IN MM, HT IN MM)  
TUBES, CULTURE, MEDIA, ROUND BOTTOM, WITH SCREW CAP AND  
LINER,  
10 X 16 X 125 (CAPACITY IN ML, APPROX OD X LENGTH IN MM)  
5 X 16 X 50 (CAPACITY IN ML, APPROX OD X LENGTH IN MM)  
ALUMINIUM SULPHATE- 500 GM  
LIQUID LIMIT APPARATUS  
PLASTIC LIMIT APPARATUS  
BALANCE (DIGITAL)



OVEN  
HYDROMETER  
PYCNOMETER  
MOTORISED SIEVE SHAKER  
PROVING RINGS SET  
METAL TRAY  
POLY CARBONATE BEAKERS 25ML  
POLYCARBONATE BEAKERS 50ML  
POLYCARBONATE BEAKERS 100ML  
POLYCARBONATE BEAKERS 250ML  
POLYCARBONATE BEAKERS 500ML  
POLYCARBONATE BEAKERS 1000ML  
SIEVE(ISS BRASS)20 CM DIA. TO10MM 38 MICRON, PAN&COVER  
TRIAxIAL OUTFIT MOTORIZED (COMPLETE SET)  
DIRECT SHEAR APPARATUS (COMPLETE SET)  
CONE PENETROMETER (SET)  
LAB. CBR APPARATUS (SET)  
HYDRAULIC SAMPLE EJECTOR (COMPLETE SET)  
SPEEDY MOISTURE METER  
COMPACTION TEST APPARATUS  
PROCTOR COMPACTION APPARATUS  
SAND POURING CYLINDER SMALL  
SPECIFIC GRAVITY BOTTLE  
STANDARD PENETRATION TEST (SPT) APPARATUS  
ALUMINIUM BOXES  
LOAD FRAME MOTORISED  
MEASURING CYLINDERS (25-1000ML CAPACITY)  
UNIVERSAL AUTOMATIC COMPACTOR  
ELECTRONIC WEIGHTING BALANCE (50KG)  
DENSITY BUCKET  
IS SIEVE SET 20 CM DIA, BRASS MADE, 10 MM -38 MICRON WITH PAN &  
COVER  
IS SIEVE SET 45 CM DIA, GI MADE, 125 MM -2.36MM & PAN  
COMPACTION RAMMER(LIGHT)  
SAND POURING CYLINDER (LARGE)  
SAND POURING CYLINDER (SMALL)  
RELATIVE DENSITY APPARATUS  
CORE DRILLING MACHINE  
INFRARED MOISTURE METER  
AGGREGATE IMPACT TESTING MACHINE  
LOS ANGELES ABRASION TESTING MACHINE  
DORRY ABRASION  
DEVAL ATTRITION  
CRUSHING VALUE APPARATUS  
UNIVERSAL PENETROMETER  
DUCTILITY  
SAYBOLT VISCOMETER (ELECTRICALLY HEATED)  
RING & BALL APPARATUS  
CLEVELAND FLASH & FIRE POINT APPARATUS  
HEATER-1 NO,WIRE-6 MT, CONNECTOR-1 NO,3 PIN TOP-1NO  
BUCKET  
FRYING PAN (SHALLOW DEPTH)

FRYING PAN (DEEP DEPTH)  
THERMOMETER  
WOODEN BENCHES 3 SEATER  
DENSITY BUCKET  
THICKNESS GAUGE  
LENGTH GAUGE  
ELECTRONIC WEIGHING BALANCE 300 KG  
MARSHAL STABILITY APPARATUS  
SIEVE SET (63 MM-6.3MM)  
DRYING OVEN  
WATER BATH  
METAL TRAY(450X300X40)

### **MECHANICAL ENGINEERING LAB EQUIPMENTS**

EQUIPMENTS/MACHINES  
ORIFICE AND MOUTHPIECE APPARATUS  
NOTCH TANK APPARATUS  
JET ON VANE APPARATUS  
COMBINED PIPE FRICTION MEASUREMENT APPARATUS  
VENTURIMETER AND ORIFICEMETER APPARATUS  
BERNOULLIS APPARATUS  
REYNOLDS APPARATUS  
METACENTRIC HEIGHT APPARATUS  
PELTON WHEEL TURBINE TEST RIG 5 HP  
FRANCIS TURBINE TEST RIG 5 HP  
MULTI SPEED (SINGLE STAGE) CENTRIFUGAL PUMP TEST RIG 1 HP CAPACITY  
RECIPROCATING PUMP TEST RIG  
4 CYLINDER ,4 STROKE,WATER COOLED PETROL ENGINE  
SINGLE CYLINDER 4 STROKE AIR COOLED 100 CC PETROL ENGINE  
SINGLE CYLINDER 2 STROKE AIR COOLED 150 CC PETROL ENGINE  
SINGLE CYLINDER 2 STROKE AIR COOLED 5 HP DIESEL ENGINE  
GAS ANALYZER FOR MEASUREMENT  
MOTOR DRIVEN CUT SECTION MODEL OF SINGLE CYLINDER 2 STROKE PETROL ENGINE  
CUT SECTION MODEL OF ACTUAL SINGLE CYLINDER 4 STROKE DIESEL ENGINE  
METAL ROD THERMAL CONDUCTIVITY MEASURING APPARATUS  
INSULATING POWDER THERMAL CONDUCTIVITY MEASURING APPARATUS  
GUARDED HOT PLATE THERMAL CONDUCTIVITY MEASURING APPARATUS  
PIN FIN APPARATUS IN NATURAL & FORCED CONVECTION  
NATURAL CONVECTION APPARATUS  
FORCED CONVECTION APPARATUS  
EMISSIVITY MEASUREMENT APPARATUS  
PARALLEL FLOW / COUNTER FLOW HEAT EXCHANGER

STEFAN BOTZMAN APPARATUS  
HEAT PIPE APPARATUS  
TWO PHASE HEAT TRANSFER APPARATUS  
HEAT TRANSFER THROUGH COMPOSITE WALLS APPARATUS  
DROPWISE / FILMWISE CONDENSATION APPARATUS  
CAM ANALYSIS APPARATUS  
EPICYCLIC GEAR TRAIN AND TORQUE APPARATUS  
UNIVERSAL GOVERNOR APPARATUS  
MOTORISED GYROSCOPE APPARATUS  
STATIC & DYNAMIC BALANCING APPARATUS  
UNIVERSAL VIBRATION APPARATUS  
WHIRLING OF SHAFTS APPARATUS  
GYRO MODELS(DIFFERENT TYPES)  
INVERSIONS OF FOUR BAR CHAIN (DIFFERENT TYPES)  
INVERSIONS OF SINGLE SLIDER CRANK CHAIN (DIFFERENT TYPES)  
INVERSIONS OF DOUBLE SLIDER CRANK CHAIN (DIFFERENT TYPES)  
CAM AND FOLLOWER ARRANGEMENT (DIFFERENT TYPES)  
GEAR AND GEAR TRAIN MODELS (DIFFERENT TYPES)  
UNIVERSAL TESTING MACHINE  
IMPACT TESTING MACHINE  
ERICSSON CUPPING TESTING MACHINE  
TORSION TESTING MACHINE  
VICKER HARDNESS TESTING MACHINE  
ROCKWELL CUM BRINELL HARDNESS TESTING MACHINE  
METAL INERT GAS WELDING MACHINE (MIG)  
GAS WELDING MACHINE  
METAL ARC WELDING MACHINE  
TUNGSTEN INERT GAS WELDING MACHINE (TIG)  
PRECITURN-1 LATHE MACHINE  
MILLING MACHINE  
RADIAL DRILLING MACHINE  
HIGH PRECISION LATHE (NH-22)  
HYDRAULIC POWER HACKSAW  
PEDESTRIAL DRILLING MACHINE  
PEDESTRIAL GRINDING MACHINE  
SHAPER MACHINE  
CNC WIRE CUT EDM  
CNC MACHINING CENTER  
CNC TURNING CENTER  
CAD WORKSTATION  
BASIC TOOLS/ INSTRUMENTS FOR PATTERN MAKING  
LATHE MACHINE  
BASIC TOOLS/ INSTRUMENTS FOR MOULD PREPARTION  
FURNANCE  
BASIC TOOLS / INSTRUMENT FOR HAND FORGING OPERATION  
FURNANCE  
BASIC TOOLS/ INSTRUMENT FOR FITTING  
HACKSAW  
DRILLING MACHINE  
TWO STROKE PETROL ENGINE MODEL  
TWO STROKE DIESEL ENGINE MODEL

FOUR STROKE PETROL ENGINE MODEL  
 FOUR STROKE DIESEL ENGINE MODEL  
 COCHRAN BOILER MODEL  
 BABCOCK AND WILCOX BOILER MODEL  
 PELTON TURBINE MODEL  
 FRANCIS TURBINE MODEL  
 KAPLAN TURBINE MODEL  
 JIB AND CRANE  
 SINGLE START WORM & WORM WHEEL MODEL  
 DOUBLE START WORM & WORM WHEEL MODEL  
 TRIPLE START WORM & WORM WHEEL MODEL  
 MOUNTINGS AND ACCESSORIES IN BOILER MODELS  
 perimental

- List of Experimental Setup in each Laboratory/ Workshop

### **FLUID MECHANICS & HYDRAULICS MACHINES LAB (PCI3I101)**

#### **LIST OF EXPERIMENT:**

1. Determination of Metacentric Height
2. Proof of Bernoulli's Theory
3. Determination of Coefficient of Discharge for V-notch
4. Determination of Coefficient of Discharge for Orifice meter
5. Determination of Coefficient of Discharge for Venturimeter
6. Determination of Reynold's Number
7. Friction Flow through Pipes
8. Determination of losses due to bends, fittings and elbows in pipes
9. Impact of Jets
10. Efficiency of Francis Turbine
11. Characteristics of Pelton wheel turbine
12. Discharge through Centrifugal Pump.

