

HANDBOOK

2018-19

VISION

To provide India and the World, technical manpower of the highest academic excellence and world class by shaping our youth through holistic and integrated education of the highest quality.



MISSION

To develop Nitte Meenakshi Institute of Technology through Quality, Innovative and State-of-the-Art educational initiatives into a centre of academic excellence that will turn out youth with well balanced personality & commitment to the rich cultural heritage of India and who will successfully face the Scientific and Technological challenges in the fast-evolving Global scenario with a high degree of credibility, integrity and ethical standards.



QUALITY POLICY

To bring about Constant and Continuous Improvement in the Quality of Education Imparted and Turning out High Quality Professionals with Balanced and Globally Competitive Personality through Regular Monitoring of the Academic/ Administrative Activities of the Institution and Implementing Corrective Actions in following the Best Ethical and Transparent practices.



PERSONNEL MEMORANDUM

Name: _____

Admission Number: _____

USN: _____

Department: _____

Semester/Year: _____

Email-id: _____

Phone No. of Guardian: _____

Local Address: _____

Cell phone No. _____

Driving License No.: _____

Blood Group: _____

Hobbies: _____

Permanent Address: _____

Phone No. of Parents:

Mobile: Father: _____ Mother: _____

Landline: _____

Information by Hostellers:

Hostel Block: _____

Room No. _____

Emergency Contact No.: _____

Regulations are subjected to changes as and when the changes are made by the University. Students are informed to check the NMIT website and notice boards for updated regulations frequently

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FOREWORD



Shri N V Hegde

Chancellor, Nitte University and
President, Nitte Education Trust, Mangalore

You have joined Nitte Meenakshi Institute of Technology, which is a part of Nitte Education Trust and a well-known engineering college in the state, to pursue your engineering studies. Nitte Education Trust and all their institutions are committed to cultivating the intellectual, social and ethical development of its students, in an environment of freedom and responsibility.

I am sure that the four years that you will be spending in the campus will prepare you for a rewarding career and a good future. The College has created facilities, processes and systems for rewarding campus experience and I wish that students will make the best use of these.

Good grades are stepping stones towards getting a good job and eventually leading a good life. Listen to your teachers when they tell you WHAT to do. But more importantly, think about it later and ask yourself WHY they told you to do it. Focus on your goals and study hard and that will fetch you wonderful rewards.

I wish each one of you the best of life in this campus and I hope you will through your achievements bring fame and name to your parents and your college.

Shri. N. V Hegde



PREFACE

Prof. N. R. Shetty

Chancellor, Central University of Karnataka, Kalaburagi;
Chairman, Karnataka State Universities' Review Commission, Govt. of Karnataka,
Bangalore;

Vice President, Indian Red Cross Society, Karnataka State Branch;
Chairman, Sir. M. Visveswariah Memorial Foundation, Bangalore;

Vice Chairman, Bharat Ratna Sir .M.Visveswariah National Training Facility for
Skills for All Society (BMV NTFSA);

Former Vice Chancellor, Bangalore University,
Former President, ISTE, New Delhi.



This handbook provides all the essential information required for your understanding of the Nitte Meenakshi Institution (NMIT), to ensure your comfortable stay in the academic atmosphere and help you to acquaint yourself with the **DO's and DONT's**. And also the **MUST and SHOULD** at NMIT. You will find most of the policies, regulations and procedures of the NMIT contained here in their entirety or referenced.

The Preamble section introduces you to the Nitte Education Trust and its activities, NMIT activities including research projects undertaken, Governing Council, Academic Council and the academic and supporting staff of the institution. The salient points of the regulation of autonomous institution provide you the course load and all other requirements to be fulfilled to complete the course and get the degree. The Academic Programs section of the handbook contains description of academic programs such as course content, syllabus, text books, reference materials, teaching methodology, assessment methods etc. Wherever possible, dates for the activities have been included. The handbook is generally updated on an annual basis. It is the responsibility of the Heads of the Departments/ Chairpersons/School Director to maintain an updated copy to which students may refer.

The responsibility for distributing information about changes rests with the office of the administrator. Questions regarding content should first be addressed to your departments' Head/Chairperson and then the Dean Academic.

NMIT has taken all initiatives to make engineering education the most enjoyable activity by providing all the essential inputs made available in the campus: be it Curricular, Co- Curricular or Extra Curricular. In addition NMIT has also tied up with other reputed organizations to ensure greater opportunities are made available to the students and faculty. It is for the students and faculty to exploit these opportunities for their own benefit and achieve success.

Prof. N. R. Shetty

MESSAGE



Dr. H . C. Nagaraj

Principal, NMIT, Bangalore
Dean Faculty of Engineering, VTU, Belagavi.

NMIT, Bangalore has been growing to reach the highest excellence in engineering discipline since its inception. It's my privilege to write the foreword for the academic year 2018-19. This handbook has been well complied with all the available facilities, various activities and committees made available in our campus.

We have well qualified faculty with rich experience, technical staff and well equipped infrastructure to support the needs of the students. New methodologies have been incorporated in teaching learning process for better understanding of the concepts. We have regular mentoring process which would guide the student in progressive growth in the academics.

This handbook provides the complete organization, Academic Calendar and process adopted at NMIT, Bangalore that would support the students on any basic information required. I wish all the students an enjoyable stay and learn to prove to be an excellent individual.

Prof. H.C. Nagaraj

TOPPERS OF 2017-18 OUTGOING BATCH



Mr Kishan Kumar Gupta
Recipient of Nitte Gulabi Shetty
Gold Medal for highest CGPA &
First Rank Aeronautical
Engineering



Ms Niharika
Recipient of Justice K s Hegde
Gold Medal for Best outgoing -
Female



Mr Jeffery Sam Joseph
Recipient of Justice K s Hegde
Gold Medal for Best outgoing -
Male



Ms Deshna Kundu
First Rank Civil Engineering



Ms Nithya A
First Rank Computer Sc. &
Engineering



Ms Kumudashree
First Rank Electrical & Electronics
Engineering



Ms Soundarya S
First Rank Electronics &
Communication Engineering



Ms Farhana Mobin
First Rank Information Sc.&
Engineering



Mr K M Sreekanth
First Rank Mechanical Engineering

PREAMBLE

Justice K S Hegde established Nitte Education Trust (R) with emphasis on value based education. The Trust established a high school at Nitte in the year 1979. Today, the Nitte Education Trust comprises of Medical and Dental Colleges offering UG and PG Programmes and 5 paramedical colleges, a 1000 bed super speciality Hospital, at Mangalore. Two Engineering Colleges one at Nitte and another at Bangalore, MBA, MCA Institutes, a college of Hotel management, Two First Grade Colleges at Nitte and Bangalore, several High Schools and PU Colleges in Dakshina Kannada and Udupi District and One International School at Bangalore. It has established rural health centers in different places in Udupi and Dakshina Kannada district. – In all 38 institutions with more than 15,100 students, 3,100 staff and 18,500 alumni.

The Trust is headed by Shri N V Hegde, a well-known Philanthropist and is ably advised by Dr. N R Shetty, Chancellor, Central University of Karnataka, Kalburgi; Chairman, Karnataka Universities Review Committee; former Vice Chancellor of Bangalore University and a Reputed Academic Administrator of our Country. Prof.N.R. Shetty is the advisor of NMIT, Bangalore.

Nitte Meenakshi Institute of Technology (NMIT) at Yelahanka Bangalore, run by Nitte Education Trust, Mangalore, started functioning from the academic year 2001.

NMIT offers 4 years UG Engineering Degree Programmes in the following disciplines:

- **Computer Science & Engineering.**
- **Information Science & Engineering.**
- **Electronics & Communication Engineering.**
- **Mechanical Engineering.**
- **Electrical & Electronics Engineering.**
- **Civil Engineering.**
- **Aeronautical Engineering.**

NMIT also offers Two Years PG Programs in the following areas:

- **M Tech in VLSI Design & Embedded Systems;**
- **M Tech in Computer Science & Engineering;**
- **M Tech in Thermal Power Engineering;**
- **M Tech in Machine Design;**
- **M Tech in Digital Communication & Networking;**
- **M Tech in Computer Network Engineering;**
- **M Tech in Structural Engineering;**
- **M Tech in Renewable Energy;**
- **Master of Business Administration.**

NMIT also offers Master of Computer Applications program which is of three Years duration.

Visvesvaraya Technological University (VTU) has recognized several R&D centers offering Master's and Doctoral Programmes through research in the following Departments.

- **Computer Science & Engineering.**
- **Electronics & Communication Engineering.**
- **Mechanical Engineering.**
- **Electrical & Electronics Engineering.**

- **Information Science & Engineering.**
- **Civil Engineering.**
- **Masters in Computer Applications.**
- **Management Studies.**
- **Mathematics.**
- **Physics.**
- **Chemistry.**

University of Mysore (UoM) has recognized R&D centers of NMIT that are offering Doctoral programs in the following areas:

- **Computer Science.**
- **Electronics.**
- **Mathematics.**
- **Management Studies.**

In addition, 3 Years Diploma Programs that are offered by NMIT in the 2nd shift are:

- **Diploma in Mechanical Engineering**
- **Diploma in Electronics & Communication Engineering**
- **Diploma in Civil Engineering**
- **Diploma in Computer Science & Engineering**
- **Diploma in Electrical & Electronics Engineering**

All the above Programs have been approved by AICTE, New Delhi. The total sanctioned intake for 4 years UG Engineering Degree Programmes is 960 students per annum. The Institution is recognized by the Govt. of Karnataka (GOK) and is affiliated to Visvesvaraya Technological University, (VTU) Belgaum. Over the last decade, the Institute besides developing its Campus with infrastructural facilities has ensured Curricular, Co-Curricular and Extra Curricular activities and other amenities needed for the growth and development of the institution as well for the welfare of its staff and students.

Providing quality engineering and management education to the desiring and deserving students belonging to different parts of the country and world over, in addition, to the different regions of Karnataka is one of the main objectives of the institution.



The Institute's growth and development is phenomenal in terms of its achievements in the sense that the Govt. of Karnataka and Visvesvaraya Technological University, Belgaum have conferred the prestigious **"Autonomous Status" to NMIT (the youngest to have received this status)** from the Academic Year 2007-08, besides, being one of the very few Institutions in Our State, which has received permission from AICTE, New Delhi to admit 15% extra students, over and above, the sanctioned intake, for its UG and PG Programs on PIO quota, from the Academic Year 2008 – 2009. The Institution has been accredited by NAAC and four UG programs have been accredited under Tier-I by NBA, New Delhi. NMIT is the only unaided private engineering college in Karnataka state selected by the Govt. of India for the

World Bank funding under TEQIP (Technical Education Quality Improvement Program) Phase II under sub component 1.1.

Autonomous status of the Institute has definitely paved the way for introducing newer objectives into the philosophy of technical education. Keeping in view the need of the employment sector which is highly competitive, NMIT focus is geared towards quality, relevance and sustainability of its programs and products. Its new courses, teaching methodology, assessment practices are so designed that it is able to cater to the challenges posed by the society from time to time.

MILE STONES

Year	Achievement
2001	Establishment of NMIT with BE programs in CSE, ISE, ECE and EEE BE programs
2002	Introduction of BE program in Mechanical Engineering
2004	Started MBA program
2006	Started MCA program
2007	<ul style="list-style-type: none"> ➤ Grant of AUTONOMOUS status ➤ M. Tech in VLSI & Embedded Systems
2008	M. Tech in Computer Science & Engineering
2009	<ul style="list-style-type: none"> ➤ NBA accreditation for the programs CSE, EEE, ECE and ME ➤ Establishment of BE program in Civil Engineering
2010	<ul style="list-style-type: none"> ➤ Establishment of Innovation and Entrepreneurship Development Centre by the Department of Science and Technology (NSTEDB), New Delhi. ➤ STUDSAT-1, a satellite of PICO category designed and built by NMIT and its consortium colleges was launched by ISROs PSLV-C15. ➤ M. Tech in Thermal Power Engineering.
2011	<ul style="list-style-type: none"> ➤ World Bank Funding under TEQIP Phase II-Subcomponent 1.1 by the Govt. of India ➤ Establishment of BE Program in Aeronautical Engineering ➤ NBA Accreditation for CSE, ISE, ECE and EEE under Tier -1
2012	<ul style="list-style-type: none"> ➤ Identified as one of the Remote Centre of IITM/IITKGP for ICT ➤ Establishment of M Tech program in Computer Network Engineering and Digital Communication & Networking
2013	Establishment of M Tech program in Structural Engineering and Machine Design
2014	➤ Accreditation by NAAC (UGC)- 'A' grade

	➤ NMIT started Innovation Club supported by Visvesvaraya Technological University and Govt. of Karnataka
2015	➤ Establishment of Business Incubator supported by ministry of MSME (Micro, Small and Medium Enterprises), Govt. of India. ➤ Establishment of M Tech program in Renewable Energy Resources
2017	NBA Accreditation for Mechanical and Civil Engineering programs under Tier -1
2018	NMIT has been ranked 100 in Engineering category by National Institutional Ranking Framework (NIRF), Ministry of Human resource development, Govt of India.

OUTCOME BASED EDUCATION (OBE)

Outcome Based Education (OBE) is a systematic approach encompassing **defining, designing, building, focusing and organizing** everything in an education system in which emphasis is laid on **what the student has learnt or able to demonstrate as a result of their learning** rather than only on what has been taught to them. In simple terms, OBE **ensures standard of quality** in education system. Being an Autonomous Institute, our Institute has adopted Outcome Based Education system to inculcate academic excellence through various initiatives such as **Student Centric Teaching & Learning Process, Industry relevant curriculum, Highly Qualified Faculty with relevant experience in Industry & Academia, Multidisciplinary Research & Development, and Student Mentoring** etc.

How OBE helps students?

OBE ensures that a set of **learning outcomes from students are established** right in the beginning of the learning process. This helps the teacher to **streamline** the process of **curriculum design, course delivery & course assessment** to meet the required learning outcomes. This ensures **student centric education system**, where each **& every student is assessed against the learning outcome**, thereby ensuring high quality in education.

National Board of Accreditation (NBA)

The National Board of Accreditation (NBA) is one of the central accrediting bodies in India which ensures **quality assurance & continuous improvement** of the programme **through critical appraisal**. OBE is implemented & assessed at the programme level to meet the necessary quality or standard prescribed by the Independent accrediting bodies. NBA is one amongst them. Students would be happy to know that our institute is one among very few Institutions in the state of Karnataka to undergo NBA accreditation process in such a short time. Some of our UG programmes have undergone NBA accreditation under Tier-I (applicable to autonomous Institutions) scheme as per Washington Accord..

Definitions of some of the terms used in Outcome Based Education (OBE)

(a) **Mission and Vision statement** -- Mission statements are essentially the means to achieve the vision of the institution. For example, if the vision is to create high-quality engineering professionals, then the mission could be to offer a well-balanced programme of instruction, practical experience, and opportunities for overall personality development. Vision is a futuristic statement that the institution would like to achieve over a long period of time, and Mission is the means by which it proposes to move toward the stated Vision.

(b) **Programme Educational Objectives (PEOs)** – Programme educational objectives are broad statements that describe the career and professional accomplishments that the programme is preparing graduates to achieve.

(c) **Programme Outcomes (POs)** – Programme Outcomes are narrower statements that describe what students are expected to know and be able to do upon the graduation. These relate to the skills, knowledge, and behavior that students acquire in their matriculation through the programme.

(d) **Course Outcomes (COs)** -- Course Outcomes are narrower statements that describe what students are expected to know, and be able to do at the end of each course. These relate to the skills, knowledge, and behavior that students acquire in their matriculation through the course.

(e) **Assessment** – Assessment is one or more processes, carried out by the institution, that identify, collect, and prepare data to evaluate the achievement of programme educational objectives and programme outcomes.

(f) **Evaluation** – Evaluation is one or more processes, done by the evaluation team, for interpreting the data and evidence accumulated through assessment practices. Evaluation determines the extent to which programme educational objectives or programme outcomes are being achieved, and results in decisions and actions to improve the programme.

(g) **Mapping** – Mapping is the process of representing, preferably in matrix form, the correlation among the parameters. It may be done for one to many, many to one, and many to many parameters.

List of Programme Outcomes (POs) as prescribed by the National Board of Accreditation (NBA)

PO1- Engineering knowledge: Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialisation to the solution of complex engineering problems.

PO2- Problem analysis: Identify, formulate, research literature, and analyse complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.

PO3- Design/development of solutions: Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate

consideration for the public health and safety, and the cultural, societal, and environmental considerations.

PO4- Conduct investigations of complex problems: Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions;

PO5- Modern tool usage: Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modeling to complex engineering activities with an understanding of the limitations.

PO6- The engineer and society: Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal, and cultural issues and the consequent responsibilities relevant to the professional engineering practice.

PO7- Environment and sustainability: Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.

PO8- Ethics: Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.

PO9- Individual and team work: Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.

PO10- Communication: Communicate effectively on complex engineering activities with the engineering community and with society at large, such as, being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions.

PO11- Project management and finance: Demonstrate knowledge and understanding of the engineering and management principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments.

PO12- Life-long learning: Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change.

Programme Specific Outcomes (PSO)

Apart from above mentioned POs the programme will have **Programme Specific Outcomes (PSO)**, which mainly concerns with the outcomes specific to the sub discipline of the programme.

RESEARCH ACTIVITY

The institute is involved in R&D activities in the frontier/cutting edge/multidisciplinary areas of Engineering and Basic Sciences. The institution has been able to generate funds for the projects from various funding agencies like Department of Science & Technology, New Delhi, Department of Information Technology, New Delhi, AICTE, New Delhi., DRDO (ADE, CAIR, CVRDE, and NRB), VGST, The Govt. of Karnataka, IEEE, VTU. First time in India,

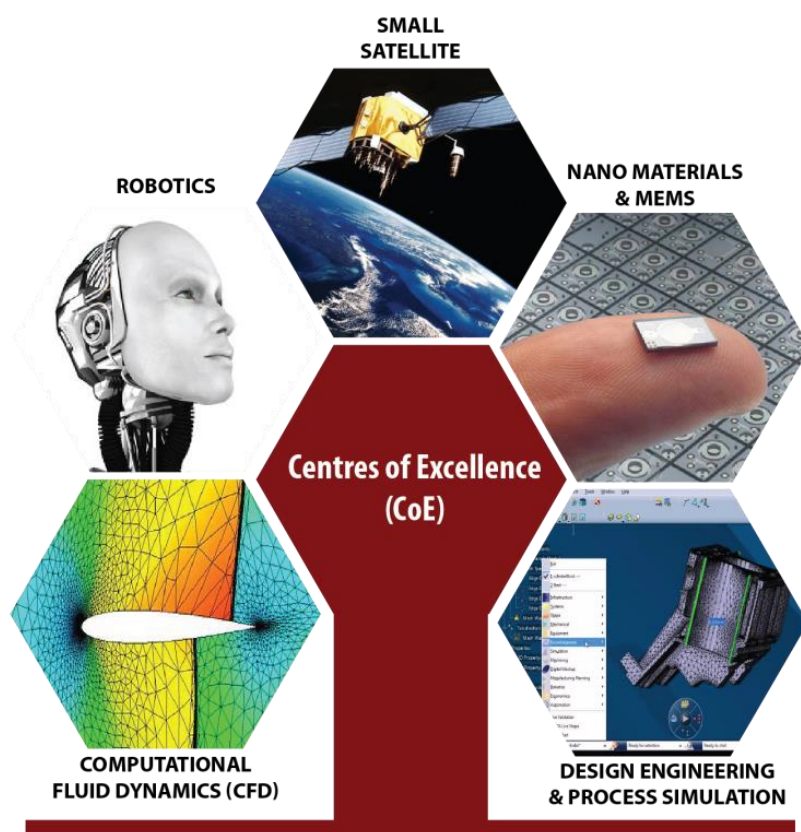
with NMIT's leadership, UG students from consortium of seven prominent Engineering colleges have successfully built India's first Pico Satellite "STUDSAT" which was launched through ISRO's PSLV-C15 vehicle on 12th July 2010 from Sriharikota. Training and Placement cell has been equipped with competent trainers to build' knowledge, skill and behavior of students coming with different competence levels and backgrounds and hence successful in attracting reputed employers for on-campus placement. In addition, reputed industries are involved in training the students and faculty to enrich their competence by filling the gap if any.