### **SURVEY (PCI3I102 )**

#### **LIST OF EXPERIMENT :**

1. Testing of chain and measurement of correct length of the line and chain traversing.
2. Traversing by Compass
3. Horizontal and vertical angle by theodolite
4. Traversing by theodolite
5. Use of dumpy level and automatic level for fly levelling.
6. Contouring
7. Measurement of distance, horizontal and vertical angle by Total Station
8. Contouring by Total Station

### **GEOTECHNICAL ENGINEERING LAB (PCI3I103 )**

### **LIST OF EXPERIMENT :**

1. Determination of specific gravity of soil grains
2. Determination of grain size distribution of soil (a) Sieve test (b) Hydrometer/ pipette test
3. Determination of Atterberg limits of soil Liquid limit (b) plastic limit (c) shrinkage limit
4. Measurement of soil compaction in the field Core cutter method (b) Sand replacement method
5. Determination of Density – Water content relationship of soil. Proctor compaction test (i) Modified Proctor compaction test (c) Use of Proctor penetration needle
6. Determination of relative density of granular soil
7. Determination of shear strength parameters of soil (a) Shear Box test (b) Tri-axial compression test (c) Unconfined compression test (d) Vane shear test
8. Determination of consolidation characteristics of soil using fixed ring Oedometer
9. Determination of California Bearing Ratio (CBR) of soaked and un-soaked soil specimens
10. Determination of coefficient of permeability of soil (a) Constant head permeameter (b) Falling head permeameter

### **ADVANCED MECHANICS OF SOLIDS (PCI4I101)**

#### **LIST OF EXPERIMENT :**

1. Tensile strength of steel
2. Compression test of cast iron
3. Rigidity modulus of mild steel/cast iron with torsion test
4. Fatigue test of steel (cyclic loading)
5. Strain measurement using strain gauge and strain rosette
6. Young's modulus and bending stress for the given steel beam
7. Impact strength of steel by Izod impact test
8. Rockwell hardness test of mild steel
9. Two dimensional photoelastic methods of stress analysis
10. Computer analysis of two dimensional state of stress or strain at a point.

### **HIGHWAY & TRAFFIC ENGINEERING (PCI4I102)**

#### **LIST OF EXPERIMENT :**

1. Determination of aggregate crushing value.
2. Determination of Los Angeles abrasion value of aggregates.
3. Determination of aggregate impact value.
4. Determination of penetration value of bitumen.
5. Determination of softening point value of bitumen.
6. Determination of ductility value of bitumen.
7. Determination of flash and fire point of bitumen.
8. Determination of specific gravity of bitumen.
9. Determination of stripping value of aggregate.

10. Determination of flakiness index and elongation index of coarse aggregate.
11. Determination of specific gravity and water absorption of coarse aggregate.
12. Determination of CBR of soil subgrade
13. Design of GSB and WMM
14. Marshall method of mix design
15. Demonstration of advanced equipment for characterization of pavement materials.

### **DESIGN OF CONCRETE STRUCTURES (PCI4I103)**

#### **LIST OF EXPERIMENT :**

1. Workability test of concrete: Slump test, compaction factor test and flow table test
2. Cube Test of Concrete (Nominal Mix)
3. Cylinder Test for Concrete (Nominal Mix): Determination of axial stress, longitudinal strain, lateral strain and Poisson's ratio. Plotting of stress-strain curve and determination of modulus of elasticity.
4. Split Tensile Strength Test of Concrete
5. Prism test for determining modulus of rupture of concrete
6. Design of Concrete Mix (As per Indian Standard Method)
7. Failure of RC beam in bending and shear (two point and one point loading)
8. Complete design of a simple load bearing residential building comprising of beams, slab, column, footing, staircases, etc. and the detailing of steel reinforcement.

### **MATERIAL TESTING LAB (PCI4I201)**

- Brick:**
- (a) Shape and size test for brick
  - (b) Water absorption test for brick
  - (c) Compressive strength of brick
- Cement:**
- (a) Fineness of cement
  - (b) Soundness of cement by Lechattelier test
  - (c) Specific gravity of cement
  - (d) Fineness of cement by air permeability
  - (e) Standard consistency of a given sample by Vicat test
  - (f) Initial and final setting time of cement
  - (g) Fineness modulus of fine and coarse aggregate
  - (h) Aggregate crushing value of coarse aggregate
  - (i) Compressive strength of cement mortar
  - (j) Tensile strength of cement mortar
- Steel:**
- (a) Tensile strength of steel
  - (b) Compression test of cast iron
  - (b) Rigidity modulus of cast iron
  - (c) Fatigue test of steel (cyclic loading)
  - (d) Strain measurement using strain gauge and strain rosette

### **STRUCTURAL ANALYSIS II LAB (PCI5I101)**

#### **LIST OF EXPERIMENT :**

1. To verify strain in an externally loaded beam with the help of a strain gauge indicator and to verify theoretically.
2. To study behavior of columns with different types of end conditions and find Euler's buckling load for each case.
3. To find the value of flexural rigidity (EI) for a given beam and compare it with theoretical value.
4. To determine the deflection of a pin connected truss analytically & graphically and verify the same experimentally.
5. To verify Maxwell's reciprocal theorem.
6. To verify the moment area theorem regarding the slopes and deflections of the beam.
7. To determine the horizontal thrust in a three hinged arch for a given system of load experimentally and verify the same with calculated values.
8. To study 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.
9. To study the behavior of a portal frame under different end conditions.
10. To determine the moment required to produce a given rotation (rotational stiffness) at one end of the beam when the other end is pinned.

#### **DESIGN OF STEEL STRUCTURE LAB (PCI5I102)**

1. Design and detailing of steel roof trusses/ industrial buildings
2. Design of columns (with lacing and battening) and column bases
3. Design of plate girders and gantry girder
4. Detailing of structural steel connections, seated and framed connections

#### **WATER SUPPLY AND SANITARY ENGINEERING LAB (PCI5I103)**

##### **LIST OF EXPERIMENTS:**

1. Analysis of water Quality Parameter
  - a) Measurement of pH, Electrical conductivity
  - b) Determination of Turbidity of water samples.
  - c) Determination of Chlorides in water.
  - d) Determination of Iron and Fluoride in water.
  - e) Determination of Acidity and Alkalinity of water.
  - f) Determination of Sulphate in water.
  - g) Determination of Hardness of water.
  - h) Determination of Residual Chlorine of water.
  - i) Determination of Total Dissolved Solids.
  - j) Determination of optimum coagulant dosage.
  - k) Microbiological culture analysis of bacterial samples
  - l) MPN Test.
2. Analysis of Waste Water Characteristics
  - a) Determination of Total Solids, Settleable Solids, Dissolved Solids, Suspended Solids and Volatile Solids.
  - b) Determination of Dissolved Oxygen, COD and BOD.

c) Determination of Ammonia–nitrogen and Nitrates.

### **FOUNDATION ENGINEERING LAB (PCI6I101)**

1. Interpretation of a bore log data
2. Preparation of a Soil Investigation Report
3. Design of foundation basing on the soil investigation Report
4. Design of a foundation using the result of SPT and CPT
5. Design of a Pile Foundation on Expansive Soil
6. Computer aided design using MATLAB or any other software
  - i. Geotechnical design of Spread Footing Foundation
  - ii. Geotechnical design of Raft Foundation
  - iii. Geotechnical design of Pile Foundation
  - iv. Geotechnical design of Well Foundation
  - v. Geotechnical design of Retaining Wall

### **IRRIGATION ENGINEERING LAB (PCI6I102 )**

1. Design of Gravity Dam
2. Design of Earthen Dam
3. Design of different type of Spillways
4. Design of Weirs and Barrages
5. Design of Different Types of Cross Drainage Works and Falls
6. Design of head regulator and cross head regulator
7. Design of canal in alluvium by Kennedy's & Lacey's methods
8. Design of Cross section of canals in cutting, filling, partly in cutting and partly in filling.
9. Design and layout of Drip irrigation system
10. Design and layout of Sprinkler irrigation system

### **COMPUTER SCIENCE & ENGINEERING**

#### **SWITCHING CIRCUITS AND LOGIC DESIGN LAB (PCS3I101)**

1. Digital Logic Gates: Investigate logic behavior of AND, OR, NAND, NOR, EX-OR, EX-NOR, Invert and Buffer gates, use of Universal NANDGate.
2. Gate-level minimization: Two level and multi level implementation of Boolean functions.
3. Combinational Circuits: design, assemble and test: adders and subtractors, comparators.
4. Design and Implementation of code converters, gray code to binary and BCD to seven segment display.
5. Design and Implementation of a function using MUX/ DEMUX.
6. Design of functions using encoder, decoder.



7. Flip-Flop: assemble, test and investigate operation of SR, D & J-K flip-flops.
8. Shift Registers: Design and investigate the operation of all types of shift registers with parallel load.
9. Counters: Design, assemble and test various ripple and synchronous counters - decimal counter, Binary counter with parallel load.
10. Design of Binary Multiplier.
11. Verilog/VHDL simulation and implementation of Experiments listed at Sl. No. 1 to 10.
12. C/C++ implementation of Experiments listed at Sl. No. 1 to 10.

### **JAVA PROGRAMMING LAB (PCS3I102 )**

1. Introduction, Compiling & executing a java program.
2. Data types & variables, decision control structures: if, nested if etc.
3. Loop control structures: do, while, for etc.
4. Classes and objects.
5. Data abstraction & data hiding, inheritance, polymorphism.
6. Threads, exception handling and applet programs
7. Interfaces and inner classes, wrapper classes, generics

### **SYSTEM PROGRAMMING LABORATORY (PCS3I103)**

1. Programs using 8085 Microprocessor
  - a. addition
  - b. subtraction
  - c. multiplication
  - d. division
2. Program on linker using stack concept.
3. Program on design of Macro using C/C++
4. Program on design of assembler using C/C++
5. Program on design of loader using C/C++
6. Program on design of a lexical analyzer using LEX.
7. Program on design of a parser using YACC

### **SOFTWARE ENGINEERING LABORATORY (PCS3I104)**

Experiment 1: Develop requirements specification for a given problem (The requirements specification should include both functional and non-functional requirements. For a set of about 20 sample problems, see the questions section of Chap 6 of Software Engineering book of Rajib Mall)

Experiment 2: Develop DFD Model (Level 0, Level 1 DFD and data dictionary) of the sample problem (Use of a CASE tool required)

Experiment 3: Develop structured design for the DFD model developed

Experiment 4: Develop UML Use case model for a problem (Use of a CASE tool any of Rational rose, Argo UML, or Visual Paradigm etc. is required)

Experiment 5: Develop Sequence Diagrams.

Experiment 6: Develop Class diagrams.

Experiment 7: Develop code for the developed class model using Java.

Experiment 8: Use testing tool such as Junit.

Experiment 9: Use a configuration management tool.

Experiment 10: Use any one project management tool such as Microsoft Project or Gantt Project, etc.

### **COMPUTER ORGANIZATION AND ARCHITECTURE LAB (PCS4I101)**

1. (a) Identification of different components of a PC.  
(b) Assembling & disassembling of a PC.
2. Study of different troubleshooting of a dot matrix printer using LX 1050+ Printer Trainer Module.
3. Study of the functions of SMPS using SMPS Trainer Kit.
  - (a) Study of SMPS with Single Output under Line Regulation.
  - (b) Study of SMPS with Multi Output under Line Regulation.
  - (c) Study of SMPS with Single Output under Load Regulation.
4. Study of different troubleshooting of CPU using CPU Trainer Module.
5. Familiarization of different types of byte addressing instruction using 8085 simulator.
6. Study of assembly Language program in PC using 8086 architecture.
7. Design of digital circuits (H/A, F/A, Decoder & Encoder) in VHDL using Active VHDL.
8. Design of digital circuits (MUX, DEMUX & ALU) in VHDL using Active VHDL.
9. Write a C/C++ program to perform signed bit multiplication using Booth's algorithm.
10. Write a C/C++ program for IEEE-754 floating point representation and perform Addition/Subtraction.

### **FORMAL LANGUAGE & AUTOMATA THEORY LAB (PCS4I104 )**

Implementation of following concept of Theory of computation using C-program:

1. DFAs for some regular languages
2.  $\epsilon$ -NFA to DFA conversion
3. NFA to DFA conversion
4. Program for DFA minimization
5. PDAs for some Context free languages
6. CYK parsing algorithm for some specific Context free grammars
7. Turing machine for some Recursively Languages

### **DESIGN AND ANALYSIS OF ALGORITHMS LAB (PCS4I102 )**

1. Using a stack of characters, convert an infix string to postfix string (1 class)
2. Implement insertion, deletion, searching of a BST. (1 class)

3. (a) Implement binary search and linear search in a program  
(b) Implement a heap sort using a max heap.
  4. (a) Implement DFS/ BFS for a connected graph.  
(b) Implement Dijkstra's shortest path algorithm using BFS.
  5. (a) Write a program to implement Huffman's algorithm.  
(b) Implement MST using Kruskal /Prim algorithm.
  6. (a) Write a program on Quick sort algorithm.  
(b) Write a program on merge sort algorithm.  
Take different input instances for both the algorithm and show the running time.
  7. Implement Strassen's matrix multiplication algorithm.
  8. Write down a program to find out a solution for 0 / 1 Knapsack problem.
  9. Using dynamic programming implement LCS.
  10. (a) Find out the solution to the N-Queen problem.  
(b) Implement back tracking using game trees.
- \*College should conduct at least one NSDC program under this category.

#### DATABASE SYSTEM LAB

1. Use of SQL syntax: insertion, deletion, join, updation using SQL. (1 class)
2. Programs on join statements and SQL queries including where clause. (1 class)
3. Programs on procedures and functions. (1 class)
4. Programs on database triggers. (1 class)
5. Programs on packages. (1 class)
6. Programs on data recovery using check point technique. (1 class)
7. Concurrency control problem using lock operations. (1 class)
8. Programs on ODBC using either VB or VC++. (1 class)
9. Programs on JDBC. (1 class)
10. Programs on embedded SQL using C / C++ as host language. (1 class)

#### OPERATING SYSTEM LABORATORY (PCS5G001)

1. Basic UNIX Commands.
2. Linux Administrative commands.
3. UNIX Shell Programming.
4. Programs on process creation and synchronization, inter process communication including shared memory, pipes and messages.  
(DinningPhilosopher problem / Cigarette Smoker problem / Sleeping barber problem)
5. Programs on UNIX System calls.
6. Simulation of CPU Scheduling Algorithms. (FCFS, RR, SJF, Priority, Multilevel Queuing)
7. Simulation of Banker's Algorithm for Deadlock Avoidance, Prevention
8. Program for FIFO, LRU, and OPTIMAL page replacement algorithm.
9. Android Programming for mobile application.

## COMPUTER GRAPHICS LABORATORY (PCS5I102)

1. Implementation of DDA and Bresenham's Line drawing algorithms.
2. Implementation of Midpoint & Bresenham's circle drawing algorithms.
3. Implementation of Two Dimensional transformations - Translation, Rotation, Scaling, Reflection, Shear.
4. Implementation of Composite 2D Transformations
5. Implementation of Cohen Sutherland 2D line clipping and Windowing
6. Implementation of Sutherland – Hodgeman Polygon clipping Algorithm
7. Implementation of Three dimensional transformations - Translation, Rotation, Scaling
8. Implementation of Composite 3D transformations
9. Implementation of B-Spline & Bezier Curves.
10. Implementations of fractals.

## ADVANCED COMPUTER ARCHITECTURE LAB (PCS5I001)

(Using SimpleScalar Simulator)

Lab Assignment

**Experiment 1:** Program behavior (Instruction Profiling) Download different benchmark programs from internet and run the profiling simulator for them to find out the distribution of instruction classes. Test for the following questions. 1. Is your benchmark memory intensive or computation intensive? 2. Is your benchmark mainly using integer or floating point? 3. What percentage of the instructions executed are conditional branches?