Following table provides the research activities that are in place under different departments:

DEPARTMENT	AREAS OF RESEARCH
Computer Science and Engineering	Image Processing Networks Robotics Cryptography Wireless Sensor Networks Data Mining Big Data Analytics
Information Science and Engineering	Data Mining Grid/Cloud computing Parallel computing Internet of things Cyber Security
Electronics and Communication Engineering	VLSI Design Embedded Systems Signal/Image processing Electronics and Communication MEMS Design and Fabrication
Mechanical Engineering	Materials and Design CAD/CAM/CAE CFD Manufacturing
Electrical and Electronics Engineering	Renewable Energy and Smart Grid Power System Operation and Control MEMS and Nano Materials in Renewable Energy
Civil Engineering	Concrete and Alternative Materials; Structural Analysis and Design; Structural Behaviour of RCC and Steel Elements; Computational Solid Mechanics, IFM Functionally Graded Materials Laminated composites Soil Mechanics
Aeronautical Engineering	Computational Fluid Dynamics; Heat Transfer; Composite Materials; Bio –Fuels Production Process

Mathematics	Bio Fluid Mechanics, Numerical Methods Graph Theory,; Number Theory
Chemistry	Organic Chemistry Membrane Technology Corrosion Studies
Physics	Thin films Material science Photovoltaic Cells Trace Elements

In addition to research at department level the **Institute has established 5 unique state of the art Multidisciplinary Centres of Excellence (CoE)** in different emerging areas of Science & Technology to promote collaborative Research & Development. These multidisciplinary research Centers of Excellence are as follows



Sl. No	Name	Coordinator
1.	Centre for Robotics Research	Dr Jharna Majumdar
2.	Centre for Small Satellite Research	Dr S Sandya
3.	Centre for Computational Fluid Dynamics	Dr Sekhar Majumdar
4.	Centre for Nano Materials and MEMS	Dr Veda Sandeep Nagaraj
5.	Centre for Design Engineering and Process Simulation	Dr Sudheer Reddy
6.	Centre for Aerospace and IOT	Dr P K Dash
7.	Centre for Innovation in cyber security and IOT	Dr Thippeswamy

In addition to these NMIT is also involved in the following academic innovation and entrepreneurship activities:

- Innovation and Entrepreneurship Development Centre, established in the year 2010, funded by the Department of Science and Technology (NSTEDB), New Delhi to the tune of Rs. 45 lakhs.
- NMIT finances every year, five innovative B.E projects each receiving Rs 1.00 Lakh per project.
- NMIT has established an Innovation Club supported by Visvesvaraya Technological University and Govt. of Karnataka with seed money of Rs. 5.00 Lakhs.
- NMIT has established Business Incubator supported by MSME (Micro, Small and Medium Enterprises), Govt. of India.
- A Master Trainers' National Skills Development Center has been established in association with Govt. of Karnataka, Govt. of India, Public Sector Undertakings like ONGC, GAIL, Five Nationalized Banks etc. and is located in NMIT Campus.

Anusandhana Journal

A peer reviewed biannual journal **Anusandhana** is published by the college. ANUSANDHANA aims to publish state-of-the-art research articles pertaining to the emerging areas of Science, Engineering and Management. ANUSANDHANA serves as a platform to share research contributions, solutions to problems as well as to identify new areas for future research. The Journal provides opportunities to members of the faculty and researchers of Institutions of higher education across the country to publish their research findings, leading to interaction particularly in interdisciplinary areas. It is published bi-annually.

IMPORTANT CONTACT DETAILS

Sl. No	Name and designation	Contact No.
1.	Dr.H C Nagaraj Principal	080-22167803
2.	Dr. Jharna Majumdar Dean R&D, Prof & Head CSE (PG)	080-22167892
3.	Wardens-Boys Hostels 1.Mr Rajesh N 2.Mr-Srinivas N	9448912098 9611494607
4.	Wardens- Girls Hostels 1.Dr. Srilatha Rao 2.Ms Sneha Shetty	9900407008 9620064684
5.	Mrs. Chandrakantha Sharma Counsellor	9448464517
6.	Dr. Abdul Sattar HOD-Physics & First year coordinator	8951531221
7.	Examination Section	080-22167879
8.	Prof . Rohit Punja, Administrator, NMIT, Foreign Students	09820409881

9.	Mr. Srikanth Kotian Admission for CET & COMEDK and Scholarships	9448102070
10.	Mr. Gangadhar K C Senior Librarian	8123381280
11.	Mr. Rajashetty Accounts Officer	080-22167804
12.	Mrs Sony Malli Establishment Officer	080-22167804
13.	Mr. Mallikarjun Gowda Security officer	9343862544
14.	Mr. Benny Kumar Transport- Officer	9663627731
15.	Aveksha Hospital	080-67590000 9900072001

GOVERNING COUNCIL

Sl. No.	Name	Designation	Position
1.	Mr. N V Hegde	President, Nitte Education Trust and Chancellor, Nitte University, Mangalore.	Chairman
2.	Prof. N R Shetty	Chairman, Karnataka State Universities Review Commission, Government of Karnataka and Advisor, NET	Member
3.	Mr. Vishal Hegde	Industrialist, Trustee, NET	Member
4.	Mr. Rajendra M	Director (Finance & Planning) , NET	Member
5.	Sri. Sanjeev Kubakaddi	Director, ITEI Knowledge Solutions Bangalore	VTU Nominee
6.	Dr. G Pundarika	Principal, Govt. Engineering College, Ramanagara	State Government Nominee
7.	Dr. P N Singh	Former Director, NITK, Surathkal	Member
8.	Dr. K D Nayak	DS & Director General, DRDO, New Delhi	Member
9.	Dr. L M Patnaik	Advisor, Technical, NMIT, Former Vice Chancellor, Defence Institute of Advance Technology, Pune Adjunct Prof and INSA Senior Scientist, NIAS, Bangalore	VTU Nominee
10.	Dr. K Sudha Rao	Advisor Administration & Management NMIT National Fellow: ICSSR, New Delhi Executive Director & Member Secretary, Karnataka Knowledge Commission, Bangalore Former VC, KSOU, Mysore, Former,	Member

		Senior advisor AICTE	
11.	Dr. R.P Dahiya	Vice Chancellor, Deenabandhu Chhotu ram University of Science and Technology, Murthal	UGC Nominee
12.	Mr Rohit Punja	Administrator, NMIT	Member
13.	Dr. K Venkatesh Rao	Professor, Dept. of CSE, NMIT	Member
14.	Prof. Ranganatha Setty	Former Principal RVCE, Special officer VTU, Former Dean Academic NMIT	Member
15.	Dr. H C Nagaraj	Principal, NMIT	Member Secretary

ACADEMIC COUNCIL

Sl. No.	Name	Designation	Position
1.	Dr. H C Nagaraj	Principal, NMIT	Chairman
2.	Dr. Vidyavathi N	Professor, Dept. of Civil Engineering, NMIT	Member Secretary
3.	Prof. L M Patnaik	Advisor (Technical)	Special Invitee (Governing Council Nominee)
4.	Prof. K Sudha Rao	Advisor (Management and Administration)	Special Invitee (Governing Council Nominee)
5.	Mr. Rohit Punja	Administrator, NMIT	Special Invitee (Governing Council Nominee)
6.	Dr. Jharna Majumdar	Dean R & D, NMIT	Member
7.	Dr. Thippeswamy M N	HOD, CSE, NMIT	Member
8.	Dr. Sanjay H A	HOD, ISE, NMIT	Member
9.	Dr. Sandya S	HOD, ECE, NMIT	Member
10.	Mrs. Vasudha Hegde	HOD, EEE, NMIT	Member
11.	Dr. Sudheer Reddy	HOD, ME, NMIT	Member
12.	Dr. Bharathi Ganesh	HOD, CV, NMIT	Member
13.	Dr. Pramod Kumar Dash	HOD, AE, NMIT	Member
14.	Dr. Dhanajaya Murthy	HOD, Mathematics, NMIT	Member
15.	Dr. Srilatha Rao	HOD, Chemistry , NMIT	Member
16.	Dr. Abdul Sattar S	HOD, Physics, NMIT	Member
17.	Dr. Harish Babu	HOD, MBA, NMIT	Member

18.	Dr. Prasad Naik Hamsavath	HOD, MCA, NMIT	Member
19.	Dr. Neha Jain	HOD, English, NMIT	Member
20.	Dr. S Venkateswaran	Professor, Dept. of AE, NMIT	Member
21.	Prof. Smitha Prabhu	Associate Professor, Dept. of ECE, NMIT	Member
22.	Mr. Prashanth N	Assistant Professor, Dept. of ME, NMIT	Member
23.	Dr. A N Shantharajappa	Controller of Examinations, NMIT	Member
24.	Dr. K Rajnikanth	Former Principal, MSRIT, Bangalore	Member (Governing Council Nominee)
25.	Dr. P Narayana Reddy	Former Principal, UVCE, Bangalore	Member (Governing Council Nominee)
26.	Dr. Navakanta Bhat	Professor, ECE, IISc, Bangalore	Member (Governing Council Nominee)
27.	Prof. K Gopakumar	Professor and Chairman, Department of Electronic Systems Engineering (Formerly CEDT), IISc, Bangalore	Member (Governing Council Nominee)
28.	Prof. Jayawanth H Arakeri	Professor and Chairman, Dept. of ME, IISc, Bangalore	Member (Governing Council Nominee)
29.	Acharya K.N.S	Vice President – EcoDe (Education & Competency development)	Member (Governing Council Nominee)
30.	Mr. Ravi Shankar Ivaturi	Operations Director of Global Technology Centres – India, China and Australia at Unisys	Member (Governing Council Nominee)
31.	Prof. Govindarajan	Professor & Chairman, SERC, IISc, Bangalore	Member VTU Nominee
32.	Dr. Chennareddy	Professor (Retd.), EEE,UVCE, Bangalore	Member, VTU Nominee
33.	Dr. B R Srinivasmurthy	Technical Advisor & Adjunct Professor, RASTA Center for Road Technology, Bangalore	Member VTU Nominee

UGC GUIDELINES

UGC - XII Plan guidelines (2012-2017) for the autonomous colleges:

Objectives are: The National Policy on Education (1986-92) formulated the following objectives for autonomous colleges. An autonomous college will have the freedom to:

- Determine and prescribe its own courses of study and syllabi, and restructure and redesign the courses to suit local needs;
- Prescribe rules for admission in consonance with the reservation policy of the state government;
- Evolve methods of assessment of students' performance, the conduct of examinations and notification of results;
- Use modern tools of educational technology to achieve higher standards and greater creativity; and
- Promote healthy practices such as community service, extension activities, projects for the benefit of the society at large, neighborhood programmes, etc.

Relationship with the parent university, the state government and other educational institutions: Autonomous colleges are free to make use of the expertise of university departments and other institutions to frame their curricula, devise methods of teaching, examination and evaluation. They can recruit their teachers according to the existing procedures (for private and government colleges). The parent university will accept the methodologies of teaching, examination, evaluation and the course curriculum of its autonomous colleges. It will also help the colleges to develop their academic programmes, improve the faculty and to provide necessary guidance by participating in the deliberations of the different bodies of the colleges.

The roles of the parent university are:

- To bring more autonomous colleges under its fold;
- To promote academic freedom in autonomous colleges by encouraging introduction of innovative academic programmes;
- To facilitate new courses of study, subject to the required minimum number of hours of instruction, content and standards;
- To permit them to issue their own provisional, migration and other certificates;
- To do everything possible to foster the spirit of autonomy;
- To ensure that degrees/diplomas/certificates issued indicate the name of the college;
- To depute various nominees of the university to serve in various committees of the autonomous colleges and get the feedback on their functioning; and
- To create separate wings wherever necessary to facilitate the smooth working of the autonomous colleges.

The state government will assist the autonomous colleges by:

- Avoiding, as far as possible, transfer of teachers, especially in colleges where academic innovation and reforms are in progress, except for need-based transfers;
- Conveying its concurrence for the extension of autonomy of any college to the Commission within the stipulated time of 90 days after receipt of the review committee report, failing which it will be construed that the state government has no objection to the college continuing as an autonomous institution;

- Deputing nominees on time to the governing body of government colleges and other bodies wherever their nominees are to be included.
- All three stake holders, the parent University, the State Govt. and UGC have to play a very harmonious and pro active role as facilitators in the growth and development of the autonomous institutions in letter and spirits.

INTERNAL QUALITY ASSURANCE CELL

In pursuance of its Action Plan for performance evaluation, assessment and accreditation and quality up-gradation of institutions of higher education, the National Assessment and Accreditation Council (NAAC) has proposed that every accredited institution should establish an Internal Quality Assurance Cell (IQAC) as a quality sustenance measure. Since quality enhancement is a continuous process, the IQAC will become a part of the institution's system and work towards realisation of the goals of quality enhancement and sustenance. The primery objectives of the IQAC is to develop a system for conscious, consistent and catalytic improvement in the overall performance of institutions and to promote measures for institutional functioning towards quality enhancement through internalization of quality culture and institutionalization of best practices.

Some of the functions expected of the IQAC are:

- a) Development and application of quality benchmarks
- b) Parameters for various academic and administrative activities of the institution;
- c) Facilitating the creation of a learner-centric environment conducive to quality education and faculty maturation to adopt the required knowledge and technology for participatory teaching and learning process;
- d) Collection and analysis of feedback from all stakeholders on quality-related institutional processes;
- d) Dissemination of information on various quality parameters to all stakeholders;
- e) Organization of inter and intra institutional workshops, seminars on quality related themes and promotion of quality circles;
- f) Documentation of the various programmes/activities leading to quality improvement;
- g) Acting as a nodal agency of the Institution for coordinating quality-related activities, including adoption and dissemination of best practices;
- h) Development and maintenance of institutional database through MIS for the purpose of maintaining /enhancing the institutional quality;
- i) Periodical conduct of Academic and Administrative Audit and its follow-up
- j) Preparation and submission of the Annual Quality Assurance Report (AQAR) as per guidelines and parameters of NAAC.

Sl. No.	Name	Designation
1	Dr. H C Nagaraj	Chairperson
2	Dr. Nalini N, Professor, Dept. of CSE	Member (Faculty Representative)
3	Dr. Sandya S,	Member

	Professor & HoD, Dept. of ECE	(Faculty Representative)
4	Dr. Sudheer Reddy, Professor & HoD, Dept. of ME	Member (Faculty Representative)
5	Dr. Harish Babu, Professor & HoD, Dept. of MBA	Member (Faculty Representative)
6	Mrs. Archana Naik, Associate Professor, Dept of CSE	Member (Faculty Representative)
7	Mrs. Vasudha Hegde, Associate Professor, Dept of EEE	Member (Faculty Representative)
8	Mr. Yashaswi, Assistant Professor, Dept of EEE	Member (Faculty Representative)
9	Mr. Nithin Aithal, Assistant Professor, Dept of ME	Member (Faculty Representative)
10	Mr. Rohit Punja	Member (Management)
11	Dr. A N Shantharajappa, Controller of Examinations (CoE)	Member (Examination Section)
12	Dr. Vidyavathi N, Professor, Dept. of CV	Member (Academic Section)
13	Mr. Raja Shetty Internal Auditor, Finance	Member (Accounts Department)
14	Mr. Shashidhar Ramalingappa	Member (Rotary)
15	Ms. Deepthi (III year, Dept. of ME)	Member (Student)
16	Mr. Sampath Janardhan Director, Code Parva Technologies	Member (Alumni)
17	Mr. Niranjana Mahaballappa Vice – President, Tech Mahindra	Member (Industry)
18	Dr. Kiran Vice – President, Subex Limited	Member (Industry)
19	Dr. Sanjay H A, Professor & HoD, Dept. of ISE	Member (Co-ordinator)

VTU GUIDELINES

Keeping in view the challenges faced by the technical education system in the country, and the challenges faced by the world over Visvesvaraya Technological University's autonomous cell developed "Autonomous College Statute, 2006" was framed under Section 43(a) (amendment 2006) of the Visvesvaraya Technological University Act (1994) of Karnataka. The following guidelines have been formulated by the. Autonomy Cell of the "Visvesvaraya Technological University. The same was assented to by Hon`ble. Governor of Karnataka on 15/12/2007. VTU STATUTES ON AUTONOMOUS COLLEGES (AMENDED) during 2011. Autonomous colleges that are under VTU are guided by 2011 statutes which has facilitated autonomous colleges to develop its own policy, plan and implement programs keeping view the 2011 amended statutes of the VTU to achieve excellence and progress.

Objectives of the Statute

- To Grant autonomy provisionally to eligible engineering colleges with the concurrence of the Government of Karnataka and the University Grants Commission, New Delhi whereby;
- The colleges have academic freedom which includes framing their own schemes of study, curricula and student evaluation. The colleges can revise their curricula as and when it is called for. This enables the colleges to modernize their curricula continuously which helps the students to get good and quick placements;
- The colleges can include add on courses during vacation;
- The colleges can conduct special supplementary semesters for weak students;
- They can have better interactions with local industries;
- There will be healthy competition among autonomous colleges to excel.
- The colleges can avail grants from funding agencies for development.

Governance and Functioning of autonomous colleges:

Governance of autonomous College is carried out as per statute and `Guidelines for Implementation of Autonomy`. Governing Body of the autonomous college, among others, has a nominee of the University. It lays down policies and procedures for Governance of the college carried out through the principal of the college.

Academic Council: is the apex academic body of the college responsible for approval of schemes of study, syllabi, examinations and evaluation methods, declaration of results, recommendation of candidates to the University for award of degrees etc. it has a nominee of the University.

Boards of Study: The college constitutes different Boards of Studies for different branches of engineering. The BOS's are responsible for framing of schemes of study and detailed curricula, academic rules etc. The BOS's have a University nominee each. Other bodies like Finance Committee, Recruitment Committee help in administration of the college.

Guidelines for Implementation of Autonomy:

VTU has constituted a committee consisting of all the autonomous college principals with the main agenda of developing guidelines for implementation of autonomy in colleges. NMIT principal is also a member of this committee

It is in consultation with the principals of these autonomous colleges, a set guideline has been evolved for systematic implementation of autonomy. Committee meets frequently to discuss problems and issues that arise from time to time in implementing autonomy and for issuing guidance for overcoming the same.