**Experiment 2:** Branch Predictor Test In this experiment branch prediction simulator (sim-bpred) can be used to investigate the effects of branch predictors on the execution of the benchmark Programs. This simulator allows you to simulate 6 different types of branch predictors. You can see the list of them by looking at the menu 'branchpredictor type' for the branch prediction simulator sim-bpred.

**Experiment 3:** In-order versus out-of-order Conduct experiments to find out how the increase in the parallelism in processing instructions affect the CPI of your processor, and how you can improve the performance of memory reference instructions. In all experiments you will use the default cache and branch predictor configurations.

**Experiment 4 and 5:** In-order and out-of-order issue. Experiment with the width of the pipeline by running the simulation with the following combinations of parameters. Measure CPI and total no of cycles.

- Pipeline width 1, in-order and out-of-order execution (out-of order execution is default, in-order must be selected explicitly, see the SimpleScalar manual for instructions on how to do this).
- Pipeline width 4, in-order and out-of-order execution
- Pipeline width 8, in order and out of order execution

Advanced Lab-I

1. Write a JAVA program to demonstrating multithreading.
2. Write a set of two JAVA programs for communicating between them using socket & datagram programming.

3. Write a JAVA Servlet Program to implement and demonstrate get() and Post methods(Using HTTP Servlet Class).
4. Write a JAVA JSP Program to implement verification of a particular user login and display a Welcome page.
5. Write a JDBC Program to insert data into Student DATA BASE and retrieve info based on particular queries(For example update, delete, search etc...).
6. Write a JSP program to read data from a DATABASE.
7. Write a set of JAVA programs to implement Remote method Invocation.
8. Develop a JAVA SWING program to design a calculator.
9. Using JSP develop a project to implement ONLINE EXAMINATION SYSTEM.

#### COMPUTER NETWORK LAB (PCS6I101)

1. Study of LAN Topology and various Network devices
2. IP address configuration and LAN setup
3. Build class A, B and C Network using router in Network tool
4. Implement Sub-netting concept using Network tool
5. Write a program to find out class of a given IP address, sub-netmask, first & last IP address of that subnet
6. Installation & Configuration of NS2 in Linux environment
7. Basic wired & wireless topology in NS2
8. Congestion Control: Stop & Wait, Sliding Window & Selective Repeat, Go Back N and Throughput analysis
9. IP Addressing, Static and Dynamic Routing
10. Write a program to build client-server model on different computers
11. Socket Programming, Network Management/ Monitoring Tools
12. DHCP, DNS, FTP Server configuration

#### COMPILER DESIGN LABORATORY (PCS6I102)

This lab is divided in to two parts namely part 1 and part 2. All programs in part 1 must be written using C/C++. Programs related to lexical analyzer and parser must use Flex(Fast Lex) and Yacc available in all modern versions of UNIX and Linux distributions. For part 2, a simulator JFLAP is required to be installed. JFLAP works much like a black box and used to hide all implementation details and thus should only be used after students.

#### ELECTRICAL ENGINEERING

##### NETWORK THEORY LAB (PEE3I101)

Select any 8 experiments from the list of 10 experiments

1. Verification of Network Theorems using AC circuits. (Superposition, Thevenin, Norton, Maximum Power Transfer).
2. Study of DC and AC Transients for R-L, R-C & R-L-C circuits using storage oscilloscope.
3. Determination of circuit parameters: Open Circuit and Short Circuit parameters.
4. Determination of circuit parameters: Hybrid and Transmission parameters.

5. Frequency response of Low pass and High Pass Filters.
6. Frequency response of Band pass and Band Elimination Filters.
7. Determination of self inductance, mutual inductance and coupling coefficient of a single phase two winding transformer representing a coupled circuit.
8. Study of resonance in R-L-C series circuit using oscilloscope.
9. Study of resonance in R-L-C parallel circuit using oscilloscope.
10. Spectral analysis of a non-sinusoidal waveform.

#### ANALOG ELECTRONICS CIRCUIT LAB (PEE3I102)

##### List of Experiments

1. Design and simulate BJT bias circuit and compare the results.
2. Design and simulate JEET/MOSFET bias circuit and compare the results.
3. Design and simulate BJT common-emitter circuit and compare D.C and A.C performance:
4. Design and simulate JFET/MOSFET common-emitter circuit and compare D.C and A.C performance:
5. Determining the frequency response of a common-emitter amplifier: low frequency, high frequency and mid frequency response and compare with simulated results.
6. Differential amplifiers circuits: D.C bias and A.C operation without and with current source.
7. Study of Darlington connection and current mirror circuits.
8. OP-Amp Frequency Response and Compensation.
9. Application of Op-Amp as differentiator, integrator, square wave generator.
10. Obtain the band width of FET/ BJT using Square wave testing of an amplifier.
11. R.C phase shift oscillator/Wien-Bridge Oscillator using OP-Amp/Crystal Oscillator.
12. Class A and Class B Power Amplifier.

#### ELECTRICAL MACHINES LAB-I (PEE3I103)

1. Determination of Efficiency and Voltage Regulation by Open Circuit and Short Circuit test on single phase transformer.
2. Parallel operation of two single phase transformers.
3. Back-to Back test on two single phase transformers.
4. Study of open delta and Scott connection of two single phase transformers.
5. Speed control of a three phase induction motor using variable frequency drives
6. Determination of parameters of three phase induction motor from No load Test and Blocked Rotor Test.
7. Determination of Efficiency, Plotting of Torque-Slip Characteristics of Three Phase Induction motor by Brake Test.
8. Performance of grid connected induction generator.
9. Determination of parameter of a single phase induction motor and study of
  - (a) Capacitor start induction motor
  - (b) Capacitor start and capacitor run induction motor
  - (c) Universal motor
  - (d) Shaded pole motor

#### ELECTRICAL AND ELECTRONICS MEASUREMENT LAB (PEE3I104)

1. Measurement of Low Resistance by Kelvin's Double Bridge Method.
2. Measurement of Self Inductance and Capacitance using Bridges.
3. Study of Galvanometer and Determination of Sensitivity and Galvanometer Constants.
4. Calibration of Voltmeters and Ammeters using Potentiometers.
5. Testing of Energy meters (Single phase type).
6. Measurement of Iron Loss from B-H Curve by using CRO.
7. Measurement of R, L, and C using Q-meter.
8. Measurement of Power in a single phase circuit by using CTs and PTs.
9. Measurement of Power and Power Factor in a three phase AC circuit by twowattmeter method.
10. Study of Spectrum Analyzers.

### **ELECTRICAL MACHINES LABORATORY-II (PEE4I101)**

#### **List of Experiment:**

1. Determination of critical resistance and critical speed from no load test of a DC shunt generator.
2. Plotting of external and internal characteristics of a DC shunt generator.
3. Speed control of DC shunt motor by armature voltage control and flux control method.
4. Determination of the voltage regulation of an alternator by synchronous impedance method and zero power factor (zpf) method
5. Determination of the V and inverted V curves of a synchronous motor
6. Determination of parameters of synchronous machine
7. Positive sequence reactance
8. Negative sequence reactance
9. Zero sequence reactance
10. Determination of power angle characteristics of an alternator
11. Study of parallel operation of two alternators
12. Measurement of direct and quadrature axis reactance of a salient pole synchronous machine
13. Measurement of transient and sub transient reactance of a salient pole alternator

### **CONTROL SYSTEM LABORATORY (PEE4I102)**

#### **List of Experiments:**

1. Study of a dc motor driven position control system
2. Study of speed torque characteristics of two phase ac servomotor and determination of its transfer function
3. Obtain the frequency response of a lag and lead compensator
4. To observe the time response of a second order process with P, PI and PID control and apply PID control to servomotor
5. To determine the transfer function of a system (network) using transfer function analyser.
6. To study and validate the controllers for a temperature control system

7. To study the position control system using Synchroscope. B.Tech (Electrical Engineering) Syllabus for Admission Batch 2015.

#### DIGITAL ELECTRONICS CIRCUIT LAB (PEE4I103)

List of Experiments:

1. Digital Logic Gates: Investigate logic behavior of AND, OR, NAND, NOR, EX-OR, EXNOR, Invert and Buffer gates, use of Universal NANDGate.
2. Gate-level minimization: Two level and multi level implementation of Boolean functions.
3. Combinational Circuits: design, assemble and test: adders and subtractors, code converters, gray code to binary and 7 segment display.
4. Design, implement and test a given design example with (i) NAND Gates only (ii) NOR Gates only and (iii) using minimum number of Gates.
5. Design with multiplexers and de-multiplexers.
6. Flip-Flop: assemble, test and investigate operation of SR, D & J-K flip-flops.
7. Shift Registers: Design and investigate the operation of all types of shift registers with parallel load.
8. Counters: Design, assemble and test various ripple and synchronous counters - decimal counter, Binary counter with parallel load.
9. Memory Unit: Investigate the behaviour of RAM unit and its storage capacity – 16 X 4 RAM: testing, simulating and memory expansion.
10. Clock-pulse generator: design, implement and test.
11. Parallel adder and accumulator: design, implement and test.
12. Binary Multiplier: design and implement a circuit that multiplies 4-bit unsigned numbers to produce a 8-bit product.
13. Verilog/VHDL simulation and implementation of Experiments listed at Sl. No. 3 to 12

#### ELECTRICAL POWER TRANSMISSION & DISTRIBUTION LAB (PEE4I104)

1. Study and of Ferranti Effect.
2. Determination of ABCD Parameter.
3. Determination of string efficiency. 4. Earth resistance measurement.
5. Series and shunt capacitance computation in transmission line.
6. Transformer oil test.
7. Study of various lightning arresters.
8. Distribution system power factor improvement using switched capacitor.
9. Study of corona discharge.

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9. Study of corona discharge.

#### POWER ELECTRONICS LABORATORY (PEE5I101)

List of Experiment :

1. Study of the V-I characteristics of SCR, TRIAC, IGBT and MOSFET.
2. Study of the cosine controlled triggering circuit
3. To measure the latching and holding current of a SCR
4. Study of the single phase half wave controlled rectifier and semi converter circuit with R and R-L Load
5. Study of single phase full wave controlled rectifier circuits (mid point and Bridge type) with R and R-L Load
6. Study of three phase full wave controlled rectifier circuits (Full and Semi converter) with R and R-L Load
7. Study of the Buck converter and boost converter.
8. Study of the single phase pwm voltage source inverter.
9. Study the performance of three phase VSI with PWM control.
10. Study of the forward converter and flyback converter.

#### MICROPROCESSOR & MICROCONTROLLER LABORATORY (PEE5I102)

List of Experiment :

1. Addition, subtraction, multiplication and division of two 8 bit numbers
2. Smallest/largest number among n numbers in a given data array, Binary to Gray code, Hexadecimal to decimal conversion

#### DIGITAL SIGNAL PROCESSING LAB (PEE5I103)

1. Familiarization with the architecture of a standard DSP kit (Preferably TMS 320C6XXX DSP kit of Texas Instruments)
2. Generation of various types of waveforms (sine, cosine, square, triangular etc.) using MATLAB and DSP kit.
3. Linear convolution of sequences (without using the inbuilt conv. function in MATLAB) and verification of linear convolution using DSP kit.
4. Circular convolution of two sequences and comparison of the result with the result obtained from linear convolution using MATLAB and DSP kit.
5. (i) Computation of autocorrelation of a sequence, cross correlation of two sequences using MATLAB.  
(ii) Computation of the power spectral density of a sequence using MATLAB also implementing the same in a DSP kit.
6. Finding the convolution of a periodic sequence using DFT and IDFT in MATLAB.
7. (i) Implementation of FFT algorithm by decimation in time and decimation in frequency using MATLAB.  
(ii) Finding the FFT of a given 1-D signal using DSP kit and plotting the same.
8. Design and implementation of FIR (lowpass and highpass) Filters using windowing techniques (rectangular window, triangular window and Kaiser window) in MATLAB

and DSP kit.

9. Design and implementation of IIR (lowpass and highpass) Filters (Butterworth and Chebyshev) in MATLAB and DSP kit.

10. (i) Convolution of long duration sequences using overlap add, overlap save using MATLAB.

(ii) Implementation of noise cancellation using adaptive filters on a DSP kit.

#### ADVANCE ELECTRICAL COMPUTATION LAB-I (PEE5I201)

List of Experiment:

1. Power measurement of AC system using MATLAB:
2. Time response of a first/ second order system using Laplace Transform.
3. Numerical analysis: Non-linear equations and optimization, Differential equations
4. Series & parallel resonance circuit simulation.
5. Simulation of Half wave diode bridge rectifier circuit.
6. Simulation of Full wave diode bridge rectifier circuit.
7. DC analysis for R-L, R-C and R-L-C circuits using MATLAB .
8. AC analysis for R-L, R-C and R-L-C circuits using MATLAB .

#### Electrical Drives Lab (PEE6I101)

1. Speed Control of Single Phase Induction Motor by using Single Phase AC to AC Converter.
2. Speed Control of Separately Excited DC Shunt Motor using Single Phase Fully Controlled AC to DC Converter.
3. Speed Control of Separately Excited DC Shunt Motor using Four-Quadrant Chopper.
4. Speed Control of Separately Excited DC Shunt Motor using Single Phase Dual Converter.
5. Speed Control of Three Phase Squirrel Cage Induction Motor using Three Phase AC to AC Controller.
6. Speed Control of Three Phase Squirrel Cage Induction Motor using Three Phase PWM Inverter.
7. Speed Control of Three Phase Slip Ring Induction Motor using Rheostatic Control Method.
8. Speed Control of DC Shunt Motor using Three Phase AC to DC Converter.
9. Determination of the Transfer Function of DC Shunt Motor.
10. Determination of the Moment of Inertia of DC Shunt Motor Drive System by Retardation Test.

#### POWER SYSTEM LAB

Group A: HARDWARE BASED

1. To determine negative and zero sequence synchronous reactance of an alternator.
2. To determine sub-transient direct axis and sub-transient quadrature axis synchronous reactance of a 3-ph salient pole alternator.
3. 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.
4. To study the IDMT over-current relay and with different plug setting and time setting

multipliers and plot its time – current characteristics.

5. To determine the operating characteristics of biased differential relay with different % of biasing.

6. To study the MHO and reactance type distance relays.

7. To determine A, B, C, D parameters of an artificial transmission line.

8. To compute series inductance and shunt capacitance per phase per km of a three phase line with flat horizontal spacing for single stranded and bundle conductor configuration.

9. To determine location of fault in a cable using cable fault locator.

10. To study the Ferranti Effect and voltage distribution in HV long transmission line using transmission line model.

11. Insulation test for Transformer oil.

a) Study of various types of Lightning arrestors.

b) Study of layout of outdoor pole mounted & plinth mounted sub-stations.

Group B : SIMULATION BASED (USING MATLAB OR ANY OTHER SOFTWARE)

1. To obtain steady-state, transient and sub-transient short-circuit currents in an alternator.

2. To formulate the Y-Bus matrix and perform load flow analysis.

3. To compute voltage, current, power factor, regulation and efficiency at the receiving end of a three phase Transmission line when the voltage and power at the sending end are given. Use  $\Pi$  model.

4. To perform symmetrical fault analysis in a power system.

5. To perform unsymmetrical fault analysis in a power system.

6. Write a program in 'C' language to solve economic dispatch problem of a power system with only thermal units. Take production cost function as quadratic and neglect transmission loss.

## ELECTRONICS & COMMUNICATION ENGINEERING

### ANALOG ELECTRONICS CIRCUIT LAB (PET3G001)

1. Design and simulate BJT bias circuit and compare the results.

2. Design and simulate JEET/MOSFET bias circuit and compare the results.

3. Design and simulate BJT common-emitter circuit and compare D.C and A.C performance:

4. Design and simulate JFET/MOSFET common-emitter circuit and compare D.C and A.C performance:

5. Determining the frequency response of a common-emitter amplifier: low frequency, high frequency and mid frequency response and compare with simulated results.

6. Differential amplifiers circuits: D.C bias and A.C operation without and with current source.

7. Study of Darlington connection and current mirror circuits.

8. OP-Amp Frequency Response and Compensation.

9. Application of Op-Amp as differentiator, integrator, square wave generator.

10. Obtain the band width of FET/ BJT using Square wave testing of an amplifier.

11. R.C phase shift oscillator/Wien-Bridge Oscillator using OP-Amp/Crystal Oscillator.

12. Class A and Class B Power Amplifier.

### NETWORK THEORY LAB (PET3I102)

1. Verification of Network Theorems using AC circuits. (Superposition, Thevenin, Norton, Maximum Power Transfer).
2. Study of DC and AC Transients for R-L, R-C & R-L-C circuits using storage oscilloscope.
3. Determination of circuit parameters: Open Circuit and Short Circuit parameters.
4. Determination of circuit parameters: Hybrid and Transmission parameters.
5. Frequency response of Low pass and High Pass Filters.
6. Frequency response of Band pass and Band Elimination Filters.
7. Determination of self inductance, mutual inductance and coupling coefficient of a single phase two winding transformer representing a coupled circuit.
8. Study of resonance in R-L-C series circuit using oscilloscope.
9. Study of resonance in R-L-C parallel circuit using oscilloscope.
10. Spectral analysis of a non-sinusoidal waveform.