Norms for Change of Branch as per VTU/AICTE Guidelines

- Change of Branch is permitted in the beginning of IIIrd semester (2nd year B.E);
- Students admitted under SNQ quota are not eligible for change of branch;
- Branch change shall be available only to meritorious students and shall not be considered as a matter of right and is permitted if the strength in any branch is not falling 75% of the prescribed intake. Only those students who have passed in all subjects (Including non credit courses) are eligible to apply for change of branch.

Change of branch should be completed within 10 days of announcement of I & II semester (1st year) result.

- Branch change can be made only against vacancy (v) defined as :
 $V = I - (\text{Reg} + \text{Rep})$
Where I = The prescribed intake
Reg= No of regular students promoted to 3rd Semester
Rep= No of students from previous batches become eligible to join 3rd semester
- Branch change shall not be permitted to any course if $(\text{Reg} + \text{Rep}) > I$
- Branch change is strictly according to merit list prepared by the college on the basis of total marks obtained in the 1st year Semester End Examination;

INSTITUTION CHANGE (Change of College)

Student should find out the **equivalence of subjects** provided by the two departments, to which the student wants to enroll and from where he/she is coming from. The **following document along with a covering letter** to the Principal of NMIT, Bangalore needs to be submitted in the Principal's Office:

- **No Objection Certificate obtained** from where he/she was pursuing the course;
- **No Objection Certificate** from **Nitte Meenakshi Institute of Technology, Bangalore**;
- **Approval letter** for change of college **from VTU**.

NMIT REGULATIONS

Academic Regulations – Autonomous Programmes

(Following Regulations are subjected to changes as and when the changes are made by the University. Students are informed to check the NMIT website and notice boards for updated regulations frequently.)

Following the VTU guidelines NMIT has formulated its own Statutes in the interest of the students which has the approval of its GC and AC in addition to VTU.

1. As NMIT is free to make changes in the existing Curriculum, Scheme of Evaluation, while fulfilling the minimum academic standards the BOS of NMIT has accommodated suitable changes. NMIT follows credit system, with letter grades and numerical grade points average, for achievement testing in the examination.
2. **As suggested in the VTU guidelines** NMIT academic year is divided into 3 segments:
 - a. Two Main semesters.
 - b. One supplementary semester.

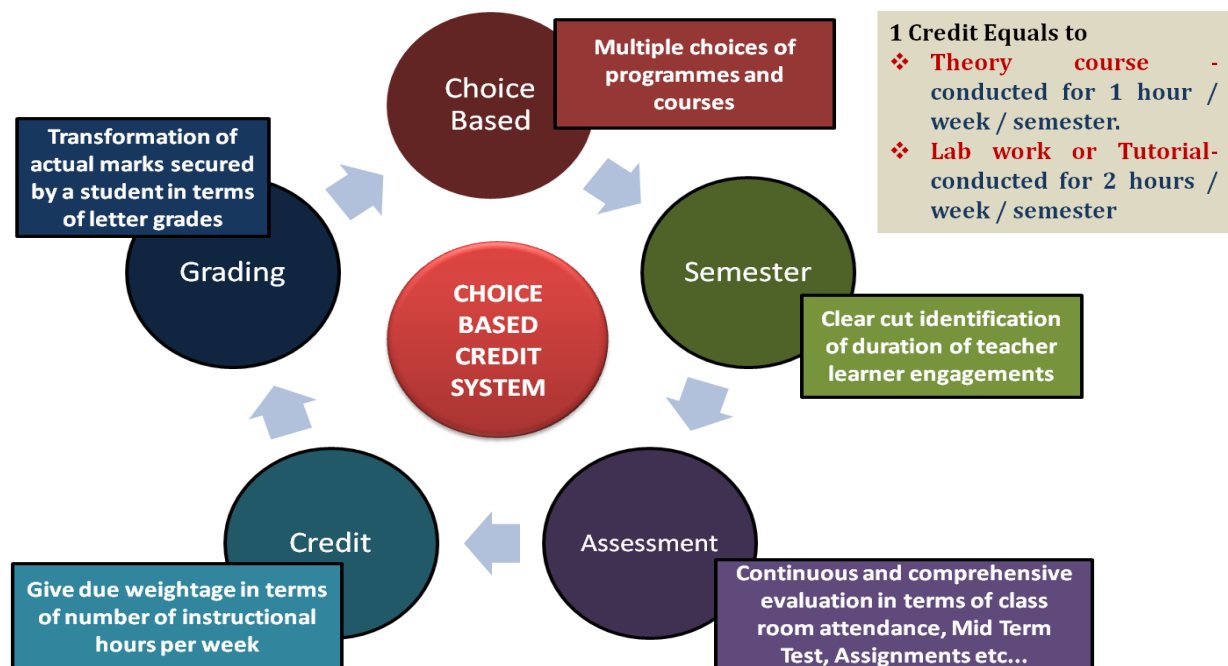
3 Duration of each Main Semester will be 19 weeks and that of a Supplementary Semester will be 8 weeks;

4. In each semester, there will be various provisions for students like registration of courses in the first week of the semester, dropping the courses in the middle and withdrawal from courses towards the end, all being under the advice of Faculty Advisors. These facilities are expected

to ensure proper monitoring of students by faculty advisors, leading to their improved learning capabilities and minimizing their chances of failure in the courses registered;

5. In credit system, each subject is assigned with credits. A student can take courses of credit weightage, for meeting the requirements of the degree program, such courses together with their grades and the credits earned will be included in the grade card issued by the college at the end of each semester and they form the basis for determining the students' academic performance in that semester;

ONE CREDIT is assigned to each unit of learning after a student completes the teaching learning process as prescribed for that unit and successful in its assessment.



6. Course load

A student can register for the course work, with a minimum course load being 16 credits and a maximum course load 28 credits per semester, the average course load for a semester being 22 credits.

- This facility will enable the student to suitably plan his/her course load in each semester to follow, by choosing it to be between ≥ 16 and ≤ 28 credit limits, based on faculty advice and his/her academic performance in the previous semester.
- This helps fast learners (or outstanding students) to accelerate their programme by registering and maintaining up to the maximum (28 credits) course load in each succeeding semester, based on their academic performance in the preceding and also in the current semesters; such **students are to be able to complete the total requirements of the programme (175 credits) in a shorter time period i.e. 7 semesters in all.**
- Similarly, slow learners (or weak students) are to register only for the minimum (16 credits) number of credits in each succeeding semester and strive to maintain good performance in all the courses registered and **complete the total requirements for the programme (175 credits) at a slower pace, say 9-10 semesters in all.**

7. 175 credits have to be earned by a student to obtain the B E degree and lateral entry student (diploma) have to earn 135 credits.

8. In credit system, students are assessed in two parts
- Continuous Internal Evaluation (CIE).
 - Semester End Examination (SEE).

CIE will be conducted by the subject teacher all through the semester; which includes mid-term tests, weekly/ fortnightly class tests, assignments, quiz, seminar, projects etc.

The breakup of CIE and SEE is as follows:

THEORY	
<u>Continuous Internal Evaluation (CIE)</u>	
Mid Sem Exam (MSE) 1	15 Marks
Mid Sem Exam (MSE) 2	15 Marks
Assignment, Test Based on assignment, Mini Projects, Experimental work/ Tutorials (Submission of Drawing Sheets in case of CAED / CMD / Electrical Machine Drawing)	10 Marks
Surprise Test, Quiz, Seminar, Mini Projects, Experimental work	10 Marks
<u>Semester End Exam (SEE)</u>	50 Marks
<u>Grand Total</u>	100 Marks
PRACTICALS	
<u>Continuous Internal Evaluation (CIE)</u>	
Mid Sem Exam	15 Marks
Records and Continuous Assessment	30 Marks
Viva-Voce, Surprise Test, Quiz (Objective Type)	05 Marks
<u>Semester End Exam (SEE)</u>	50 Marks
<u>Grand Total</u>	100 Marks

SEE will be conducted at the end of the semester, on dates to be fixed at the college level.

9. A grade is basically a qualitative measure(alphabet) giving the performance of a student in a Subject such as Outstanding(S), Excellent(A), Very good(B), Good(C), Average(D), Poor(E), and Fail/Unsatisfactory (F), based on the raw marks obtained by the student(includes both CIE & SEE).

Grade Point Scale:

Grade	S	A	B	C	D	E	F
Grade Point	10	9	8	7	06	04	00
Marks Obtained out of 100	≥ 90	89-80	79-70	69-60	59-50	49-40	< 40

There will be no re-examination for any course in the credit system, to take care of student who has failed, Student would require to re-register for the course when it is offered again (either in a main or supplementary sem) and fulfill the Passing Standards laid down to earn the specified credits.

10. Mandatory (Non-Credit) Learning Courses:

The performance of the student in these courses is based on his continuous Internal Assessment only and there is NO Semester End Exam for these courses.

The attendance requirement in these courses is 85% just like any other credited course.

For a pass in these courses the requirement is that he/she should score $\geq 40\%$ in the internal marks (CIE marks). Depending on his score in CIE, grade will be given similar to that of a credited subject.

The grades (grade points) will not be considered for calculation of SGPA/CGPA.

The performance of the student in these courses will not be considered for the vertical progression.

If the student fails to secure minimum attendance and/or minimum prescribed marks in CIE, he/she will be awarded NE grade/ F grade such students have to re-register for such courses again in the subsequent main semester/supplementary semester and put in the minimum prescribed attendance and earn the pass grade in CIE.

Without passing in these courses the student will not be eligible for the award of the degree.

11. Add/ Drop / Audit / Withdrawal options

- A student has the option to ADD courses for registration till the date specified for late registration, subject to the registration clause 5.
- A student has the option to DROP courses from registration until one week after the mid-semester examination without being mentioned in the Grade card. Such course to be taken up for study and reregistered by these students at a later time. He can drop up to the minimum credits specified for the semester, in registration clause 5.
- A student can register for auditing a course, or a course can even be converted from credit to audit or from audit to credit, with the consent of faculty advisor and course Instructor until one week after the mid-semester exam. However, CORE courses shall not be made available for audit. It is not mandatory for the student to go through the regular process of evaluation in an audit course. However, the student has to keep the minimum attendance requirement, as stipulated by the corresponding DUGC for getting the 'U' grade awarded in a course, failing which that course will not be listed in the Grade Card.
- A student can withdraw from a course at the end of the semester (before CIE submission to the exam section) with mention in the Grade Card (Grade 'W'); such courses to be taken up for study and reregistered by these at a later time. He can withdraw up to the minimum credits specified for the semester.

12. The Transitional Grades 'I', 'W' and 'X' would be awarded by the teachers in the following cases. These would be converted into one or the other of the letter grades (SF) after the student completes the course requirements.

Grade 'I': Awarded to a student having satisfactory attendance at classes and meeting the passing standard at CIE, but remained absent from SEE for valid & convincing reasons acceptable to the College, like Illness or accident, which disabled him/her from attending SEE, A calamity in the family at the time of SEE, which required the student to be away from the College; In addition to the norms the following procedure has to be followed to avail the benefit of I Grade:

- The Student / Parent / Guardian has to inform the Principal / Dean Academic / Controller of Examination / HOD, prior or on the day of examination about the inability of the student to attend the examination.
- After informing the authorities, should furnish the supporting documents within two days of the concerned examination.

The decision of assigning 'I' grade for such candidate will be at the discretion of the Principal / Controller of Examination based on the validity of the initial information provided and the supporting documents. Under no circumstances 'I' Grade will be awarded if initial information / supporting documents are not furnished within specified time.

Grade 'W': Awarded to a student having satisfactory attendance at classes, but withdrawing from that course before the prescribed date in a semester under Faculty Advice;

Grade 'X': Awarded to a student having **attendance** $\geq 85\%$ and **CIE** rating $\geq 90\%$ in a course, but SEE performance observed to be poor, which could result in an overall F Grade in the Course. However, X grade is not applicable to laboratory courses.

By the end of an academic year, during the supplementary semester all the temporary grades will have to be converted into one of the regular grades (S,A,B,C,D,E or F). The temporary grades cannot be carried to the next academic year.

- A student having X Grade in a subject and failing to pass the subject in the immediate next exam will be the automatically awarded an F grade / Not appearing for the immediate exam will automatically considered to X grade.
- In the supplementary semesters no provision to award X grade, irrespective of the percentage of attendance and the CIE marks.
- A student having I grade in a subject failing to pass in the immediate next exam will be automatically awarded an F grade/ not appearing for the immediate exam will be automatically converted in to F grades.
- Once a subject has been awarded F grade, it cannot be again awarded any temporary grade in the subsequent exams, it can only be converted into one of the eligible pass grades (S,A,B,C,D,E) based on the performance of the student in the subject in the subsequent exam, else it continues to be in F Grade.
- In the supplementary Semester, no provision for the award of 'I' grade.

13. Passing Standards

CIE	50 Marks	$\geq 40\%$ (i.e.20 Marks)
SEE	50 Marks	$\geq 40\%$ (i.e.20 Marks)

- A student will not be allowed to take up the SEE, if the CIE is less than 40 %.
- A student will be categorized in Not Eligible (NE) status which will amount to F grade in the course in the following cases,
 1. Not allowed to take SEE for not fulfilling minimum attendance requirement.
 2. Not allowed to take SEE for not fulfilling the minimum CIE requirement
 3. Absent for SEE.
- There shall be no re-examination for any course in the credit system to take care of such students:
 - a. Who have absented themselves from attending CIE or SEE without valid reasons; or
 - b. Who have failed (secured 'F' grade) to meet the minimum passing standards

- prescribed for CIE and/or SEE; or
- c. Who have been detained for want of attendance; or
 - d. Who have withdrawn ('W' grade)

Such students shall be required to re-register for the course(s) for study and go through CIE and SEE again and obtain a grade equal to or better than 'E'.

14. Grade point average is a credit index used for calculating Semester Grade Points Average (SGPA) and the Cumulative Grade Point Average (CGPA), both of which are important performance indices. SGPA & CGPA are calculated as below:

$SGPA = \frac{\sum (\text{Course Credit} \times \text{Grade Point}) \text{ for all the Courses registered in the current semester}}{\sum (\text{Course Credit}) \text{ for all the Courses registered in the current semester (Excluding Transitional Grades I)}}$

$CGPA = \frac{\sum (\text{Course Credit} \times \text{Grade Point}) \text{ for all the Courses registered upto the end of the current semester excluding with F \& Transitional Grades I, X upto the end of the current semester.}}{\sum (\text{Course Credits}) \text{ for all the Courses registered but excluding Courses with 'F' upto the end of the current semester.}}$

14. a. Grade Card

A separate grade card will be issued after every Odd semester exam/Even semester exam/makeup exam/supplementary exam that he/she has appeared.

14. b. Makeup Examination

The makeup examination facility is available to the students who may have missed to attend the SEE of one or more course in a semester for valid reason and given the "I" grade by the competent authority after every Odd/Even semester End Exam.

Students having the "X" grade shall also be eligible to take advantage of this facility.

The makeup examination will be held after the announcement of main (Odd/Even Semester) examination results.

The standard of the makeup examination is same as that of the main examination.

After the makeup examination all the temporary grades (I/X grades) will be converted into a regular grade like S, A, B, C, D, E, F.

Students having temporary grades (I/X) who do not make use of the makeup examination, their temporary grades shall automatically convert into F grade.

After each makeup exam all the pending temporary grades will be converted to F grades.

Separate grade card is issued for the makeup exam.

15. Vertical Progression

It would also be necessary to lay down uniform minimum standards for the vertical progression of students from current academic year to the next academic year. This would be helpful in facilitating the mobility of students from one College to another and also in avoiding any confusion among the students. The prescribed standards for vertical progression are,

- Students should not have more than Four Fail (F) Grades (F Grades pertaining to theory as well as Practical courses) at any point of time for admission to any higher Odd semester
- For admission to 7th semester BE program, the students should have completed all the courses of First Year.

- Non-Credit mandatory courses shall not be considered for Vertical Progression. However, they are to be completed for the award of the Degree.
- In case CGPA is less than 5.00 at the end of the BE program, students are permitted to appear gain for SEE in full or part of the corresponding previous semester theory course/s by rejecting the performance of them (other than interbship, technical seminar, project and laboratories) for any number of times subject to the provision of maximum duration of the program, to make up the CGPA greater or equal to 5.00 for the award of degree.
- **Minimum standard for CGPA=5.0 at the end of each academic year.**

16. Sometimes, it would be necessary to provide equivalence of these averages, viz., SGPA and CGPA with the percentages and/or Class awarded as in the conventional system of declaring the results of University examinations. This can be seen from Table which reproduces the approach of the Council for this purpose:

Percentage Equivalence of Grade Points (For a 10-Point Scale)

Grade Point	Percentage of Marks
≥ 5 and < 6.75	Second class
≥ 6.75 and < 7.75	First class
≥ 7.75	FC with Distinction

Conversion of grade point into a percentage is given by

$$\% \text{ Marks} = (\text{Grade point} - 0.75) \times 10$$

17. Supplementary Semester

- Supplementary Semester is primarily to assist Weak and /or failed students through make up courses. In the Autonomous scheme, students having F grade in any of the subjects cannot directly write the supplementary exams. They have to re-register for such subjects and earn the required CIE and attendance then take the supplementary SEE.
- A student shall be allowed to register for a maximum of 20 *credits* in a supplementary semester.
- The supplementary semester shall be utilized primarily to facilitate the failed students to attend the courses in which they have failed and not for launching any new courses for *credit*. However, a Department shall be free to arrange any ‘Add-On’ courses for its students during this semester.
- The academic activity in the supplementary semester shall be at double the rate as compared to a normal semester; e.g., 1 *credit* of course work shall require two hours/week in the class room, so that the contact hours are maintained the same as in a normal semester. It shall also be necessary to fulfill the requirements of CIE and SEE for all the courses like in a normal semester.
- Students intending to avail this facility shall have to register for the courses offered by paying the prescribed fees within the stipulated time.
- Temporary grades such as I/W/X will not be awarded during supplementary semesters.

18. Attendance

- It is mandatory for students to have 100% attendance. However, the candidate has to have a minimum 85% attendance in each subject/course with a provision of condoning 10% of the attendance by Principal for reasons such as medical grounds, participation in University level sports, cultural activities, seminars, workshops and paper presentation etc.
- A candidate having shortage of attendance in one or more subject shall have to repeat those courses.
- Students desirous of leave of absence for less than two weeks during a semester shall apply for it in advance to the Head of the Department giving reasons & supporting documents, if any, and get approval prior to leaving the campus.

19. Termination from the Programme

A student shall be required to leave the College without the award of the Degree, under the following circumstances:

- Failure (Getting F Grade) and not passing a course/subject to earn credit for the same, in spite of five successive attempts;
- Absence from attending classes for more than six weeks continuously in a semester, without the prior approval from the competent authorities.
- Failing to secure CGPA ≥ 5.0 at the end of any semester for the first time, to attract a warning before approval to continue in the following semester. However, a student failing to secure CGPA ≥ 5.0 on three consecutive occasions would be asked to discontinue the programme and leave the college.
- Failure to complete a full time 4 year BE programme in 8 years and in 6 years for lateral entry students.