### SIGNALS AND SYSTEMS LAB (PET3I103)

#### List of Experiments:

1. Write a program to generate the discrete sequences (i) unit step (ii) unit impulse (iii) ramp (iv) periodic sinusoidal sequences. Plot all the sequences.
2. Find the Fourier transform of a square pulse .Plot its amplitude and phase spectrum.
3. Write a program to convolve two discrete time sequences. Plot all the sequences. Verify the result by analytical calculation.
4. Write a program to find the trigonometric Fourier series coefficients of a rectangular periodic signal. Reconstruct the signal by combining the Fourier series coefficients with appropriate weightings.
5. Write a program to find the trigonometric and exponential Fourier series coefficients of a periodic rectangular signal. Plot the discrete spectrum of the signal.
6. Generate a discrete time sequence by sampling a continuous time signal. Show that with sampling rates less than Nyquist rate, aliasing occurs while reconstructing the signal.
7. The signal  $x(t)$  is defined as below. The signal is sampled at a sampling rate of 1000 samples per second. Find the power content and power spectral density for this signal.
8. Write a program to find the magnitude and phase response of first order low pass and high pass filter. Plot the responses in logarithmic scale.
9. Write a program to find the response of a low pass filter and high pass filter, when a speech signal is passed through these filters.
10. Write a program to find the autocorrelation and cross correlation of sequences.
11. Generate a uniformly distributed length 1000 random sequence in the range (0,1). Plot the histogram and the probability function for the sequence. Compute the mean and variance of the random signal.
12. Generate a Gaussian distributed length 1000 random sequence. Compute the mean and variance of the random signal by a suitable method.
13. Write a program to generate a random sinusoidal signal and plot four possible realizations of the random signal.
14. Generate a discrete time sequence of  $N=1000$  i.i.d uniformly distributed random

numbers in the interval (-0.5,-0.5) and compute the autocorrelation of the sequence.  
15. Obtain and plot the power spectrum of the output process when a white random process is passed through a filter with specific impulse response

#### DIGITAL ELECTRONICS LAB (PET3I104)

##### List of Experiments:

1. Digital Logic Gates: Investigate logic behavior of AND, OR, NAND, NOR, EX-OR, EXNOR, Invert and Buffer gates, use of Universal NAND Gate.
2. Gate-level minimization: Two level and multi level implementation of Boolean functions.
3. Combinational Circuits: design, assemble and test: adders and subtractors, code converters, gray code to binary and 7 segment display.
4. Design, implement and test a given design example with (i) NAND Gates only (ii) NOR Gates only and (iii) using minimum number of Gates.
5. Design with multiplexers and de-multiplexers.
6. Flip-Flop: assemble, test and investigate operation of SR, D & J-K flip-flops.
7. Shift Registers: Design and investigate the operation of all types of shift registers with parallel load.
8. Counters: Design, assemble and test various ripple and synchronous counters - decimal counter, Binary counter with parallel load.
9. Memory Unit: Investigate the behaviour of RAM unit and its storage capacity – 16 X 4 RAM: testing, simulating and memory expansion.
10. Clock-pulse generator: design, implement and test.
11. Parallel adder and accumulator: design, implement and test.
12. Binary Multiplier: design and implement a circuit that multiplies 4-bit unsigned numbers to produce a 8-bit product.
13. Verilog/VHDL simulation and implementation of Experiments listed at Sl. No. 3 to 12

#### ELECTROMAGNETICS ENGINEERING LAB

1. Wave-propagation in conductors and dielectrics using HFSS/CST/MATLAB.
2. Current and charge flow of electromagnetic wave in a rectangular waveguide using HFSS/CST/MATLAB.
3. Uniform Plane Wave Propagation in an Arbitrary Direction
4. Transverse Electric Waves in a Parallel-Plate Waveguide
5. To calculate Dispersion and Group Velocity
6. To design Rectangular Waveguide
7. To design cavity Resonator
8. To show the modes of a rectangular waveguide using HFSS.
9. To show azimuth and elevation patterns
10. To show the input and output impedance
11. SWR measurements of rectangular waveguide
12. Reflection of plane waves

#### ELECTRICAL MACHINES AND POWER DEVICES LAB

1. Determination of critical resistance and critical speed from no load test of a DC shunt generator.
2. Plotting of external and internal characteristics of a DC shunt generator.

3. Starting of DC shunt motors by 3-point/ 4-point starter.
4. Speed control of DC shunt motor by armature control and flux control method.
5. Determination of Efficiency by Open Circuit and Short Circuit test on single phase transformer.
6. Polarity test and Parallel operation of two single phase transformers.
7. Open circuit and Short circuit test of an alternator.
8. Load test of three phase induction motors.
9. Calculation of slip and efficiency of three phase squirrel cage induction motor at full load.
10. Starting of single phase induction motors
11. Study of the V-I characteristics of SCR, TRIAC and DIAC.

#### ELECTRICAL AND ELECTRONICS MEASUREMENTS LAB

1. Measurement of Low Resistance by Kelvin's Double Bridge Method.
2. Measurement of Self Inductance and Capacitance using Bridges.
3. Study of Galvanometer and Determination of Sensitivity and Galvanometer Constants.
4. Calibration of Voltmeters and Ammeters using Potentiometers.
5. Testing of Energy meters (Single phase type).
6. Measurement of Iron Loss from B-H Curve by using CRO.
7. Measurement of R, L, and C using Q-meter.
8. Measurement of Power in a single phase circuit by using CTs and PTs.
9. Measurement of Power and Power Factor in a three phase AC circuit by two-wattmeter method.
10. Design a digital voltmeter using signal processing circuit, ADC and display
11. Study of Spectrum Analyzers

#### MICROPROCESSORS AND MICROCONTROLLERS LAB

1. Programs for 16 bit arithmetic operations using 8086.
2. Programs for Sorting and Searching (Using 8086).
3. Programs for String manipulation operations (Using 8086).
4. Programs for Digital clock and Stop watch (Using 8086).
5. Interfacing ADC and DAC.
6. Parallel Communication between two MP Kits using Mode 1 and Mode 2 of 8255.
7. Interfacing and Programming 8279, 8259, and 8253.
8. Serial Communication between two MP Kits using 8251.
9. Interfacing and Programming of Stepper Motor and DC Motor Speed control.
10. Programming using Arithmetic, Logical and Bit Manipulation instructions of 8051 microcontroller.
11. Programming and verifying Timer, Interrupts and UART operations in 8051
12. Communication between 8051 Microcontroller kit and PC.
13. A design problem using 8051 (A problem like multi-parameter data acquisition system, voltmeter, power meter, frequency counter, traffic simulation, digital clock, etc)

#### CONTROL AND INSTRUMENTATION LAB

List of Experiments:

**Control:**

1. Study of a dc motor driven position control system
2. Study of speed torque characteristics of two phase ac servomotor and determination of its transfer function
3. Obtain the frequency response of a lag and lead compensator
4. To observe the time response of a second order process with P, PI and PID control and apply PID control to servomotor
5. To study the characteristics of a relay and analyze the relay control system (Phase Plane)
6. To study and validate the controllers for a temperature control system
7. To study the position control system using Synchros

**Instrumentation:**

1. Measurement of unknown resistance, inductance and capacitance using bridges
2. To plot the displacement-voltage characteristics of the given LVDT
3. Measurement of temperature-voltage characteristics of J-type thermocouple
4. Use a strain gauge to plot the curve between strain applied to a beam and the output voltage
5. Study of resistance-voltage characteristics of Thermistors
6. To study on the interface of PLC with PC for data acquisition applications.

**DIGITAL SIGNAL PROCESSING LAB (PET5I102)**

1. Familiarization with the architecture of a standard DSP kit (Preferably TMS 320C6XXX DSP kit of Texas Instruments)
2. Generation of various types of waveforms (sine, cosine, square, triangular etc.) using MATLAB and DSP kit.
3. Linear convolution of sequences (without using the inbuilt conv. function in MATLAB) and verification of linear convolution using DSP kit.
4. Circular convolution of two sequences and comparison of the result with the result obtained from linear convolution using MATLAB and DSP kit.
5. (i) Computation of autocorrelation of a sequence, cross correlation of two sequences using MATLAB.  
(ii) Computation of the power spectral density of a sequence using MATLAB also implementing the same in a DSP kit.
6. Finding the convolution of a periodic sequence using DFT and IDFT in MATLAB.
7. (i) Implementation of FFT algorithm by decimation in time and decimation in frequency using MATLAB.  
(ii) Finding the FFT of a given 1-D signal using DSP kit and plotting the same.
8. Design and implementation of FIR (lowpass and highpass) Filters using windowing techniques (rectangular window, triangular window and Kaiser window) in MATLAB and DSP kit.
9. Design and implementation of IIR (lowpass and highpass) Filters (Butterworth and Chebyshev) in MATLAB and DSP kit.
10. (i) Convolution of long duration sequences using overlap add, overlap save using MATLAB.  
(ii) Implementation of noise cancellation using adaptive filters on a DSP kit.