20. Degree Requirements

- Minimum Earned Credit Requirement for B E Degree is 175 and 135 for lateral entry students.
- Completed all the prescribed credit requirements for the award of Degree in each of the courses, like Theory, Laboratory, Studio, Workshop, Seminar and Project Work;
- Satisfactory completion of all Mandatory Learning courses.
- Obtained a CGPA of ≥ 5.00 at the end of the semester in which he/she completes all the requirements for the award of Degree;
- Paid all the dues to the College including the Department, Hostels, Library and other units;
- No case or disciplinary action pending against him/her.
- The Maximum duration for a student for complying to the Degree Requirement is EIGHT years from the date of first registration for his first semester and SIX years for lateral entry students.
- The Maximum duration for a student for complying to the Degree
- The requirement is EIGHT years from the date of first registration for his first semester and SIX years for lateral entry students.

21. Declaration of Ranks

a. Ranks are awarded in each branch of Engineering based on the CGPA secured by the candidates (considering I to VIII semester subjects for students admitted to I semester of Engineering and III to VIII semester subjects for Lateral Entry students admitted directly to III semester).

Provided the candidate

- Has completed the entire course in the college itself.
- Has passed all the subjects in first attempt only, including the mandatory subjects with a CGPA of at least 7.75(FCD) or more.
- Has not repeated/rejected/withdrawn/secured I, F, W, X, NP grades in any of the subjects in the entire course.
- Has not discontinued the program for any period during the course of study.
- Has not been awarded any punishment for being involved in malpractice or indiscipline during the course of study in the college.

b. A minimum of 10 candidates should have appeared for the 8th semester examination in that branch of Engineering.

c. Total no. of ranks shall be 10% of total no. of candidates appeared in the 8th semester program in that branch of Engineering subject to a maximum of 5 ranks if the sanctioned intake of the branch is 60 and a maximum of 10 ranks if the sanctioned intake of the branch is 120 or more in the considered batch at admission.

22. Conduct during Examination

- Only one main answer book will be issued and normally no additional Books are permitted.
- The candidate should write his/her seat number and give other information like examination, semester, subject, subject code etc., against the space provided on the title page of the answer book.
- The candidate shall not write his/her name/USN or put any identification mark inside any part of the answer book, which may disclose his/her identity which will be treated as malpractice and liable for penalization.
- The question numbers should be mentioned in the margin only.
- The candidate shall write answers on both the sides of sheets of the answer book. All rough work must be done in the space provided at the end of the answer book. Answers must be written using blue ink (ball pen or ink pen). If there is a change in ink, the same shall be attested by the Room Superintendent on the facing sheet of the answer script at the top.
- Answer book should be handed over personally to Room Superintendent before leaving the examination hall.
- No. candidate shall be permitted to go to toilet during the period of examination.
- The candidate should not take any books/notes, log table, scribbling pads, Cell phones, programmable calculators, Pen Drive, or any kind of reference material into the examination hall. The candidate should make sure that he/she has no unauthorized book or paper in the examination hall with him/her or in his/ her desk. He/she should have only articles permitted like Identity Card, Hall Ticket /Admission Ticket. The candidate should not write anything on the Admission Ticket or Identity Card or Calculator should not have any writings other than officially printed.
- A warning bell will be given 10 minutes before the commencement of the examination when all the candidates should take possession of their seats, another bell will be given at the beginning of the examination when question papers will be distributed and the

- students should start writing the answers. No candidates shall be admitted 30 minutes after the commencement of the examination and also shall be allowed to leave the examination hall before 45 minutes of since the commencement of the examination. No candidate should leave his/her seat during last 10 minutes. Warning bell will be given 10 minutes before the closing time and final bell is given at the end of the examination. Then all the candidates should stop writing or revising the answers and should handover the answer book to the Room Superintendent.
- j. The candidates should see that, the Room Superintendent has appended his/her signature at the specified space on the answer book as and when he/she received the answer book.
 - k. Smoking and taking tea or coffee or cold drink in the examination hall is strictly prohibited. However, drinking water will be supplied on request.
 - l. Any candidate appearing for the examination is liable to be charged with committing malpractice in the following cases:
 - I. Bringing to the examination hall or being found in possession of portions of a book, manuscript, Cell phones, Programmable Calculator Pen Drive, digital watch or any other material or matter.
 - II. Having any written matter on scribbling pad, Question Paper, Admission Ticket,
 - III. Calculator, Palm, Hand, Leg, Hand Kerchief, Clothes, Socks, Instrument Box, Identity Card, Scales etc.
 - IV. Disclosing identity by writing any words or by making any peculiar marks or by writing USN on the pages other than the facing sheet in the answer scripts while answering.
 - V. Copying from the material or matter or answer of another candidate or similar aid or assistance is rendered to another candidate within the Examination Hall.
 - VI. Communicating with any candidate or any other person inside or outside the examination hall with a view to take assistance or aid to write answers in the examination.
 - VII. Making any request of representation or offers any threat for inducement or inducing to bribery to Room Superintendent or and any other official or officer of the college for favors in the examination hall or to the Examiner in the answer script.
 - VIII. Smuggling out or smuggling in or tearing off of the answer script sheets or supplementary sheets or inserting papers written outside the examination hall into the answer book or running away along with the answer script from the examination hall or premises.
 - IX. Impersonating or allowing any other person to impersonate to answer in his / her place in the examination hall.
 - X. Supply of copying material inside or from outside the examination hall.
 - XI. Bringing mobile phone to the examination hall. Unruly behavior inside or near the examination hall.

23. Penalties and punishments to the students involved in malpractice during the examination

Nature of Malpractice	The Penalty to be Imposed
1.Revealing the identity of the candidate	A fine not less than Rs.2500/- and/or to deny the benefit of the performance of that subject in which the candidate has revealed his/her identity.
2. Possession of Manuscript / printed or typed matter, books or notes and written matter on the calculator, instrument box, etc., or having any other written matter on the person (For Example , palm, hand , leg clothes, socks etc.,)	To deny the benefit of performance of the examinations of all subjects for which the candidate has appeared (both attended and to be attended)
3. Detection of identical answers scripts of different candidates or allowing a candidate to copy from his/her answer scripts.	To deny the benefit of performance of the examination of all subjects for which the candidates have appeared.
4. Appeal to the examiner with money as enclosures to the answer book / use of abusive / abusive language or threatening remarks in the answer book	To deny the benefit of performance of all subjects of the semester examination for which the candidates have appeared (both attended and to be of the particular examination conducted including arrear examinations)
5. Found giving or receiving assistance at the examination, passing the question paper with written answers / formulae / answer script / additional sheet / graph sheet / drawing sheet for the purpose of copying.	To deny the benefit of performance of the examination of all subjects for which the candidates have appeared (both attended and to be, of the particular examination conducted, including arrear examinations) debar them for a further number of chances extending up to three more examinations
6. Destroying the documentary evidence.	To deny the benefit of performance of the examination of all subjects for which the candidates have appeared (both attended and to be of the particular examination conducted, including arrear examinations) and/or debar them from taking any examination for one year. Such candidates shall re-join after one year.
7. The insertion of additional sheets / graph sheets / drawing sheets, use of answer book which are not issued at the examination hall	To deny the benefit of performance of the examination of all subjects for which the candidates have appeared (both attended and to be of the particular examination conducted, including arrear examinations) debar them for taking any examination for one year. Such candidates shall re-join after one year.
7. In case of Impersonation or found guilty of deliberate prior arrangements to cheat in the examination.	To deny the benefit of performance of the examination of all subjects for which the candidates have appeared (both attended and to be, of the particular examination conducted, including arrear examinations)

	debar them for a further number of chances extending up to six more examinations. (For the person who has impersonated the punishment shall extend up to reprimanding)
8. Abusing, threatening, manhandling the examination authorities at the examination hall or in the premises of the examination center, as well as misconduct of a very serious nature.	To deny the benefit of performance of the examination of all subjects for which the candidates have appeared (both attended and to be of the particular examination conducted, including arrear examinations) debar them for a further number of chances extending up to five more examinations depending of the degree of misconduct.
9. Any other malpractices connected with the Examination	The committee can recommend suitable penalties and punishment.

24. Examination Result and Appeal on Grades

- The results will be announced within one week from the last examination.
- The facility of re-totaling, revaluation and photocopy of the answer scripts is only for theory examination where answer scripts are valued only once (valued by single examiner). The candidate can apply for any number of papers of theory examination.
- A candidate shall submit an application to the Examination section in the prescribed format for re-totaling, revaluation and photocopy of the answer scripts by paying the prescribed fee within three days from the announcement of the results.

25. Grace Marks Policy

Grace marks shall be awarded to specified limits only in the cases where such grace marks would enable a candidate to pass either in a subject/ theory/practical or the whole examination.

25.1. Grace Marks shall be awarded to a subject/Theory/practical to a maximum of 1 (One) mark if, after the grace marks added, the candidate gets minimum prescribed marks in the theory/practical and passes in the subject.

- 25.2. A candidate shall be eligible to a maximum of 2 (Two) grace marks, provided
- He/She has failed in only one subject of the examination.
 - Passes the whole examination by such grace marks.
 - Gets minimum prescribed grade in the paper / practical and satisfies aggregate for
 - Passing by such grace marks provided not graced as per 25.1.

26. Internship/Minor Projects/Self study

Internship/Minor Projects/Self study are 2 credit student centric activity within the requirement of 200credits for the degree program.

26.1 Internship

- Internship has to be carried out by the student during summer vacation in an industry / R&D organization / in house.
- Duration of internship preferably is to be six weeks but not less than four weeks.

- c) Before taking up of the internship, student should submit a detailed report to the department on the work to be taken during the internship, permission letter from the organization where the internship to be carried out indicating the scope of the internship.
- d) Student should submit attendance certificate indicating the actual percentage of attendance duly signed by respective authorities.
- e) An internship completion indicating salient learning outcome of the internship by the student duly signed by the respective authorities along with the detailed report has to be submitted to the department.
- f) The student should be assessed by the committee formulated at the departmental level for CIE.
- g) SEE be conducted jointly by an internal / external examiner through viva voce and power point presentations.

26.2 Minor Projects

- a) The minor project to be identified by the students (should not be repetition of any mini project or final semester project undertaken by the students) and approved by the DUGC.
- b) The project selected should be such that the student has to put in at least 96 hours of work equivalent to 2 credits.
- c) Max. no. of students in the minor project could be 4.
- d) Student should submit the project proposal with expected learning outcomes and get approval from the DUGC.
- e) Student has to submit the detailed project report along with the learning outcomes from the minor project.
- f) The department will arrange for internal evaluation for CIE.
- g) SEE be conducted jointly by an internal / external examiner through viva voce and power point presentations.

26.3 Self study

- a) The value added course should be selected such that, the topic is not covered in any of the courses studied for the award of degree.
- b) The value added course should be approved by the DUGC.
- c) The project selected should be such that the student has to put in at least 96 hours of work equivalent to 2 credits.
- d) The department has to formulate a scheme for evaluation for CIE component.
- e) Each candidate has to submit a detailed report of the self study along with the learning outcomes from the course.
- f) Candidate will be evaluated for SEE jointly by an internal / external examiner through viva voce and power point presentations.

27. Fast Learner/ Slow Learner

NMIT is empowered to grace the academic program for students who are excellent in academics and also who are slow learners. In case of excellence in academics or slow in managing with the peers, the following can be adopted to complete the course:

1. A Student can register for the course work, with a minimum course load being 16 credits and a maximum course load of 28 credits per semester, the average course load for a semester being 22 credits.

2. This facility will enable the student to plan his/her course load in each semester to follow, by choosing it to be between ≥ 16 and ≤ 28 credit limits, based on faculty advice and his/her academic performance in the previous semester.
3. This helps fast learners (or outstanding students) to accelerate their programme by registering and maintaining up to a maximum (28 credits) course load in each succeeding semester, based on their academic performance in the preceding and also in the current semesters; **such students who are able to complete the total requirements of the programme (175 credits) in a shorter time period i.e., 7 semesters in all.**
4. Similarly, slow learners (or weak students) are to register only for the minimum (16 credits) number of credits in each succeeding semester and strive to maintain good performance in all the courses registered and **complete the total requirements for the programme (175 credits) with a maximum of 10 semesters.**

28. Bridge courses for lateral entry students

5 additional courses are offered for lateral entry students during the 3rd, 4th and 5th semester. The following are the courses offered:

- Bridge Maths-1 and Environmental Studies/ Constitution of India and professional ethics is offered in the 3rd semester
- Bridge Maths-2 and Constitution of India and professional ethics/ Environmental Studies is offered in the 4th Semester
- Communicative English is offered in the 5th Semester

29. Resolution of Disagreements

The principal will have the final say in the event of any disagreement in the interpretation of text in this handbook.

OTHER REGULATIONS

STUDENTS DISCIPLINE

Students admitted to this college for the purpose of qualifying academic credit are responsible for his / her achievement and success. He / she shall pursue the academic career with all sincerity commitment and honesty. Students should bear in mind that college education is different from school education and hence day to day discipline in their studies is essential for their progress and it gets accumulated over the period to get the final grade / credit etc.

Students are responsible for their actions. Students should take care that their actions do not cause harm or damage to members of the college community or physical assets. When a student is charged with the violation of any law in a situation in which college is not involved, the college has no obligation to assist, but may afford to the student such assistance as appropriate and practicable.

FORMAL GRIEVANCE PROCESS

A formal grievance process may be initiated in person by meeting the warden / HoD/ principal in in writing to the Grievance Redressal Cell. For matters involving faculty, the grievance should be directed to the Principal only. The college strongly encourages submission of grievances in writing after meeting with the concerned person(s). The formal grievance must identify and include the following information.

- Complaints and the date signed
- Name of the accused individual, his / her position / status
- Contact information, if known
- Clear and concise description of the alleged incident(s), when and where it occurred.
- Description of all informal efforts, if any, to resolve the issue(s) with the person involved.
- Supporting documentation and evidence; and
- Names of the witnesses who may have direct and relevant information about the specific allegation. (With accompanying addresses, email addresses a telephone number)

FALSE AND MALICIOUS COMPLAINTS

False and malicious accusations of sexual and other harassment as opposed to complaints, which even if erroneous, are made in good faith, may call for appropriate disciplinary action.

GRIEVANCE HEARING

The grievance hearing panel appointed by the advisor NMIT will conduct a hearing and will impose prompt remedial and disciplinary action against any person(s) responsible for causing the reported grievance.

RAGGING

Ragging is a social evil which can have an ill effect on the student community. This may have a psychological, mental, emotional, physical or other effect on a student. To curb this NMIT has taken several steps. With respect to the Reference to clause (g) of sub – section (I) of Section 26 of the University Grants Commission Act, 1956, and AICTE notification vide curricular no. F. No. 37-3/legal /AICTE/2009 dated 25/03/2009, all regulations will be followed strictly in the institute to root out ragging in all its forms, by prohibiting it by law, preventing its occurrence by following the provisions of these Regulations and punishing those who indulge in ragging as provided in these Regulations and the appropriate law in force.

Ragging constitutes one or more of any of the following acts

- a. Any conduct by any student or students, whether by words spoken or written or by an act which has the effect of teasing, treating or handling with rudeness a fresher or any other student;
- b. Indulging in rowdy or undisciplined activities by any student or students, which causes or is likely to cause annoyance, hardship, physical or psychological harm or to raise fear or apprehension thereof in any fresher or any other student;
- c. Asking any student to do any act which such student will not in the ordinary course do and which has the effect of causing or generating a sense of shame, or torment or

- embarrassment so as to adversely affect the physique or psyche of such fresher or any other student;
- d. Any act by a senior student that prevents, disrupts or disturbs the regular academic activity of any other student or a fresher;
 - e. Exploiting the services of a fresher or any other student for completing the academic tasks assigned to an individual or a group of students.
 - f. Any act of financial extortion or the forceful expenditure burden put on a fresher or any other student by students;
 - g. Any act of physical abuse, including all variants of it: sexual abuse, homosexual assaults, stripping, forcing obscene and lewd acts, gestures, causing bodily harm or any other danger to health or person;
 - h. Any act or abuse by speaking words, emails, posts, public insults which would also include deriving perverted pleasure, vicarious or sadistic thrill from actively or passively participating in the discomfiture to a fresher or any other student;
 - i. Any act that affects the mental health and self-confidence of a fresher or any other student with or without an intent to derive a sadistic pleasure or showing off power, authority or superiority by a student over any fresher or any other student.

PUNISHMENTS FOR RAGGING:

Actions taken on students who indulge in ragging are

- a. For every incident of ragging a First Information Report (FIR) will be filed by the institutional authorities with the local police authorities. There will be no exception.
- b. Depending upon the nature and the gravity of the offence as established the possible punishments for those found guilty of ragging shall be any one or any combination of the following:
 - i. Cancellation of admission.
 - ii. Suspension from attending the classes.
 - iii. Withholding/withdrawing scholarship/fellowship and benefits.
 - iv. Debarring from appearing in any test/examination or other evaluation process.
 - v. Suspension/Expulsion from the hostel.
 - vi. Rustication from the institution for period from 1 to 4 semesters.
 - vii. Expulsion from the institution and consequent debarring from admission to any other institution.
 - viii. Collective punishment: when the persons committing or abetting the crime of ragging are not identified, the institution shall report to collective punishment as a deterrent to ensure community pressure on the potential raggers.

Two committees have been formed to monitor and curb the ragging in the campus 24x7 under the chairmanship of Principal, namely

- Anti ragging squad
- Grievance Redressal Cell

DRUG FREE ZONE

Ministry of social justice and empowerment, United Nations office on drugs and crime has jointly recognized NMIT as drugs free zone. NMIT in association with Narcotics control bureau, zonal unit, Bangalore, ministry of home affairs, Govt. Of India are organizing several awareness camps in the campus to educate the students about the ill effect of the drugs, implement appropriate responses to drug related incidents, with an emphasis on precaution thru

drug education to form procedures for managing drug related incidents, including illegal drugs, alcohol, tobacco and misuse of over the counter and prescribed medications and includes provision of advice on supporting students who may have drug related problems.

RESPONSIBILITIES OF STUDENTS (Do's and Dont's)

- All students must conduct themselves, within and outside the precincts of the institution, in a manner befitting the students of a national institution of high repute,
- Students must take steps to get information from official sources such as circulars and notices. Students must not rely on updates from second-hand or unofficial sources. Students are expected to note deadlines specified in these circulars and notices and also expected to take action on or before these deadlines. If the student faces any challenge in taking timely action before the deadline, the student is expected to seek help well in advance (more than 10 days) of the deadline. If a student misses a deadline and does not seek help in advance, a lenient view may be taken for exceptional cases.
- Students must wear prescribed uniform while in the campus and also display college ID card issued by the College

The following acts of omission and /or commission by the students within or outside the precincts of the college shall constitute gross violation of code of conduct and hence are punishable

- Lack of courtesy and decorum, indecent/inappropriate behavior.
- Willful damage to property of the Institution/Hostel
- Willful harm to members of the college community.
- Possession, consumption or distribution of alcoholic drinks or any kind of hallucinogenic drugs, smoking or substance abuse.
- Damage to or unauthorized possession of library material, like books.
- Unauthorized hacking of computer systems, cybercrime and other such activities.
- Use of Mobile phone in the college Academic area.
- Unauthorized fund raising and promotion of sales.
- Any other activities considered by the college as grossly inappropriate.
- In each case above, the punishment shall be based on the gravity of offense covering from reprimand, levy of fine, expulsion from the hostel, debar from examination, rustication for a period, to outright expulsions.
- The reprimanding authority for an offense committed by students in the Hostels and in the Department or the classroom shall be, the Warden of the Hostels and the Head of the concerned Department.
- **A student will be completely and solely responsible for all his/her possessions, including his/her Laptop/Computer/Electronic gadgets/ ornaments/ cash etc. The institute will not be responsible for any loss/damage incurred.**
- A Student must attend classes regularly.
- A student must not indulge in unethical practices like communal violence, racism, strikes, gender discrimination
- A student must not indulge in malpractice during exams/tests;
- Those who stay at the hostel must maintain timings and adhere to instructions/rules given by the warden;
- Student must
 - Not litter and must keep the campus clean;

- Complete academic tasks like record completion, assignments in time;
- Respect his teacher / elders/ parents etc;
- Study from the prescribed text books / reference books;
- Not sit and loiter in corridors

INTERNATIONAL STUDENTS

NMIT has been granted an additional 15% seats by AICTE. These additional seats are exclusively for students who fall under the categories of Foreign Nationals, PIOs and Children of Indians working in Gulf countries. NMIT is recognized under the Ministry of Human Resource Development (MHRD) for admissions under the Foreign students' quota. Students from Nepal, Bangladesh, UAE, Iran, Nigeria, Sri Lanka and Thailand are pursuing their studies under the above schemes.