**ANALOG COMMUNICATION LAB (PET5I103)**

1. Analyze and plot the spectrum of following signals with aid of spectrum analyzer: Sine wave, square wave, triangle wave, saw-tooth wave of frequencies 1 KHz, 10 KHz, 50 KHz, 100KHz and 1 MHz.
2. Analyze the process of frequency division multiplexing and frequency division demultiplexing.
3. Study and design of AM modulator and demodulator. (Full AM, SSB, DSBSC, SSBSC)
4. Study of FM modulation and Demodulation Techniques.
4. Observer the process of PAM, quantization and determination of quantization noise.
5. Multiplex 2-4 PAM/ PPM and PWM signals.
6. Using MATLAB/ LABVIEW generate a carrier and a modulating signal. Modulate the carrier using AM. Show the waveform in time domain and analyze its frequency spectrum. Repeat the simulation for modulating signal being square, triangular and other forms waveform.
7. Using MATLAB/ LABVIEW generate a carrier and a modulating signal. Modulate the carrier using FM. Show the waveform in time domain and analyze its frequency spectrum. Repeat the simulation for modulating signal being square, triangular and other forms waveform.
8. Using Lab-View software simulates AM modulation and demodulation system.
9. Using Lab-View software simulate FM modulation and demodulation system.
10. Design a receiver to demodulate and receive the signal from AM radio station.
11. Design a receiver to demodulate and receive the signal from the local FM radio station.

#### VLSI AND EMBEDDED SYSTEMS LAB

- VLSI Experiment List:
1. Design of schematic and simple layout for CMOS Inverter & perform parasitic extraction and simulation.
  2. Design of schematic and simple layout for CMOS NAND gate & perform parasitic extraction and simulation.
  3. Design of schematic and simple layout for CMOS NOR gate & perform parasitic extraction and simulation.
  4. Plotting of VTC curve of CMOS inverter using p-SPICE.
  5. Modelling and transient analysis of 2-inputs NAND & NOR gates using p-SPICE.
  6. Design & implementation of 16-bit Arithmetic & Logic unit using VHDL.

#### Embedded Systems Experiment list:

1. Study of ARM7 & ARM9 Bit Processor Architecture and Pin Diagram.
2. Study of Interrupt structure in ARM Processors.
3. Write ARM Processor program to Flash LED.
4. Interfacing of an LCD Display.
5. Write a program to interface an ADC.
6. Write a program to control a Stepper Motor.
7. Write a program to control the speed of DC motor.
8. Interface relays and write a program to control them.
9. Interface ZIGBEE with ARM to control more external devices.
10. Interfacing RFID module with ARM Microcontroller.



## DIGITAL COMMUNICATION TECHNIQUES LAB (PET6I101)

### List of Experiments:

1. Study the functioning of PCM and Delta modulator; Demonstrate the process of PCM modulation and Delta modulation.
2. Modulation generation and detection Signal generator CRO
3. To study Time division multiplexing.
4. To study the different channel coding and decoding technique.
5. Generation and reception of different types of signals like ASK, PSK, FSK.
6. To transmit and receive three separate signal audio, video, tone simultaneously through satellite link.
7. To transmit PC data through satellite link using a satellite communication demonstration unit.
8. Experimentally compare different forms of BPSK, QPSK, and OQPSK and analyze their Spectrum with spectrum analyzer.
9. Spreading and despreading using additive white Gaussian noise generation/ Gold code and other forms of spreading techniques.
10. Transmit different types of signals using ISDN system.
11. Analyze the process of data communication in LAN using LAN trainer and compare the performance different media access techniques.

## HIGH FREQUENCY ENGINEERING LAB (PET6I102)

### LIST OF EXPERIMENTS:

1. Study of microwave components and instruments.
2. Measurement of crystal characteristics and proof of the square law characteristics of the diode.
3. Measurement of klystron characteristics.
4. Measurement of VSWR and standing wave ratio.
5. Measurement of Dielectric constants.
6. Measurement of Directivity and coupling coefficient of a directional coupler.
7. Measurement of Q of a cavity.
8. Calibration of the attenuation constant of an attenuator.
9. Determination of the radiation characteristics and gain of an antenna.
10. Determination of the phase-shift of a phase shifter.
11. Determination of the standing wave pattern on a transmission line and finding the length and position of the short circuited stub.

## SOFT COMPUTING LAB (PET7H001)

### List of experiments:

- 1) Study of fundamental of Fuzzy Logic and Basic Operations.
- 2) Study of Fuzzy Weighted Average and Application.
- 3) Solve a given problem (operations) using Fuzzy logic in MATLAB.
- 4) Solve a given problem (Max-Min composition) using Fuzzy logic in MATLAB.
- 5) Study of Neural Networks and Perceptron Example.
- 6) Study of Radial Basis Function and Application
- 7) Study of Probabilistic Neural Networks and Application.
- 8) Study of GA tool in MATLAB.

- 9) Development of genetic algorithms for domain specific Engineering applications.
- 10) Development of different evolutionary algorithms for domain specific Engineering applications.

## **MECHANICAL ENGINEERING**

### **MECHANICS OF SOLID LABORATORY (PME3I101)**

#### **LIST OF EXPERIMENTS:**

1. Determination of tensile strength of materials by Universal Testing Machine
2. Determination of compressive strength of materials by Universal Testing Machine
3. Determination of bending strength of materials by Universal Testing Machine
4. Double shear test in Universal Testing Machine
5. Determination of Impact strength of material (Charpy and Izod)
6. Determination of Hardness strength of materials (Brinell, Rockwell and Vickers)
7. Determination of Rigidity modulus of material
8. Determination of Fatigue strength of material
9. Estimation of Spring Constant under Tension and Compression.
10. Load measurement using Load indicator, Load Cells.
11. Strain measurement using Strain Gauge.
12. Stress measurement using strain rosette.

### **FLUID MECHANICS AND HYDRAULIC MACHINES (PME3I102)**

#### **LIST OF EXPERIMENTS:**

1. Determination of Metacentric Height and application to stability of floating bodies.
2. Determination of  $C_v$  and  $C_d$  of Orifices.
3. Experiments on impact of Jets
4. Experiments on performance of Pelton Turbine
5. Experiments on performance of Francis Turbine
6. Experiments on performance of Kaplan Turbine
7. Experiments on performance of centrifugal pump
8. Experiments on performance of reciprocating pump
9. Experiments on Reynold's Apparatus
10. 12 Experiments on Flow through pipes
11. Experiments on performance of Gear pump
12. Verifications of momentum equation

### **ENGINEERING THERMODYNAMICS (PME3I103)**

#### **LIST OF EXPERIMENTS:**

1. Study of Cut-Sections of 2 stroke and 4 stroke Diesel Engine.
2. Study of Cut-Sections of 2 stroke and 4 stroke Petrol Engine.
3. Study of steam power plant.
4. Study of refrigeration system.
5. Study of gas turbine power plant.
6. Performance analysis of reciprocating air-compressor.

7. Performance analysis of Centrifugal / Axial Flow compressor.
8. Determination of performance characteristics of gear pump.
9. Measurement of steam quality using calorimeter
10. Verification of Joule-Thomson coefficient.

### **KINEMATICS AND DYNAMICS OF MACHINES (PME3I104)**

#### **LIST OF EXPERIMENTS:**

1. Design of any one working model related to Kinematics of Mechanisms i.e., Module I and II.
2. Design of any one working model related to Dynamics of Machinery i.e., Module III and IV.
3. Radius of gyration of compound pendulum
4. Radius of gyration of connecting rod
5. TRI –FILAR / BI-FILAR System
6. Experiment on Screw Jack
7. Experiment on Journal Bearing Apparatus
8. Experiment/Study on clutches
9. Experiment on Epicyclic Gear Train
10. Experiments on Simple/Compound/Reverted Gear trains
11. Experiment on Dynamometer
12. Experiment on Brake
13. Experiment on Coriolis component of acceleration.