A separate wing is provided for the foreign students in the hostel, rooms with single, twin sharing facility are available. The foreign students are required to have valid passport and visa valid at least for 6 months. They need to renew the same within 14 days of expiry.

As soon as they report to college, within 14 days, they need collect a bonafide letter from Principal and report to Foreign Regional Registration office in Bangalore. This has to be repeated every year 14 days before expiry of VISA. This process is applicable to all foreign nationals except those who are from Nepal.

The students are not permitted to cook food in the hostel as in house dining facility is available for the students.

ADDITIONAL FACILITIES

A. CURRICULAR:

1. MENTORING OF STUDENTS

Every student is assigned a faculty advisor / mentor (hereafter called mentor) from the start of the first year. The mentor will talk to the student / parent on a regular and recurring basis. The student is expected to proactively meet the mentor if she/he has any queries or if he/she has any problems. The mentor will share his / her phone number with the student and the parent. The mentor will help the student in academic or other matters during his/her four years at NMIT. The mentor will maintain records of all interactions with the student and his/her parents.

The mentor will guide the student on matters related to academics. If the student finds a particular subject difficult he can be advised to withdraw the subject and take it up during supplementary semester. By doing so he will be able to concentrate well on other subjects during the regular semester. On the other hand if a student is a fast learner he can be advised to take up more subjects in a semester and complete the course in 7 semesters itself. If there are any issues pertaining to indiscipline the faculty advisor / mentor will contact the parent and inform of the same. If a student needs to take time off from college he will need to inform and take signature of the faculty advisor / mentor. A student should discuss all academic, college, hostel / mess or personal issues including health with his / her mentor. The faculty advisor /

mentor will work with Principal, Warden, Student Counselors/ Doctors or Dean of Student Welfare to seek help and resolve issues.

Every mentor will post comments / suggestions to the students in the website link of Gurukul. The link to this online portal can be accessed through the college website www.nmit.ac.in. Students and parents can access the portal using username and password.

If a student misses a class for three consecutive hours, an automated sms will be sent to the parent and mentor whose mobile number is registered in the website.

Overall the mentor will act as Student Welfare Officer and as the Student's role model.

2. MY GURUKUL: Student Knowledge Portal :

My-Gurukul is a comprehensive online student information and knowledge management collaborative portal for most efficient and effective means of communication to all stake holders of academic institutions. Some of the key features are:

- It helps the system to facilitate and monitor 360 degree view of student performance including academic and non-academic;
- Various dashboards are provided for students, parents, faculty , HOD's and Principal for monitoring the performance of students;
- Automated Examination process;
- Parents are well informed about the students' Performance such as attendance, marks, etc.

How to Access to My-Gurukul

- Open College Website: www.nmit.ac.in
- Click on the MY GURUKUL-Student Knowledge Portal
- Type unique user name and password which is provided by the college during admission:
 - **USER NAME:** NMIT-Admission Number (Ex: NMIT-17708)
 - **PASSWORD:** combination of first three letter of your name and date of birth
 - format dd mm yy (Ex: If the student name is Girish and his date of birth is 20/07/91 then the password is **GIR200791**)

Once login is successful, you will find following menu:

To View at:

- Personal information click at **My Profile**
- Academic calendar of events click at **Institution calendar**
- Academic holidays of the institution click at **Institutional holidays**
- College events details click at **Event**
- To check alerts, given from Principal/HOD /Staff etc click at **Alerts**
- Semester class time table. click at **Time Table**



3. LIST OF DEPARTMENTAL ASSOCIATIONS, CLUBS & STUDENT CHAPTERS

Student Chapters, Clubs, Associations at the Department Level

SINO	DEPARTMENT	ASSOCIATION NAME
1	Aeronautical Engineering	FALCON
2	Civil Engineering	Association of Consulting Civil Engineers (India) – ACCE(I) Student Chapter
		Institute of Engineers – IE-Student Chapter
		Indian Concrete Institute – ICI Student Chapter
3	Computer Science & Engineering	CRYPTTEC, CSI Student Chapter, IE Student Chapter
4	Electronics & Communication Engineering	IRIS-Techno Cultural Forum, IEEE NMIT student branch
5	Electrical & Electronics Engineering	TESLA, IEEE PES Chapter
6	Information Science & Engineering	SANGYARTHAM
7	Mechanical Engineering	YANTRA
		Society of Automotive Engineers (SAE)

Literary Forum

NMIT students have various activities conducted under the banner of literary forum. They hold events such as JAMs, debates, MUNs, BPs, poems and essays. The students take active part in all these events and exhibit their talent.

NMIT clubs

- **NMIT Dance Club**

The NMIT Dance Club has two teams, Jhankaar and Sangarsh. Both have bagged several laurels in various Inter Collegiate Competitions.

- **Music Club**

The students form the teams and are actively involved in all the events which take place at NMIT. They also participate in various competitions.

- **NMIT Theatre Club**

The NMIT theatre Club has been a very active association. It consists of the English team – Invictus, the Hindi team – Goonj and the Mad Ads Team.

- **Art Club**

The Institute has a ver active Art club. The club support students in creating various models, paintings and art.. Students exhibit excellent talent and make the events more colourful in the art form.

- **NMIT Adventure Club**

The club was started in the year 2014. Students actively take part in it. They experience exhilarating memories to take it forward and they have great fun.

4. LIBRARY AND BOOK BANK FACILITY



Library activities are completely automated and all transactions take place through bar-coded technology. Library is kept open from 8.30 AM to 8.30 PM during working days and 10 AM to 2 PM on Sundays and holidays.

NMIT has the State-of-the-Art Library having an array of Books with well trained, polite, helpful Library Staff. The Library System consists of Central Library, Departmental Libraries and Reference section collectively which supports teaching, research and extension activities of the Institute. Library and Information Centre has a variety of video cassettes, and CD-ROMs pertaining to different disciplines. The Library has subscribed more than 130 National journals and 10263 International Journals. Library activities are completely computerized using bar-code technology.

Working Hours:

	Monday to Friday	Saturday	Sundays & General Holidays
Circulation Section	8.30 AM-4.25 PM	8.30 AM-1.25 PM	-
Reference Section	8.30 AM-10.00 PM	8.30 AM- 5.00 PM	10.00 AM-2.00 PM

Provision of borrowing Books from the Library:

Every student after admission to the Institute is entitled to borrow 2 books from the Library. Books are issued to the members for a period of 2 weeks and a penalty of Rs.2/- per day, per book will be charged for the delayed period. In addition to this, students can join Book Bank scheme to borrow additional books and they can retain these books till the end of the semester examination and the related scheme is as follows.

Book Bank Scheme

Plan	No. of additional Books	* Amount to be paid (in Rs.)
Plan 1	2	2000.00
Plan 2	4	4000.00

*This amount is not refundable. The Book Bank Scheme is for 4 years. After opting this scheme, discontinuation or withdrawn cannot be considered and the amount is neither refundable nor adjusted.

SC/ST Book Bank Scheme:

Students belong to SC/ST category can borrow from the SC/ST Book Bank. Books will be issued on first come first serve basis coupled with availability of books.

Library Services:

- OPAC Search facility for readers
- Reprographic Services at nominal charge
- Inter-Library Loan (ILL) facility with National Aerospace Laboratories (NAL) and British Council Library (BCL).
- The Institute is the member of VTU consortia.
- Digital Library has 40 computers with internet facility.
- E-log register- keeps the details of all the students and faculty who have utilized the library on day-to-day basis.

Special Features:

- Users can search the Library collection from anywhere even through cell phone. While searching a Title, image of the cover page of that book will be displayed which makes easy to recognize the particular book.
In NMIT campus: 192.168.25.250/
From Remote Centres: 210.212.203.69/
- User can access Courseware i.e.. Video Lectures, Lecture Notes of E-Vidya E-resource open courseware (OCW) of NPTEL (National Programme for Technology Enhanced Learning)
In NMIT Campus: 192.168.25.250:8181/html/NPTEL/
From Remote Centres: 210.212.203.69:8181/html/NPTEL/
- Institutional Repository-DSpace: Freely available (Open Source) software has been installed and E-Books, soft copies of Question papers, Lecture Notes are indexed, preserved and made available to access. Newspaper clippings on Institution's achievements are archived.
In NMIT Campus: 192.168.25.250:8080/jspui/
From Remote Place: 210.212.203.69:8080/jspui/
- Calibre is Free Book Indexing software where more than 2000 Text and Reference E-books are indexed. The E-books can be accessed/ downloaded from 192.168.50.10:8080/ in the campus only. These can be searched by Author, Title, Subject and Language.
- Through VTU consortia, we have subscribed to E-journal and E-Book databases mentioned below.

E-journal Databases:

Sl.No.	E-journal Database	No. of E-journals	Web-address
1	IEEE-IEL Online	Journals-275	www.ieeexplore.ieee.org
		Conf. Proceedings-1400	
		Standards-3043	
3	ASME	Journals-32	https://www.asme.org/
4	ASCE	Journals-35	www.ascelibrary.org

5	Taylor & Francis	Journals-535	www.tandfonline.com
6	Proquest;- Engineering -Management	Journals-5170 + Management Case Studies	www.search.proquest.com
7.	Sententia	An Assistive Tool for formal Writing incl. Grammar (NetAnalytik)	https://sententia.online/
8.	Kopykitab	E-Books/Test preparation platform (GATE & etc.,)	https://www.kopykitab.com/
	Knimbus	Aggregator-Facilitates to access articles of journals from all the subscribed databases in a single search and even from remote.	www.new.knimbus.com

E-Book Databases:

Sl.No.	E-Book Database	No. of E-Books	Web-address
1	CRC	259	www.crcnetbase.com/www.crcpress.com/
2	Taylor & Francis	781	www.tandfonline.com/
3	Springer	13004	www.link.springer.com/
	Total E- Books	14004	

Browsing Centre and Language Lab

Internet browsing centre is open from 9.00 a.m to 8 p.m. Wi-Fi facility is available in the hostel after college hours. We have a Language Lab which would support student to learn and communicate in English more fluently.

5. TRAINING & PLACEMENT CELL

This department helps students to acquire employment relevant skills in order to pursue their career goals with challenging roles in the industry. **The Training & Placement Department** has an important role to play in student's future and an indispensable pillar of the Institute. Placements provide an "OPPORTUNITY" to students to demonstrate their knowledge acquired over years for applicability in the real world. This department continuously strives to help students in pursuing their career goals by acquiring employment seeking skills and ultimately to attain desired employment.

We recognize the power and strength of our method of education to our engineers in providing ample placement avenues in the industries. Our college placement cell is a place to create and develop positive thoughts to our prospective engineers. We trust "To reap the benefits tomorrow, we need to sow the seeds today "and we act upon it. We strive hard to transform the talent pool through continuous training programme by experts in the respective area to meet the expectation of the industries. The robust and proactive Training & Placement Cell is a team of experienced experts in the order to groom the students in the best of their capabilities

The Training & Placement Cell maintains liaison with various Industries/Organizations. These organizations are invited to the institution for campus recruitments so that students get career offers before they graduate from the college.

Objectives of this department are as follows:

- The main objective is to create a platform where industries can come and select fresh talents from the campus.
- Work with faculty members, department heads and administration to integrate career planning with academic curriculum.
- Empower students with life long career decision making skills.
- Providing resources and activities to facilitate the career planning process.
- Act as an interface between students, alumni, and the employment community.
- Awareness in the students regarding future career options coordinating summer training/internship programme.
- Bridging gap between Industry and Academia.

B. FACILITIES:

1. HOSTEL

Separate hostels are available for boys and girls. Twin sharing and triple sharing rooms are available. In house dining facility is available at the hostel. All hostels are provided with Wi-Fi facility after the college hours. A bus to Yelahanka and back is provided for the hostel students after 5.30. Hostel has an MOU with Aveksha hospital for all medical emergencies.

2. COUNSELING CELL

Counseling facility is available at NMIT. An experienced Professional counselor is available on Thursdays in her office from morning till evening. She will also be available for parents to discuss about their ward. Students can discuss their problems /issues with her as well as their class teachers/mentors

3. GRIEVANCE REDRESSAL CELL

The Grievance Redressal Cell is responsible for upholding the dignity of the college by ensuring strife free atmosphere, through promoting cordial student-student relationship and student –teacher relationship and also encouraging the students to express their grievances /problems freely and frankly, without any fear of being victimized.

Grievance Redressal Cell was set up at NMIT in accordance with the University Grants Commission regulations 2012 (The Gazette of India, March 23-29, 2013), and Article XXV of the constitution for handling day-to-day grievances related to students, parents and staff members. Grievance Redressal Cell facilitates the resolution of grievances in a fair and impartial manner involving the respective Department (dealing with the substantive function connected with the grievance), maintaining necessary confidentiality, as the case may be. Any stakeholder with a genuine grievance may approach Grievance Redressal Cell to submit his/her grievance in writing or through the online portal provided in MYGURUKUL website. The function of the cell is to look into the complaints lodged by any student, and judge its merit. In case the person is unwilling to appear in self, grievances may be recorded in the online platform and issues will be addressed at the earliest.

Name	Designation	Position	e-mail id
Prof. K Venkatesh	Professor, Dept. of CSE	Chairman	krishnarao.venkatesh@nmit.ac.in
Dr. N. G. Goudru	Professor, Dept. of ISE	Member	goudru.ng@nmit.ac.in
Dr. Kiran Aithal	Professor, Dept. of ME	Member	kiranaithal.s@nmit.ac.in
Dr. Vidyavathi N	Professor, Dept. of CV	Member	vidyavathi.n@nmit.ac.in
Ms. Varsha Viswanath	Asst. Professor, Dept. of CV	Member Secretary	varsha.viswanath@nmit.ac.in

4. TRANSPORTATION

Fleets of buses are available from different corners of Bengaluru city to ferry the students and faculty. Details can be availed at Transport office at the entrance of NMIT. A bus is available for hostel students at 5.30p.m from the campus to city/ Yelahanka. Students can avail the facility by paying appropriate fees and obtain bus pass from the transport office.

4. SPORTS

NMIT encourages sports and extracurricular activities for the students. There is a sports department headed by physical director. Indoor games like Table tennis, Badminton, Chess, Carom are available. Outdoor games like Basket ball, Foot ball, hand ball Hockey are available. Expert coaches are available for all the games. Separate Gym facility is available for both girls and boys.

5. MEDICAL CENTRE

The medical centre provides the needs of students and staff of NMIT by providing emergency medicines and first aid. A nurse is available during day time and a doctor visits regularly. College has signed an MoU with Aveksha Hospital, and students can avail the facilities.

6. MULTIPURPOSE CO-OPERATIVE SOCIETY

The society caters to the everyday needs of the students and staff of NMIT. Stationary items, Drawing materials, general items and snacks are sold within the campus at a reasonable price. Uniforms for the workshop and for first year students are sold in the society. Mobile recharge is also available

7. CAFETERIA

The canteen serves both vegetarian and non-vegetarian food for day scholars. A bakery and Nandini milk parlor are available in the campus.

8. ONLINE PAYMENT

The students are informed to pay the tuition fee, transportation and parking fee in the form of DEMAND DRAFT favoring 'The Principal, Nitte Meenakshi Institute of Technology' payable at Bangalore or through RTGS/NEFT. No fee payment shall be accepted through cash or cheque.

Bank details:

Account name	: Nitte Meenakshi Institute of Technology
Bank Name & Branch	: Axis Bank Ltd, Yelahanka Branch
Account Type	: Savings Account
Account number	: 094010100165396
IFSC	: UTIB0000094

The other facilities available are **Gym, ATM facility, Open Air Theatre, Generators with total capacity of 820KVA (320KVA + 500KVA) is available to ensure 24 hrs power supply, Xerox and printing.**

C. CO CURRICULAR:

1. NATIONAL CADET CORPS (NCC)

2. 1/(2) COY,1 KAR SIGNAL REGIMENT, NCC

Nitte Meenakshi Institute of Technology (NMIT) had introduced technical wing of National Cadet Corps (NCC) right from the inception of the college. NCC at NMIT comes under 1 Karnataka Signal Regiment (Technical Wing of NCC) in Bangalore 'A' group. The cadets are given many opportunities to showcase their talent and improve their career prospects. Every NCC camp that the cadets attend not only boosts their self-esteem but also moulds their personalities to shape them into future leaders of our country. As an add-on, NMIT is the first Engineering College in Karnataka to offer NCC as an elective course with credits to the students.

The cadets from NMIT have been active in all the camps and won laurels. This year three cadets from NMIT was chosen to represent Karnataka and Goa Directorate in the Republic Day Camp (RDC) after a rigorous selection process. Senior Under Officer (SUO) Shreyas S Hampole was selected as the Best Cadet all over India by the DG NCC. Sergeant (Sgt) Spandana Suresh was a part of culturals team and also participated in the Prime Minister's rally and Junior Under Officer (JUO) Kevin D'cruz represented Karnataka and Goa directorate in culturals. This stellar opportunity catapulted all three cadets to achieve more than that could have been imagined by other. SUO Shreyas S Hampole is selected as a part of the prestigious Youth Exchange Program (YEP). The aim of YEP is a country-to-country exchange of cadets belonging to NCC/equivalent Govt/Youth Organizations of friendly countries and participation in various activities and appreciation of each other's socio-economic and cultural realities as the Indian Ambassador.

NCC in NMIT has motivated many students in the college to take-up career in the armed forces. NMIT has also contributed young engineers as commissioned officers into the Indian Army, Navy and Airforce. These cadets in-turn come back to the institution to motivate the budding cadets. Their success provides sources of motivation and initiative and lights a path for aspiring cadets to join the armed forces.

This year Karnataka and Goa Directorate recognised the Nitte Meenakshi Institute of technology as the Best Institution for the Year 2017-18 under Senior Division Category.

Apart from the regular Institutional training and Camp training, NCC cadets are given opportunities to organise and participate in various activities of Social Impact. Some of the major activities planned and executed by the cadets of NMIT are Blood Donation camps, Adopting a village, Campaign on Gender equality, Road Safety Awareness, Swatch Bharat, Digital Transaction awareness Program, Anti-drugs campaign and Yoga Classes. To promote physical fitness and mental alertness and inculcating spirit of adventure every year trekking/Hiking programs are organized.

The enrolment for the Academic Year 2017-2018 is as follows:

	Boys	Girls
I Year NCC	18	10
II Year NCC	14	10
III Year NCC	22	06
Total	54	26

- **Institutional Achievement:**

Each of the directorates confers awards to their constituent institutions based on the support extended by the Institution for NCC activities and performance of the cadets and their participation in various activities. This year NMIT-NCC won the Best Institution Award in the Karnataka and Goa Directorate in the Senior Division category.



Achievements from NCC cadets

SGT. Spandana Suresh represented the Karnataka and Goa directorate in Republic Parade 2018 by participating in the cultural program held at Delhi, and became the 1st SW from NMIT to do so. She also was a part of the prestigious Prime Minister's Rally.

SUO Shreyas S Hampole represented Karnataka and Goa Directorate in RDC 2018. He was All India Best Cadet under Senior Division Army wing category and received the medal from ADG Major General B.K.Guha. He was the main briefer of Flag area competition of Karnataka and Goa Directorate. He took part in various Cultural events. He was also a part Prime Minister's Rally.

He was selected for The prestigious NCC Youth Exchange Programme (YEP) where he was an Indian youth ambassador and represented India at Kazakhstan in the month of May 2018. The aim of YEP is a country-to-country exchange of cadets belonging to NCC/equivalent Govt/Youth Organizations of friendly countries and participation in various Programmes and appreciation of each other's socio-economic and realities as an Indian ambassador.

**SUO.Shreyas S Hampole,
All India Best Cadet 2018
RDC-2018, YEP-Kazakhstan**



<p>SUO.Shreyas S Hampole All India Best Cadet 2018 RDC-2018, YEP-Kazakhstan Marching team of RDC in Rajpath DDG Commendation - 2018</p>	
<p>Sgt.Spandana Suresh RDC-2018, Selected for YEP PM's rally, Cultural Team DDG Commendation – 2018</p>	
<p>JUO.Kevin Morrison Maxim D'Cruz RDC-2018, PM's rally Cultural Team, DDG Commendation - 2018</p>	
<p>JUO.Manasa J TSC-2017-18 Best timing in OT, DDG Commendation - 2018</p>	
<p>JUO.Prateek Mehta TSC-2017-18 State level silver medal in shooting Inter Directorate Shooting Team 2017-18 DDG Commendation - 2018</p>	
<p>CSUO.Aman Kumar Ranjan RDC-2017, YEP-Russia PM Rally Chief Minister Commendation - 2018</p>	

Entry into defence forces

Four NCC cadets joined Indian defence forces in 2018.

Indian Army – 2 Cadets

Indian Airforce – 1 Cadet

Indian Navy – 1 Cadet

Achievements of NMIT Cadets in Camp:

1. First Place – Firing Competition – 1 Kar Signal Regt – CATC II
2. First Place – Throwball Competition – 1 Kar Signal Regt – CATC II
3. First Place – Group Dance Competition – 1 Kar Signal Regt – CATC II
4. Second Place – Football – CATC V
5. Second Place – Group Song Competition – CATC V
6. Third Place – Drill Competition – CATC V
7. First Place- Group Song – CATC VI
8. First Place – Drill Competition – CATC VI
9. First Place – Drill Competition – 1 Kar Signal Regt – CATC VI
10. First Place – Firing Competition – 1 Kar Signal Regt – CATC VI
11. First Place - Group Song Competition – 1 Kar Signal Regt – CATC VI
12. Silver Medal – Firing Competition – CDT JASMEET SINGH MANN – CATC VIII
13. First Place – Theme Dance Competition – 1 Kar Signal Regt – CATC VIII
14. Second Place – Group Dance – 1 Kar Signal Regt – CATC VIII
15. Third Place – Group Song – 1 Kar Signal Regt – CATC VIII
16. CPL Murthy Samartha S Kalasi and CPL Prashal P were selected for ALC 2017
17. First Place – Best Cadet – Murthy Samartha S Kalasi - Advance Leadership Camp held at Jorhat, Assam.
18. CPL Omkar Naik and CDT Aditya participated in National Integration Camp held at Delhi
19. SGT Spandana Suresh was selected for the RD camp 2018
20. JUO Kevin D'cruz represented Karnataka and Goa directorate in the RD parade of 2018 held at Delhi
21. Silver Medal-All India Best Cadet –SUO Shreyas S Hampole
22. SUO Shreyas S Hampole was selected for the Youth Exchange Program held in Kazakhstan.

3. NATIONAL SERVICE SCHEME (NSS)

NSS unit is active under Mr. Hemanth Kumar, Assistant Professor of Mechanical department, NMIT, Bangalore. They have organized various programmes under this banner to help the needy in the nearby village in the outskirts of NMIT. Few of the other highlights of the work carried out are listed below:

➤ **Swachh Bharath**

Swachh Bharat Nirman is one of the most ambitious visions of our honorable Prime Minister, Sri Narendra Modi. In this regard NSS-NMIT has taken the pledge to maintain the campus clean and green throughout the year. Dr. H.C. Nagaraj, Principal inaugurated the event on 2nd October 2017. One more program on swach Bharath was conducted on 16th Feb 2018.

➤ **Blood Donation Camp**

NSS organized Blood Donation camp with the support of Rashthrothana blood bank and Rotary blood bank on 30th August 2017 in the college premises. Totally 398 units were collected. Dr. H C Nagaraj, Principal, NMIT presided over the camp.

➤ **Youth Awareness Program**

Swami Vivekananda Jayanti is also celebrated as youth day in our country. The Chief Guest Sri S N Bhatt, Retd. IAS officer enlightened the students about their contributions towards India. He also asked them to draw inspiration from the life of Swami Vivekananda. Totally 75 members were participated

➤ **Eye Awareness**

The objective behind the blind fold walkathon was to be empathetic towards blind people. Prof. N.R. Shetty, Advisor, NMIT addressed the participants later and upheld the need of eye donation and motivated them to pledge for the same. Totally 400 members enthusiastically involved.

➤ **Awareness program on education, health and cleanliness**

A general awareness program was imparted regarding the importance of education and health was conducted to school children. Students were made to know education benefits and its deriving values. Along with this, basic, but important hygienic habits like washing hands before and after having food, taking bath daily were demonstrated. At the end of the program, students pledged to study hard and become good citizens of India. During their visit to Government Primary school, it was found that the toilets were damaged and not in any condition for use. This caused huge inconvenience for the school children. The team of NSS-NMIT found the problem persisted from at least an year and they decided to rejuvenate it without second thoughts. Volunteers contributed a sizeable amount of money and called the local mason to rebuild the toilets. Some of the volunteers also joined hands with the mason and contributed to the cause. The school children were very happy and thanked the team for such a noble work.

4. SPORTS ACTIVITIES

Nitte Meenakshi Institute of Technology has created excellent infrastructure for promoting sports activities for the benefit of students , it has both Outdoor and Indoor facilities, It has multipurpose 200m track and a hockey Field .Further, it has provided good facilities for other Outdoor/Indoor games such as, Football, Cricket, Basketball, Volleyball, Ball Badminton, Shuttle Badminton and Throwball. In case of Indoor games, the college has created good facilities for games such as Table Tennis, Carrom and Chess. The College is taking part in the zonal, Inter zone and Varsity Level Tournaments. Before Participating in these events, our teams are being trained by the Specialist coaches.

NMIT has achieved outstanding success in various sports & games events during the year 2017-2018. The VTU Basketball Bangalore North zone, conducted in our campus from 27th & 28th Sept, 2017.

Some the achievements are presented below

STUDENTS ACHIEVEMENTS FOR THE YEAR 2017-2018

SI No	TOURNAMENT	EVENT NAME	DATE OF TOURNAMENT	ORGANIZED COLLEGE	RESULT
01	St,PAUL CUP 2017	VOLLEY BALL	6 th &7 th Sept 2017	SPGCE	RUNNER-UP
02	ACHARYA CUP	VOLLEY BALL	31 st Sep&1 st OCT 2017	ACHARYA I T	RUNNER-UP
03	NITTE KREEDOTSAVA	VOLLEY BALL	24 th &25 th Jan 2018	KSHEMA	WINNERS
04	MOMEMENTUM 2018	VOLLEY BALL	17 th &18 th Feb 2018	RVCE	WINNERS
05	VTU BANGALORE ZONE	VOLLEY BALL(WOMEN)	7 th &8 th Mar 2018	ADITHYA ARCHITECTURE	4 th PLACE
06	VTU BANGALORE NORTH ZONE	BASKET BALL	27 th &28 th Sept 2017	NMIT	WINNERS
07	INTER ZONE	BASKET BALL	31 st &3 rd OCT 2017	RYMEC BELLARY	3 rd PLACE
08	NITTE KREEDOTSAVA	BASKET BALL	24 th &25 th Jan 2018	KSHEMA	WINNERS
09	VTU BANGALORE NORTH ZONE	BADMINTON	4 th &5 th Sept2017	ADITHYA ARCHITECTURE	WINNERS
10	VTU INTER ZONE	BADMINTON	7 th to9 th Sept 2017	JNNCE	4 th PLACE
11	NITTE KREEDOTSAVA	BADMINTON	24 th &25 th Jan 2018	KSHEMA	RUNNER-UP
12	VTU BANGALORE NORTH ZONE	T T (WOMEN)	28 th &29 th Sep 2017	RLJIT	WINNERS
13	VTU INTER ZONE	T T (WOMEN)	31 st Sep & 1 st Oct 2017	RLJIT	4 th PLACE
14	NITTE KREEDOTSAVA	T T (WOMEN)	24 th &25 th Jan 2018	KSHEMA	WINNERS
15	KALANJALI SPORTS 2017	FOOTBALL	27 th &28 th Oct 2017	Sir MVIT	RUNNER-UP
16	VTU BANGALORE NORTH ZONE	FOOTBALL	20 th Sep&21 st Sep 2017	SVCE	RUNNER-UP
17	VTU INTER ZONE	FOOTBALL	23 rd Sep&25 th Sep 2017	SIT, TUMKUR	3 rd PLACE
18	KALANJALI SPORTS 2017	THROW BALL	27 th &28 th Oct 2017	Sir MVIT	RUNNER-UP
19	NITTE KREEDOTSAVA	THROW BALL	24 th &25 th Jan 2018	KSHEMA	WINNERS

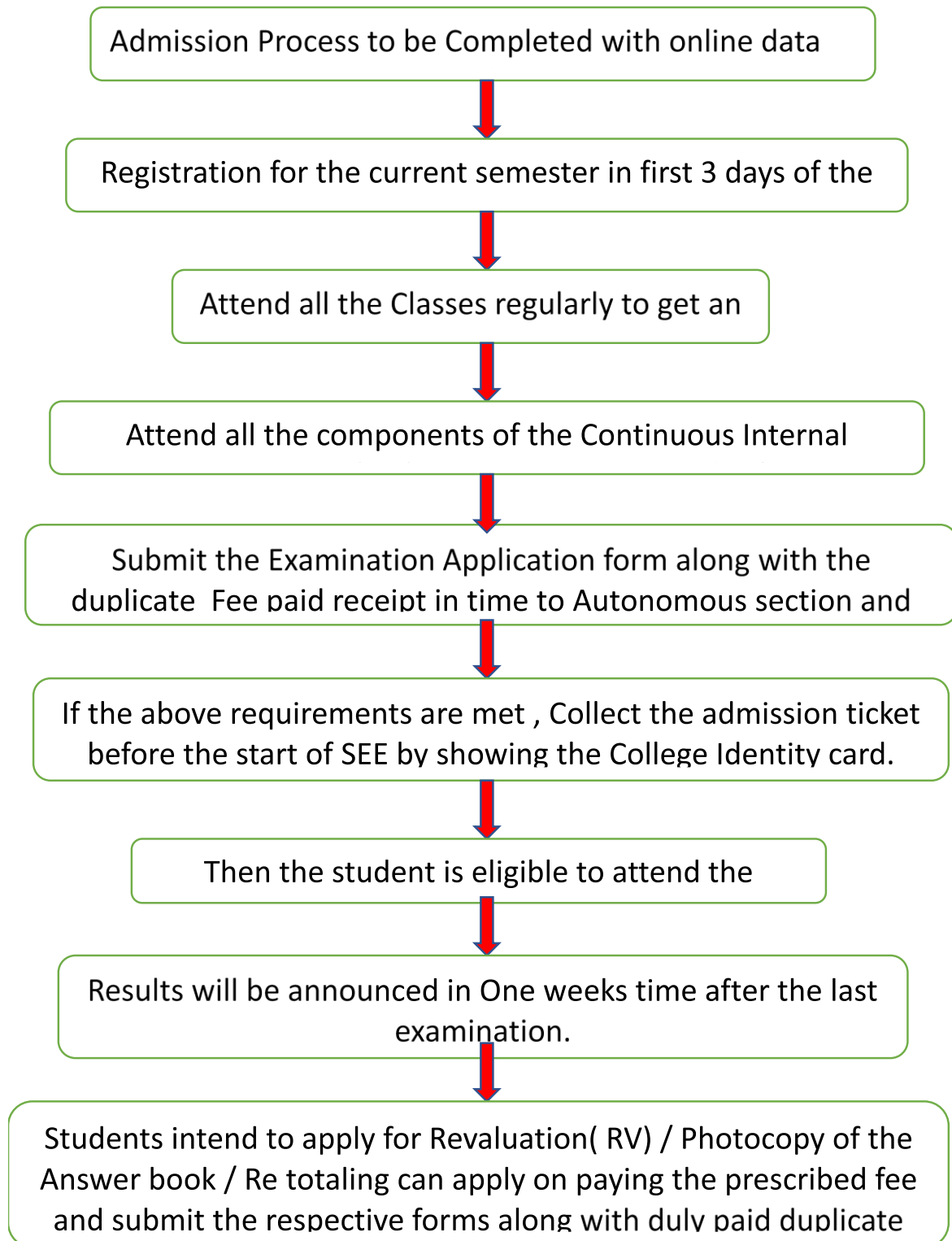
Sl No	Event	State/Nat/Int	Date	Participant
01	BASKETBALL VTU INTER ZONE	UNIVERSITY LEVEL	31 st & 3 rd OCT 2017	1, AKSHAY M 2, NIKHILESH R 3, CHETAN K 4, ROHITH K 5, SREENATH P U 6, PRAJWAL SHETTY 7, SYED IZHAAN S 8, SOORAJ 9, BIKIN CHAUDRY 10, PRANIT 11, SAILESH 12, RAHUL YADAV
02	Volley Ball St, PAUL CUP 2017 MOMEMENTUM 2018	State	6 th & 7 th Sept 2017 17 th & 18 th Feb 2018	1, PRASANNA R 2, GAURAV G C 3, AMOGHAVARSHA 4, PRATHEESH M 5, NANDAN R 6, RAKSHITH 7, PRAJWAL SHETTY 8, VIKRANTH 9, SUCHETHAN 10, SHASHIKIRAN R 11, NANDAN R 12, BHARGAV
03	Football	UNIVERSITY	23 rd to 25 th Feb 2018	1, AKHIL DEV M 2, YATHISH KARKERA 3, KARTHIK NAIR 4, UJWAL HEGDE 5, SUNIL S RAO 6, ANUDEEP M 7, PRAJWAL RAMAN 8, MUSAB A KHAN 9, ARPITH CHACKO 10, SACHIN C S 11, ADITHYA BHIRANGI 12, PRATEEK RAO 13, SREEKANTH 14, MUKUL SINGH 15, SYED AMMAR 16, AGNEL JOBY 17, BAKESH RAWAT 18, BALKARAN
04	Table Tennis	University	31 st Sep & 1 st Oct 2017	1, RASHMI M 2, HARSHITHA R 3, MUSKAN CHAUDRY

06	Taekwondo	National	Represented VTU	SOUJANYA
7	Athletics	State	3 rd to 6 th Nov 2017	1 JAYABALA M 2 RAHULYADAV 3 SUMUKHA G D 4 DARSHAN S H 5 SAHIL ANNIGERI 6 UMESH B N 7 PAVITHRA DANAD 8 SURUCHI KUMAR 9 VARSHA M 10 MONA ORAON
08	Badminton	State	24 th to 26 th Sept 2016	1 NIRANJAN POWAR 2 ADITYA VASHIST 3 PRANAV S 4 AKASH GUPTHA 5 TEJAS 6. THILAK KOTIYAN



EXAMINATION PROCESS

Process of Semester End



PLEASE NOTE: The sample forms for registration, exam form, hall tickets and grade card are made available at www.nmit.ac.in – click on autonomous.

Requirements for Students to take-up the Exam

- Students should have attendance **Greater than or Equal to 85%** to be eligible for Semester End Examination
- Continuous Internal Evaluation – CIE (Internals) marks should be **Greater than or Equal to 20**
- Submit the Examination application form in time to Autonomous office with Xerox copy of the Exam fee paid receipt.
- Students Should
 - Collect the Admission card / Hall ticket on specified date.
 - Carry the College Identity card to examination hall. Without ID card they will not be allowed inside examination hall
 - Carry Admission Card/Hall ticket to examination hall. Students not carrying the Admission card / Hall ticket will not be allowed to enter Examination hall.
 - Not carry the cell phone or any other Electronics Gadgets to the Examination hall.
 - Not carry any kind of Chit or text in any form to the examination hall.
 - Submit the Revaluation/Photo Copy/ Re totaling forms along with photocopy of prescribed fee paid receipt to the autonomous office within 3days of the announcement of the result.

INDUCTION PROGRAM FOR FIRST YEAR STUDENTS

When new students enter an institution, they come with diverse thoughts, backgrounds and preparations. It is important to help them adjust to the new environment and inculcate in them the ethos of the institution with a sense of larger purpose. A 3-week long induction program is introduced for the UG students entering the institution, right at the start. Its purpose is to make the students feel comfortable in their new environment, open them up, set a healthy daily routine, create bonding in the batch as well as between faculty and students, develop awareness, sensitivity and understanding of the self, people around them, society at large, and nature. The time during the Induction Program is also used to rectify some critical lacunas, for example, English background, for those students who have deficiency in it. The following are the activities under the induction program.