### **MECHANISMS AND MACHINES (PME4I101)**

#### **LIST OF EXPERIMENTS:**

1. Design of any one working model related to Mechanisms and Machines i.e., Module I and II.
2. Design of any one working model related to Mechanisms and Machines i.e., Module III and IV.
3. Determination of gyroscopic couple using gyroscopic test rig.
4. Performance characteristics of a spring loaded governor
5. Determination of critical speed of rotating shaft
6. Experiment on static and dynamic balancing apparatus
7. Determination of natural frequencies of un-damped as well as damped vibrating systems.
8. Study of interference and undercutting for gear drives
9. Experiment on Cam Analysis Apparatus.
10. Experiment on evaluation of damping in a vibrating system

### **BASIC MANUFACTURING PROCESS (PME4I102)**

#### **LIST OF EXPERIMENTS:**

1. Determination of grain size, clay content, permeability and green compressive strength of Molding sand. (2 to 3 experiments)
2. Foundry Practices

3. Preparation of a wood pattern.
4. Determination of strength of brazed and solder joints
5. Practice and preparation of job in TIG/MIG welding
6. Practice and preparation of job in sheet metal using processes like forming and deep drawing.
7. Demonstration of different rolling mills
8. Demonstration of Extrusion processes.

### **INTERNAL COMBUSTION ENGINES AND GAS TURBINES (PME4I103)**

#### **LIST OF EXPERIMENTS:**

1. Valve timing diagram of an IC engine
2. Study of a modern carburetor (e.g.Solex Carburtor)
3. Study of fuel injection system of a diesel engine
4. Analysis of exhaust gas of automobile
5. Study of different cooling systems in automobiles (Air cooling and water cooling).
6. Study of lubrication systems in automobiles.
7. Load test on 4-stroke single cylinder C.I. engine.
8. Load test on 4-stroke single cylinder S.I. engine.
9. Morse Test on multi-cylinder S.I. or C.I. engine
10. Load test on variable compression ratio S.I. engine
11. Load test and Heat balance on 2 stroke S.I. Engine

### **MECHANICAL MEASUREMENT, METROLOGY & RELIABILITY LAB (PME4I104)**

#### **LIST OF EXPERIMENTS:**

1. Calibration of LVDT using indicator / CRO
2. Calibration of load cell using electrical resistance strain gauge
3. Calibration of a Rotameter for fluid flow measurement
4. Calibration of thermo couples
5. Calibration of Bourden Tube Pressure Gauge and measurement of pressure using manometer
6. Experiment on Pneumatic trainer
7. Experiment on Hydraulic trainer
8. Determination of damping coefficient of vibration absorbing materials using vibration measuring equipment.
9. Strain measurement using resistant strain gauge
10. Measurement of straightness and flatness
11. Measurement of roughness of the surface
12. Experiment on slip gauges and sine bar

### **DESIGN OF MACHINE ELEMENTS (PME5I001)**

#### **LIST OF EXPERIMENTS:**

1. Design of any one working model related to Design of machine elements i.e., Module I and II.
2. Design of any one working model related to Design of machine elements i.e., Module

III and IV.

3. Design & drawing of Riveted joint
4. Design and drawing of Cotter joint
5. Design and drawing of Knuckle joint
6. Design of shafts subjected to combined loading
7. Design and drawing of Flange coupling
8. Design of spring
9. Design of bearing

### **MACHINING SCIENCE AND TECHNOLOGY (PME5I101)**

#### **LIST OF EXPERIMENTS:**

1. Job on lathe with taper turning, thread cutting, knurling and groove cutting (3 experiments).
2. Gear cutting (with index head) on milling machine
3. Working with shaper, Planner and slotting machine.
4. Working with surface and cylindrical grinding.
5. Determination of cutting force using Lathe tool dynamometer.
6. Determination of cutting force in drilling using drill tool dynamometer.
7. Study of Non-traditional machining processes.(USM, AJM, EDM, ECM)
8. Study of CNC Lathe and demonstration of making job in CNC lathe.
9. Study of CNC Milling machine and demonstration of making job in CNC Milling machine

### **HEAT TRANSFER (PME5I102)**

1. Determination of Thermal conductivity of composite slab
2. Determination of heat transfer coefficient in natural/forced convection.
3. Determination of surface emissivity
4. Performance test on parallel flow and counter flow heat exchanger
5. Efficiency and effectiveness of fins (Natural / Forced convection)
6. Determination of Critical heat flux during boiling heat transfer.
7. Verification of Stefan Boltzman's law.

### **ADVANCED LAB-I**

#### **MACHINE DRAWING (PME5I201)**

Orthographic and Sectional drawing of Machine components: (Any seven) Screw threads, Screwed fastenings, Turn Buckle, Keys, Cotter joints and Knuckle joints; Pulley; Flanged coupling, Pedestal Bearing or Plummer Block. Fundamentals of AutoCAD (Two classes)

1. Dimension & annotations
2. Use of Layers
3. Working with constraint in dimension
4. Creating assembly
5. Axi-symmetrical parts
6. Creating surface features
7. Working with bill of material

Drawing of the following using AUTOCAD: (Any two)

1. Projection of solids

2. Nut & bolt and Fasteners
3. Cotter joint
4. Expansion joint
5. Shaft coupling

### **PRODUCTION AND OPERATION MANAGEMENT (PME6I101)**

#### **LIST OF EXPERIMENTS:**

1. Do Work Sampling of any work situation and determine how much time is spent in value addition, inspection /checking, communication and idleness.
2. Collect layout of any industry/ institute and design layout of similar industry/ institute to be constructed on a different site.
3. Select two or more possible locations for setting up of an industry/ institute and do comparative evaluation with respect to different parameters.
4. Gather sample data about stock of different items, their consumption pattern and price from any one of the following business firms such as Automobile Repair Shop, Medicine Store, Consumer Store, Production Shop, Service Centre etc and suggest stock that should be maintained for optimizing Inventory.
5. Hands on practice on any Manufacturing Execution System (MES) software/ ERP suit such as NetSuite Manufacturing, IQMS MES Software, Fishbowl Manufacturing, JobBOSS, MES SIMATIC IT, etc.
6. Hands on practice on simulation software for manufacturing/ supply chain/ logistics, such as Arena, Witness, Flexsim, Plant Simulation, AnyLogic, Simio, etc.

### **REFRIGERATION AND AIR CONDITIONING (PME6I102)**

#### **LIST OF EXPERIMENTS:**

1. Determination of C.O. P on vapour compression system
2. Determination of C.O. P on vapour absorption system
3. Performance test on Air conditioning test rig (Window type)
4. Performance test on Air conditioning test rig (Duct type)
5. Determination of C.O.P of ice plant
6. Determination of C.O.P of Heat Pump
7. Performance analysis in an experimental cooling tower.

- **Computing Facilities**

- Internet Bandwidth : 48 MBPS
- Number and configuration of System 240
- Total number of system connected by LAN 120
- Total number of system connected by WAN 120
- Major software packages available : Yes
- Special purpose facilities available : Yes

- **Innovation Cell** : Yes

- **Social Media Cell** : Yes

- **Compliance of the National Academic Depository (NAD), applicable to PGCM/ PGDM Institutions and University Departments:** Not Applicable

- **List of facilities available**

- Games and Sports Facilities : Yes

- Extra-Curricular Activities : Yes
- Soft Skill Development Facilities : Yes

• **Teaching Learning Process**

- Curricula and syllabus for each of the programmes as approved by the University : Yes
- Academic Calendar of the University : Yes
- Academic Time Table with the name of the Faculty members handling the Course : Yes
- Teaching Load of each Faculty : Yes
- Internal Continuous Evaluation System and place : Yes
- Student's assessment of Faculty, System in place : Yes

• **For each Post Graduate Courses give the following:** NOT APPLICABLE

- Title of the Course
- Curricula and Syllabi
- Laboratory facilities exclusive to the Post Graduate Course
- Special Purpose
- Software, all design tools in case : Yes
- Academic Calendar and frame work : Yes

**16. Enrollment of students in the last 3 years**

2019 – 20	: 314
2018 – 19	: 417
2017 – 18	: 244

**17. List of Research Projects/ Consultancy Works**

- List enclosed

**18. LoA and subsequent EoA till the current Academic Year**

:Attached as Annexure

**19. Accounted audited statement for the last three years** : Attached as Annexure

**20. Best Practices adopted, if any**

- Note: Suppression and/or misrepresentation of information shall invite appropriate penal action. The Website shall be dynamically updated with regard to Mandatory Disclosure

**21. NBA Accreditation status: Applied for Civil Engineering and Electrical Engineering but visit not happened**

(Dr Himansu Mohan Padhy)  
Principal, Sophitorium Engineering College  
Khurda, Odisha



**PRINCIPAL  
SOPHITORIUM  
ENGINEERING COLLEGE  
KHURDA, ORISSA**