- **Physical Activity**
- **Creative Arts**
- **Universal Human Values**
- **Literary activity**
- **Lectures by Eminent People**
- **Familiarization to Dept./Branch & Innovations**

List of Activities

Sl. No.	Event	Resource Persons
1.	Academic registration & Orientation program for students & parents	Principal, Prof N.R. Shetty, Prof. L M Patnaik, Prof. Sudha Rao

2.	Interaction with parents & students. Familiarization of Department activities- Labs, R&D activity, Publications, Innovations, Achievements-Address by HOD/ Senior faculty in the department	Department HODs and Senior faculty
3.	Familiarization: Familiarizing the college centralized facilities. Principal office, Library, all laboratories, COE, seminar halls, autonomy office	Department Coordinators
4.	Interaction of mentors with mentees. Mentors get to know about their group students (At personal level as well family level, thought level. Students expectations from their family)	All mentors
5.	Proficiency module: Communication skills – Verbal & nonverbal- Lecture & tutorial	Mr. Fakkrihallal
6.	Human Values –Presentation and awareness on Constitution, Moral & Ethical values-	Dr. Vandana Rai
7.	Physical Activity- Conduction of trails and selection of students for sports activities in the college & Department.	.- P.D. Mr. Jayaram
8.	Perception towards life as an Engineer	Major Raghavendra C
9.	Exposure to soft skills –MS word, Excel, Latex	Dr. Manoj Kumar
10.	Physical activity –Yoga & Meditation	Mrs. Chaitra & Her team, Dept. of Physics
11.	Familiarization: Presentation by librarian and exposure to the library activities, borrow, references, journals, digital library	Librarian, Mr. Ganga Dhar
12.	Human Values: Lecture on general aptitude by senior faculty members	N J Gowda, I S Dept
13.	Physical Activity: Talent identification on creative arts and formation of student groups-sketching, painting, dancing and singing. –Cultural coordinator, Student members of cultural and art club	Dr. Nalini, Prof. CSE, & Cultural Coordinators
14.	Personality: Time Management – Senior faculty from MBA department.	Dr. Harish Babu, HOD, MBA
15.	Personality: Leadership & Goal setting	Dr. Arun Bandadakar
16.	Literary Activity – Debate	Dr. Neha Jain & Mr. Fakkrihallal and Coordinators
17.	Physical activity: Interaction with NSS coordinator and Campus cleaning	Mr. Hemanth Kumar, Assoc. Prof., Mech Department
18.	Human Values: –Patriotism, Honesty, privilege/ confidence,	Dr. Vandana Rai
19.	Familiarization: Presentation and interaction with Placement officer and exposure to the placement activity	Mrs. Bhanu Rekha
20.	Human Values: Oral and video presentation on Save Water, power, Solid waste and pollution and environmental issues. –	Mrs. Akshata Shetty
21.	Personality: Decision making - Case studies	Prof. Janaki Raman, MBA, Dept.
22.	Proficiency: Exposure to soft Skills-Mat lab, Maths & applications	Mr. Aditya sastry/ Dr. N G Goundru
23.	Physical Activity- Friendly Matches between students and faculty-	P.D. –Mr. Jaya ram
24.	Human values: Talk on Empathy: Visit to the Orphanage/ old age home / Hospital	Mr. Hemanth Kumar
25.	Physical Activity – Practice on creative arts-	Dr. Nalini & Cultural Coordinators
26.	Proficiency: Tutorial on written communication	Dr. Neha Jain/ Mr. Fakkrihallal
27.	Familiarization: Presentation and interaction with alumni coordinators	Department Alumni
28.	Tutorial on soft skills- MS Word, Excel, Latex	Mr. Aditya Sastry, Mr. Chandra Sekhar, Mr. Manoj Kumar
29.	Physical Activity- Yoga & Meditation	Mrs. Chaitra J C & Team, Asst. Prof., Dept. Physics
30.	Personality: Self-discipline, mind Control, Fear Psychosis, Crisis management – External Resource person	Prof. Malathi Somayaji. Former Prof. IIMB
31.	Human Values: Health tips	Medical officer

32.	Literary activity – Essay writing –	Dr. Neha, Mr. Fakkrish & Mentors
33.	Human Values: Awareness program on Drugs Abuse and Addiction	Narcotics Control Bureau, Bangalore
34.	Human values: Introduction to the traditional values, languages and food habits of Karnataka-	Dr. Vandana Rai
35.	Physical Activity- Friendly Matches between Students	Mr. Jayaram, P.D. & Coordinators
36.	Human Values: Awareness program on IPR –	Prof. Mahaveer swamy
37.	Proficiency: Tutorial on soft skills-Matlab, html	Dr.N G Goudru /Dr.Manoj kumar/ Mr.Aditya shstry / Mr. Mohankumar T
38.	Physical Activity – Tutorial on creative arts- Cultural & arts clubs	Dr Nalini, Prof. CS Department & Cordinators
39.	Feedback/ Presentation by groups (Mentor groups)	Mentors & cordinators

LIST OF NMIT STAFF
Department Wise Academic Staff

1. DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

Sl.No	Name	Designation	Qualification
1.	Dr.Jharna Majumdar	Professor	B. E.(ECE), PGDCT(CSE), Ph.D
2.	Dr.Thippeswamy M N	Prof. & Head	B.E(CSE), M.Tech (CSE), Ph.D
3.	Dr.Nalini N	Prof.	B.E (CSE), M.Tech, Ph.D
4.	Dr.Krishna Rao Venkatesh	Prof.	B.E (ELECT), M.E, Ph.D
5.	Dr.Saroja Devi H	Prof.	B.E (CSE), M.Tech, Ph.D
6.	Dr.Subhrajith Bhattacharya	Prof.	B.E (CSE), M.Tech, Ph.D
7.	Dr.Ramachandra A C	Prof.	B.E (ECE), M.E(ECE),Ph.D(CES)
8.	Dr.Vijaya Shetty S	Assoc. Prof	B.Tech, M.Tech (CSE), Ph.D
9.	Dr.Nagaraj S R	Assoc. Prof.	B.E (ECE), M.Tech (CSE) Ph.D
10.	Mrs. Archana Naik	Assoc. Prof.	B. E.(CSE), M.Tech (CSE), (Ph.D)
11.	Ms.Sujatha Joshi	Assoc. Prof.	B. E.(CSE),M.Tech (CSE),(PhD)
12.	Mr.Mohan B A	Assoc. Prof.	B.E. (CSE), M.Tech (CSE)(Ph.D)
13.	Ms. Chaitra H.V	Assoc. Prof.	B. E.(CSE), M.Tech (CSE)(Ph.D)
14.	Mr.Afroze Pasha	Assoc. Prof.	B. E.(CSE), M.Tech (CSE)
15.	Mr. N. Srinivasa	Asst. Prof.	B. E(CSE), M.Tech (CSE) (Ph.D)
16.	Ms.Uma R	Asst. Prof.	B.E. (CSE),M.Tech (CSE), (Ph.D)
17.	Ms.Deepthi Shetty	Asst. Prof	B.E. (CSE), M.Tech (CSE)

18.	Ms.Shruthi B V	Asst. Prof.	B.E. (CSE), M.Tech (CSE),(Ph.D)
19.	Ms.Jagdevi N Kalshetty	Asst. Prof.	B.E. (CSE), (M.Tech) (CN)
20.	Ms.Ramyashree B R	Asst. Prof.	B.E. (CSE), M.Tech (CSE)(Ph.D)
21.	Ms.Ramya Srikanteswara	Asst. Prof.	B.E (ECE),M.Tech(CN)
22.	Ms.Kavya B S	Asst. Prof.	B. E.(CSE), M.Tech (Sftware. Engg.)
23.	Ms.Sushma M	Asst. Prof.	B. E(CSE), M.Tech (CSE)
24.	Ms.Nirmala J Saunshimath	Asst. Prof.	B.(CSE),M.Tech (CSE) (Ph.D)
25.	Mr..E G Satish	Asst. Prof.	B. E.(ISE), M.Tech (CNE)(Ph.D)
26.	Ms.Poornima M S	Asst. Prof.	B. E.(CSE), M.Tech (CSE)
27.	Mr.Santhosh Kumar K L	Asst. Prof.	B.E (EE), M.Tech (CSE)
28.	Ms.Asha H V	Asst. Prof.	B. E.(CSE), M.Tech (Sftwr Engg.)(Ph.D)
29.	Ms.Meenakshi	Asst. Prof.	B.E(ISE), M.Tech (CNE),(Ph.D)
30.	Ms.Sowmya M R	Asst. Prof.	B.E (CSE), M.Tech (CSE)
31.	Ms.Shobana T S	Asst. Prof.	B.E (CSE), M.Tech (CNE)
32.	Ms.Shobha	Asst. Prof.	B.E (CSE), M.Tech (CNE)
33.	Ms.Deepa Kumari	Asst. Prof.	B.E (ISE), M.Tech (CNE)
34.	Ms.Shilpa Ankalaki	Asst. Prof.	B.E (CSE), M.Tech (CSE)
35.	Ms.Manasa S	Asst. Prof.	B.E (CSE), M.Tech (CSE)
36.	Ms.Napa Lakshmi	Asst. Prof.	B.E (CSE), M.Tech (CSE) (Ph.D)
37.	Ms.Mamatha Bai B G	Asst. Prof.	B.E (ISE), M.Tech (CSE)
38.	Ms.Ushashree	Asst. Prof.	B.E (CSE), M.Tech
39.	Ms.Sharmila Shanthi Sequire	Asst. Prof.	B.E, M.Tech
40.	Ms.Prateeksha Hegde	Asst. Prof.	B.E (ISE), M.Tech (CNE)
41.	Ms.Supriya P	Asst. Prof.	B.E (ISE), M.Tech (CNE)
42.	Mr.P Ramesh Naidu	Asst. Prof.	B.Tech(CSE), M.Tech (CSE), (Ph.D)
43.	Mr.Dankan V Gowda	Asst. Prof.	B.E(ECE), M.Tech (DEC),(Ph.D)
44.	Mr.Chetan D Chavan	Asst. Prof.	B.E (TC), M.Tech (VLSI)

2. DEPARTMENT OF INFORMATION SCIENCE AND ENGINEERING

Sl.No	Name	Designation	Qualification
1.	Dr.Sanjay H A	Prof. & HOD	B.E, M.Tech , Ph.D (IISc)
2.	Dr. N G Goudru	Prof.	B.S, M.Tech, Ph.D(VTU)
3.	Dr.Shantharajappa A N	Prof.	M.Sc (Maths), Ph.D (KU)
4.	Dr. Swarnalatha K S	Prof.	B.E, M.Tech , Ph.D (VTU)
5.	Dr.Shakti Mishra	Assoc. Prof.	B.Tech , M.Tech, Ph.D (MNNIT))

6.	Dr.A Christy Persya	Assoc. Prof.	B.E, M.E, Ph.D (VTU)
7.	Dr.Manoj Kumar	Assoc. Prof.	B.E, M.Tech, Ph.D(NITK)
8.	Dr.Ashwini J P	Assoc. Prof.	B. E,M. Tec, Ph.D (VTU)
9.	Mr.D B Srinivas	Assoc. Prof.	B. E, M. E,(Ph.D)
10.	Mr. K. Adithya Shastry	Assoc. Prof.	B. E,M.Tech, (Ph.D)
11.	Mrs.Vidyadevi G Biradar	Assoc. Prof.	B.Tech,M.Tech,(Ph.D)
12.	Ms.M.Lakshmi	Assoc. Prof.	B. E, M. Tech
13.	Mr.Chandrasekar B N	Assoc. Prof.	B.E, M.Tech,(Ph.D)
14.	Ms.Bini Y Baby	Asst. Prof.	B.E, M.Tech
15.	Mr.Manjunath B A	Asst. Prof.	B.E, M.Tech.,(Ph.D)
16.	Mr.Rohit H P	Asst. Prof.	B.E , M.Tech.,(Ph.D)
17.	Ms.Lakshmi H	Asst. Prof.	B. E, M.Tech
18.	Ms.Deepika K M	Asst. Prof.	B. E, M.Tech
19.	Ms. Yashaswini H M	Asst. Prof.	B. E, M.Tech
20.	Ms.Roopa R	Asst. Prof.	B. E, M.Tech
21.	Mr.Preetham N	Asst. Prof.	B. E, M.Tech
22.	Mr.Sanket Sarang Salvi	Asst. Prof.	B. E, M.Tech
23.	Mr.Rangavittalla S R	Asst. Prof.	B.E , M.Tech
24.	Ms.Navya C	Asst. Prof.	B.E , M.Tech
25.	Ms.Tulasi Srinivas	Asst. Prof.	B. E, M.Tech
26.	Ms.Vani E S	Asst. Prof.	B.E, M.Tech
27.	Mr.Pramod Jain S A	Asst. Prof.	B.E , M.Tech
28.	Ms.Akshatha G C	Asst. Prof.	B.E , M.Tech
29.	Ms.Disha D N	Asst. Prof.	B.E , M.Tech
30.	Mr.Kiran B R	Asst. Prof.	B.E , M.Tech
31.	Ms.Brunda S	Asst. Prof.	B.E , M.Tech
32.	Mr.Mohan Kumar T G	Asst. Prof.	B.E , M.Tech
33.	Ms.Sneha H R	Asst. Prof.	B.E , M.Tech
34.	Ms.Sushma V	Asst. Prof.	B.E , M.Tech
35.	Ms.Ramya B S	Asst. Prof.	B.E , M.Tech

3. DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

Sl.No	Name	Designation	Qualification
1.	Dr. H. C. Nagaraj	Principal	B. E.(ECE), M. E. (Comm Systems), Ph.D(IIT, Madras)
2.	Dr. S Sandya	Prof. & Head	B.E(Elec), PhD (IISc)
3.	Dr. T S Rukmini	Prof.	B.Sc, M.Sc, Ph.D
4.	Dr. S L Pinjare	Prof.	B.Sc, M.Sc, Ph.D (VLSI & MEMS)
5.	Dr. Raghunandan	Prof.	M.E (EC), Ph.D (Image Pros)
6.	Prof. N Mahaveera Swamy	Prof.	M.Sc (Physics), M.Tech (Industrial Physics)
7.	Prof. G V C Rajan	Prof	B E, M. Tech (Industrial Electronics)
8.	Prof. Sitaram Yaji	Prof.	B.Tech(ECE), M.E (EE) IISc

9.	Prof. Sankar Dasiga	Prof	B.Tech(ECE), M.Tech (Instrumentation Engg.)
10.	Dr. H S Prasantha	Prof.	B.E(ECE),M.Tech(EES), Ph.D
11.	Dr. Veda Sandeep Nagaraj	Assoc. Prof.	B.E(ECE), M.Tech (VLSI), Ph.D
12.	Ms. Smitha G Prabhu	Assoc. Prof.	B.E (EEE), M.Tech(VLSI)
13.	Mrs. Manjula B M	Assoc. Prof.	B. E.(ECE),M. Tech.(Electro) (Ph.D)
14.	Mr. Rajesh N	Assoc. Prof.	B. E.(ECE), M.Tech.(DEC),(Ph.D)
15.	Ms. Madhu Patil Prakash	Assoc. Prof.	B. E.(ECE), M.Tech.(Digital Comm.) (Ph.D)
16.	Mr. Prasanna Paga	Assoc. Prof.	B. E.(ECE), M.Tech (Ind.Electo) (Ph.D)
17.	Ms. Sowmya Madhavan	Assoc. Prof.	B. E.(ECE), M.E.(Digital Electronics and Communication), (Ph.D)
18.	Mrs. Naina R Karkal	Assoc. Prof.	B.E (ECE), M.Tech (VLSI)
19.	Mr. Karnunakar Rai	Assoc. Prof.	BE(ECE), M. Tech(VLSI), (Ph.D)
20.	Mr. Shashidhar K S	Assoc. Prof.	B.E(ECE), M.Tech (I.E), (Ph.D)
21.	Ms. Varsha Prasad	Assoc. Prof.	B.E(IT),M.Tech (Digital Communication) (Ph.D)
22.	Ms. Deeksha R Shetty	Asst. Prof.	B.E (ECE), M.Tech(DEC)
23.	Ms. Ayesha Siddaqua	Asst. Prof.	B.E(ECE), M.Tech (DC)
24.	Ms. Rekha K Phadke	Asst. Prof.	B. E.(ECE), M. Tech (DCN) (Ph.D)
25.	Ms. Kushalatha M R	Asst. Prof.	B.E (ECE) M.Tech (DC)
26.	Ms. Pramodhini R	Asst. Prof.	B.E (ECE),M.Tech (DC)
27.	Mrs. Bhuvaneshwari V M	Asst. Prof.	B.E(ECE),M.E (Communication System)
28.	Mr. Badarla Sri Pavan	Asst. Prof.	B.E (ECE), M.Tech (DC)
29.	Mr. Girisha G K	Asst. Prof.	B. E.(ECE), M. Tech (VLSI) (Ph.D)
30.	Ms. Beena S Rai	Asst. Prof.	B.E (ECE).M.Tech (DCN)
31.	Ms. Divya G	Asst. Prof.	B.E(ECE), M.Tech (DE)
32.	Ms. Lathakumari K R	Asst. Prof.	B.E (ECE), M.Tech(VLSI)
33.	Ms. Sowmya J	Asst. Prof.	B.E(ECE), M.Tech(VLSI)
34.	Ms. Deebea Lakshmi	Asst. Prof.	B.E (ECE),M.Tech (DCN)
35.	Ms. Shyalaja S	Asst. Prof.	B.E (ECE),M.Tech (VLSI)
36.	Mr. Rudresh K J	Asst. Prof.	B.E (ECE),M.Tech (DE)
37.	Ms. Raji P	Asst. Prof.	B.Tech (Electr), M.Tech (DC)
38.	Ms. Binu B Singh	Asst. Prof.	B.E(ECE), M.Tech(Electronics), (Ph.D)
39.	Ms. Chaitra K N	Asst. Prof.	B.E(ECE), M.Tech(EC)
40.	Mr. Anandteerth S Mathad	Asst. Prof.	B.E(ECE), M.Tech (DCN)
41.	Ms. Savithri Hande R	Asst. Prof.	B.E (ECE), M.Tech (VLSI)
42.	Ms. Ashitha V Naik	Asst. Prof.	B.E(ECE), M.Tech(DEC)
43.	Ms. Prajna K B	Asst. Prof.	B.E (ECE), M.Tech (VLSI)

44.	Ms. Seema Sreekumar	Asst. Prof.	B.E (ECE), M.Tech (VLSI)
45.	K Shreshta Subodh Shetty	Asst. Prof.	B.E (ECE), M.Tech (VLSI)
46.	Ms. Nithya G	Asst. Prof.	B.E (ECE), M.Tech (VLSI)

4. DEPARTMENT OF MECHANICAL ENGINEERING

Sl.No	Name	Designation	Qualification
1.	Dr.Sudheer Reddy J	Prof.& Head	B. E.(Mech), M.E (Mech.Engg.), Ph.D
2.	Dr.P G Mukunda	Prof.	B. Sc. (Hons, Chem), M. Tech. (Ferrous Metallurgy), Ph. D
3.	Dr.Sekhar Majumdar	Prof.	B. E.(Mech), M.E (Mech.Engg.), Ph.D
4.	Dr. P. Balachandra Shetty	Prof.	B. E.(Mech), M. E.(Prod. Engg., Air Armt),Ph. D
5.	Dr. Kiran Aithal	Prof.	B. E.(Mech), M. E. (Machine Design), Ph.D
6.	Dr. Madhusudhan	Prof.	B. E.(Mech), M. Tech.(Heat Power Engg.) Ph.D
7.	Dr. Desai Gowda H S	Prof.	B. E.(Mech), M. E. (Engg.Design) Ph.D
8.	Dr.Muralidharan B K	Prof.	B.E, M.Tech, Ph.D
9.	Dr.S Seetharamu	Prof.	PhD
10.	Dr.Mahesh Shetty	Assoc. Prof.	B.E(ME, M.E (ME), Ph.D (ME)
11.	Dr.Sanjay Kumar Shukla	Assoc. Prof.	B. E.(Mech), M.Tech Ph.D
12.	Prof. K. Srikantha Prabhu	Assoc.. Prof.	B. Tech.(Mech), M. Tech. (Engg. Mgt.)
13.	Mr.Ravi Prakash M	Assoc.. Prof.	B. E.(Mech), M. Tech. (Thermal Pow.)
14.	Mrs.Smruti Rekha Sen	Assoc.. Prof.	B. E.(Mech), M. Tech. (Mfg.Prod. & Sys) (Ph.D)
15.	Mr.Hemanth Kumar N	Assoc.. Prof.	B. E.(Mech), M.Tech (mfg. Scie)
16.	Mr.B S Surendra	Assoc.. Prof.	B. E.(Mech), M.Tech (Mach. Tools)
17.	Mr.Chethan K S	Asst. Prof.	B. E.(Mech), M.Tech (Thermal)(Ph.D)
18.	Mr.Manjunath H N	Asst. Prof.	B. E.(Mech), M.Tech (Thermal)
19.	Mr.Ramesh Babu N	Asst. Prof.	B. E.(Mech), M. Tech. (Mech. Dsign) (PhD)
20.	Mr.Arun Kumar G L	Asst. Prof.	B. E.(Mech), M.Tech. (Thermal)(Ph.D)
21.	Mr.Sunil Kumar H S	Asst. Prof.	B. E.(Mech), M. Tech. (Mech. Design)
22.	Mr.Praveen B A	Asst. Prof.	B. E.(Mech), M.Tech (CIM)(Ph.D)
23.	Ms.Krupa R	Asst. Prof.	B. E.(Mech), M.Tech (Thermal)
24.	Mr.Shiv Pratap Singh Yadav	Asst. Prof.	B. E.(Mech), M.Tech (Mach. Design)(Ph.D)
25.	Mr.Prashanth N	Asst. Prof.	B. E.(Mech), M.Tech (Prod. Engg)
26.	Mr.Sachin B	Asst. Prof.	B. E.(Mech), M.Tech (Comp.Int.Mfg)(PhD)

27.	Mr.Rachith S N	Asst. Prof.	B. E.(Mech), M.Tech (Thermal)
28.	Ms.Yashawini Sudarshan	Asst. Prof.	B. E.(Mech), M.Tech (Mfg)
29.	Mr.Avinash L	Asst. Prof.	B. E.(Mech), M.Tech (MD)(Ph.D)
30.	Mr.Chethan S	Asst. Prof.	B. E.(Mech), M.Tech (MD)
31.	Mr.Mahadeva Prasad	Asst. Prof.	B. E.(Mech), M.Tech (Machine Design)
32.	Mr.Sriram Mukunda	Asst. Prof.	B. E.(Mech), MS (Automobile), M.Tech (Mfg.Engg.) (Ph.D)
33.	Mr.Harish Kumar L	Asst. Prof.	B.E (ME), M.Tech (Thermal)
34.	Mr.Kotgi Kotresh	Asst. Prof.	B.E (ME), M.Tech (MD)
35.	Mr.Vikram Kedambadi Vasu	Asst. Prof.	B.E (ME),M.Tech (ME)(PhD)
36.	Mr.Girish Prasad S	Asst. Prof.	B.E, M.Tech
37.	Mr.Pramod S	Asst. Prof.	B. E.(Mech), M.Tech (Tools Engg.)
38.	Mr.Nithin U Aithal	Asst. Prof.	B. E.(Mech), M.Tech (Mfg)
39.	Mr.Charan Kumar D	Asst. Prof.	B. E.(Mech), .M.Tech (Thermal)
40.	Mr.Anand M N	Asst. Prof.	B. E.(Mech), M.Tech (MD)
41.	Mr.Samir Kumar Panda	Asst. Prof.	B. E.(Mech), M.Tech (ME)
42.	Mr.Lokesh N	Asst. Prof.	B. E.(Mech), M.Tech (ME)
43.	Mr.Preetham B M	Asst. Prof.	B. E.(Mech), M.Tech (ME)
44.	Mr.Puneeth Kumar M V	Asst. Prof.	B.E(ME), M.Tech (MD)
45.	Mr.Ganesha K	Asst. Prof.	B.E(ME), M.E(Thermal)
46.	Santhosh Kumar	Asst. Prof.	B. E.(Mech), M.Tech (ME)
47.	Dr.Vinyas M	Asst Prof.	Ph.D

5. DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING

Sl.No	Name	Designation	Qualification
1.	Dr. H M Ravikumar	Prof	BE(EEE),ME(PS),PhD
2.	Dr. T C Balachandra	Prof.	B.E)EE), ME(PE), Ph.D(EE)
3.	Mrs.Vasudha Hegde	Head & Assoc. Prof	B. E.(EEE), M.Tech (CAID), (Ph.D)
4.	Mrs. Veena S	Assoc. Prof.	B. E.(EEE), M.Tech (VLSI), (Ph.D)
5.	Mr.Parthasarathy V	Assoc. Prof.	B. E.(EEE), M.Tech(PS) (Ph.D)
6.	Dr.Habibuddin Shaik	Asst. Prof.	M.Sc,(Phy), PhD
7.	Mrs. Sridevi H R	Asst. Prof.	B. E.(EEE), M.Tech (PS) (Ph.D)
8.	Mr.Ch V Ramesh	Asst. Prof.	B.E (EEE) M.Tech. (PE) (Ph.D)
9.	Ms. Siridevi N C	Asst. Prof.	B.E (EEE), M.E (Control & Instrumentation)
10.	Dr.Samanvitha N	Asst. Prof.	B.E(EEE) M.Tech (Industrial Automation & Robotics), (PhD)
11.	Mrs.Sowmya Raman	Asst. Prof.	B.E (EE),M.Tech (Instrumentation & Control)
12.	Mrs.Sujatha Shivashimpeger	Asst. Prof.	B.E (EEE),M.Tech (CAID)
13.	Mr.Yashaswi K C	Asst. Prof.	B.E (EEE), M.Tech (Bio Med)

14.	Mr.Sudeep Shetty	Asst.Prof.	B.E(EEE), M.E (PE)
15.	Mr.Nagaraj M J	Asst. Prof.	B.E (EEE), M.Tech (VLSI)
16.	Mrs.ShruthiGatade	Asst. Prof.	B.E (EEE), M.Tech(VLSI)
17.	Mr.Anand S	Asst. Prof.	B.E (EEE), M.Tech(PE)
18.	Mrs.Meghana A	Asst. Prof.	B.E(EEE), M.Tech (CAID)
19.	Mrs.ChaitraHebbar	Asst. Prof.	B.E (EEE), M.Tech(PS)

6. DEPARTMENT OF CIVIL ENGINEERING

Sl.No	Name	Designation	Qualification
1.	Dr.Bharathi Ganesh	Prof. & Head	B.ECiv), M.E(Stru), Ph.D(Stru)
2.	Dr.Ramachandra Reddy	Prof.	M.Sc (Geology), Ph.D
3.	Dr.Nagendra	Prof.	B.E(Civ), M.E(Stru), Ph.D
4.	Dr.Rajkumar Pillai	Prof.	B.E(Civ), PGDCM
5.	Dr.Praneesh R N	Prof.	B.E(Civ), M.Tech(Stru), Ph.D
6.	Dr.N Vidyavathi	Prof.	Ph.D (Env)
7.	Col.Ramachandra B V	Prof.	B.E(Civ)
8.	Dr. J Durga Prasad	Prof.	B.E(Civ), M.Tech(Stru),Ph.D(Stru)
9.	Ms.Archana Nayak	Assoc. Prof.	B. E. (Civil), M. Tech.(Envon.I Engg.)
10.	Ms.Prathima G	Assoc. Prof.	B.E (Civ), M.Tech (Hgh.Tech)(Ph.D)
11.	Mr.Vasudev M V	Assoc. Prof.	B.E(Civ), M.E (Stru)
12.	Dr.Santhosh L G	Asst. Prof.	B.E(Civ), M.E (RS&GIS), Ph.D (RS&GIS)
13.	Mr.Muralidhara H	Asst. Prof.	B.E (Civ), M.Tech (Hgh.Tech)
14.	Mr.Jairaj C	Asst. Prof.	B.E (Civ), M.Tech (Geo.Tech)(Ph.D)
15.	Mr.Kiran Umachagi	Asst. Prof.	B.E (Civ), M.Tech (Stru)
16.	Ms.Umashankar Patil G H	Asst. Prof.	B.E (Civ),M.E (Stru)
17.	Ms.Shwetha K G	Asst. Prof.	B.E (Civ),M.Tech(Stru)
18.	Mr.Shreyas A V	Asst. Prof.	B.E(Civ), M.Tech (Stru)(Ph.D)
19.	Mr.Prashanth S P	Asst. Prof.	B.E(Civ), M.Tech (Stru)(Ph.D)
20.	Mr.Suraj Nayak U	Asst. Prof.	B.E(Civ), M.Tech (Stru) (Ph.D)
21.	Ms.Shruthi B S	Asst. Prof.	B.E(Civ), M.E (Earthqu)
22.	Mr.Mahesh Kumar C L	Asst. Prof.	B.E(Civ), M.Tech (Cad Stru) (Ph.D)
23.	Mr.Divith Kumar R P	Asst. Prof.	B.E(Civ), M.Tech(Stru)
24.	Mr.Nanjundi Prabhu	Asst. Prof.	B.E(Civ), M.E (WR) (Ph.D)
25.	Mr.Vishwachethan S G	Asst. Prof.	B.E(Civ), M.E (GeoTech)
26.	Ms.Varsha Vishwanath	Asst. Prof.	B.E(Civ), M.S (Const)
27.	Ms.Bharti Prasad	Asst. Prof.	B.Tech(Civ), M.Tech (Civ)
28.	Ms.Shobha L	Asst. Prof.	B.E(Civ), M.Tech (Stru)
29.	Mr.Manjunath L	Asst. Prof.	B.E(Civ), M.E (Stru), (Ph.D)
30.	Ms.Chaitra P *	Asst. Prof.	B.E(Civ), M.E (EQ)

7. DEPARTMENT OF AERONAUTICAL ENGINEERING

Sl.No	Name	Designation	Qualification
1	Dr. Pramod Kumar Dash	Prof. and HOD	B.E (Aero), M.E (Space Engg.), Ph.D. (Space Engg)

2	Dr. S Venkateswaran	Prof.	B.E (Mech.), M.Sc. (Mech.), Ph.D. (Mat. Science)
3	Dr. Kishore Kumar Brahma	Prof.	B.Tech (Aero), M.E(Aero), Ph.D. (Aero)
4	Mr. Vinayaka N	Asso. Prof.	B.E (Mech.), M.Tech. (Machine Design), (Ph.D.)
5	Mr. Mahendra M A	Asst. Prof.	B.E (Mech.), M.Tech. (Aero), (Ph.D.)
6	Mr. Shrikanth H V	Asst. Prof.	B.E (Mech), M.Tech(Thermal), (Ph.D.)
7	Mr. Siddalingappa P K	Asst. Prof.	B.E (Mech), M.Tech. (Aero)
8	Mr. Vinod L	Asst. Prof.	B.E (Mech.), M. Tech. (Aero), (Ph. D)
9	Mr. Sridhar K	Asst. Prof.	B.E (Aero), M.E (Aero)
10	Mr. Prashanth Manvi	Asst. Prof.	B.E (Aero), M.S (Aero)
11	Mr. Santosh Hopsur	Asst. Prof.	B.E (Aero), M. Tech (APT), (Ph. D)
12	Mr. Suthan R	Asst. Prof.	B.E (Aero), M.E. (Aero)
13	Ms. Sonali Gupta	Asst. Prof	B.E (Aero), M. Tech.(APT)

8. DEPARTMENT OF APPLIED SCIENCES

1. MATHEMATICS

Sl.No	Names	Designation	Qualification
1.	Dr. Dhananjaya Murthy B V	Assoc. Prof.& HOD	B. Sc., M. Sc. (Maths) Ph.D
2.	Dr.Indira R	Professor	B.Sc, M.Sc.(Maths), Ph.D
3.	DR. Revathi B R	Assoc. Prof.	B.Sc, M.Sc.(Maths), Ph.D
4.	Mrs. Sumashree P	Asst. Prof.	B. Sc., M. Sc. (Maths)
5.	Dr. Chandrakala S B	Asst. Prof.	B.Sc., M. Sc. (Maths) Ph.D
6.	Dr.Padmavathi R	Asst. Prof.	B.Sc, M.Sc (Maths), Ph.D
7.	Dr.Jagadeesha S	Asst. Prof.	B.Sc, M.Sc (Maths)M.Phil, Ph.D
8.	Ms.Rashmi K R	Asst. Prof.	B.Sc, M.Sc (Maths)(Ph.D)
9.	Ms.SushmaPuranik	Asst. Prof.	B.Sc, M.Sc (Maths)(Ph.D
10.	Mr.Sreegurav K R	Asst. Prof.	B.Sc, M.Sc (Maths), (Ph.D)
11.	Ms.Pallavi G	Asst. Prof.	B.Sc, M.Sc (Maths)(Ph.D)
12.	Ms.Swathi H R	Asst. Prof.	B.Sc, M.Sc (Maths)
13.	Mr.Pramod S	Asst. Prof.	B.Sc, M.Sc (Maths)
2.CHEMISTRY			
14.	Dr. M S Thakur	Prof.	M.Sc, Ph.D
15.	Dr. Srilatha Rao	Prof.	M. Sc., Ph. D.
16.	Dr.T Aravind	Assoc. Prof.	M.Sc. Ph.D.
17.	Dr.Raghu M S	Asst. Prof.	M.Sc Ph.D.
18.	Ms.Sowmyashree A S	Asst. Prof.	M.Sc., (Ph.D.)
19.	Ms.Sadhana H Upadhaya	Asst. Prof.	M.Sc., (Ph.D.)
20.	Ms.Ganavi H S	Asst. Prof.	M.Sc.
3.PHYSICS			
21.	Dr.Sheik Abdul Sattar	Prof. & Head	M.Sc, M.Phil, Ph.D

22.	Mrs. Jyothi G B	Assoc. Prof.	M. Sc., (Ph. D)
23.	Mrs. Hitha B Shetty	Assoc. Prof.	M. Sc., (Ph.D)
24.	Mrs.Kavitha Kamath	Asst. Prof.	M. Sc.
25.	Mr.Shivaprasad H B	Asst. Prof.	M.Sc. M.Tech. (Material Engg.)
26.	Mr.Ashok Reddy G V	Asst. Prof.	M.Sc., M.Phil., (Ph.D)
27.	Ms.Jyothi Gupta	Asst. Prof.	M.Sc., (Ph.D.)
28.	Ms.Chaitra J C	Asst. Prof.	M.Sc.
29.	Dr.Jeevan Kumar Padarti	Asst. Prof.	M.Sc. Ph.D.
30.	Ms.Bhavya R	Asst. Prof.	M.Sc.
4. HUMANITIES			
31.	Mrs.Akshatha Shetty	Asst. Prof.	M.Sc (Env.Sci)
32.	Dr.Vandana Rai	Asst. Prof.	MA, M.Phil., Ph.D
33.	Dr.Neha Jain	Prof.	M.A, B.Ed, MPhil., MBA, Ph.D.
34.	Mr.Srinivas A	Asst. Prof.	M.A., M.Ed, (Ph.D)
35.	Mr.Fakkiresk Hallalli	Asst. Prof.	M.A, PGDCE, (Ph.D)

9. DEPARTMENT OF MASTER OF BUSINESS ADMINISTRATION

Sl.No	Names	Designation	Qualification
1.	Dr.Janakiraman	Prof.	Ph.D
2.	Dr.Harish Babu S	Prof & Head	B.Com.,MBA (Finance & Mktg), Ph.D
3.	Dr.Senthil Kumar R	Assoc. Prof.	B.Sc., PGDCA MBA (Mkt'g & HR) M.Phil,Ph.D
4.	Mr.N.Kiran Kumar	Assoc. Prof.	B.A., M.A. ,MBA.(Mkt'g & HR), M.Phil, (Ph.D)
5.	Dr..Malini T N	Assoc. Prof.	BBM, MBA (HR &Mktg), (Ph.D)
6.	Dr.Shilpa Ajay	Assoc. Prof.	B.Com, MBA (HR),PGDMM, Ph.D
7.	Ms.Nayana S Desai	Asst. Prof.	BBM, MBA (Mktg)
8.	Ms.Jyothi G	Asst. Prof.	B.Com,MBA(Fin)
9.	Mr.Pavan G Kulkarni	Asst. Prof.	B.Sc, MBA(F&M), (PhD)
10.	Ms.Arptha M P	Asst. Prof.	B.Sc., MBA (HR)
11.	Mr.Hemanth Kumar M G	Asst. Prof.	B.SC., MBA(Fin)
12.	Ms. Bhanurekha Reddy	Asst. Prof.	MBA

10. DEPARTMENT OF MASTER OF COMPUTER APPLICATIONS

Sl.No	Name	Designation	Qualification
1.	Dr.Prasad Hamsavath Naik	Prof. & Head	MCA, M.Tech, (CSE),Ph.D
2.	Mrs.Geetha Priyadarshini	Assoc. Prof.	B. E. (CSE),MCA
3.	Ms.Joy Lavanya	Assoc. Prof	B.E. (EC), M.S. (Medical Software)
4.	Ms.Sowmya H N	Asst. Prof.	B.Sc, MCA

5.	Mr.Lakshminarayana B N	Asst. Prof.	B.Sc, MCA
6.	Mr.Mariyon Richard	Asst. Prof.	BCA, MCA
7.	Ms.Sushitha S	Asst. Prof.	B.Sc, MCA
8.	Mr.A V Navneeth	Asst. Prof.	B.Sc, MCA,M.Phil
9.	Ms.Vijayalakshmi Katti	Asst. Prof.	BCA,MCA
10.	Ms.Sowmya K	Asst. Prof.	BCA, MCA
11.	Ms.Smriti Rai	Asst. Prof.	B.Com, MCA
12.	Ms.Shwetha Dharieswar	Asst. Prof.	BSc, MCA

11. LIBRARY

1	Dr.Gangadhar K C	Librarian
2	Ms.Chethana V	Asst. Librarian
3	Mrs. Prathibha Naganagoudar	Asst. Librarian
5	Mr. Madhu S B	Asst. Librarian
6	Ms Kavya N	Asst. Librarian
7	Mrs. Vijayalakshmi Jayaram K	Library Assistant

SCHOLARSHIP DETAILS

Sl.No	Name Of The Scholarship	Eligibility	To apply - visit the following websites
1.	SC/ST Fee Concession Scholarship	Only For <i>SC/ST</i> Such of the Students whose parents annual income is above 2.5 Lakhs Such of the students whose parents annual income is below 2.5 lakhs	sw.kar.nic.in
2.	Back Ward Class Fee Concession Scholarship	OBC Students (Cat 1, 2A,3A,3B) whose Parents Annual Income is Below 1.0 Lakhs	<i>Karepass.cgg.gov.in</i>
3.	Minority students Scholarship	Minority Students (Muslims, Christians, Buddhists, Jains and Parsis)	http://www.momascholarship.gov.in/
4.	Jindal Merit Scholarship	Merit Students	www.jindalscholarship.com
5.	Prathibha Puraskar scholarship	Merit Students	Backwardclass.kar.nic.in
6.	Kittur Rani Channamma Scholarship	Only Meritorious Girl Students	http://www.dce.kar.nic.in/
7.	Scholarship provided by Municipal Corporation	For Merit Students from low income groups	Application to be collected from their respective Municipal Corporation Offices

STUDENTS' COUNCIL

Constitution of Students Council

A Students Council is formed every year, under two faculty advisors, who will facilitate the smooth functioning of co curricular and extracurricular activities of the college. The HODs will nominate two students (one boy and one girl) from each class. In turn, among these representatives, the college will nominate Office Bearers for the Students' Council.

The selection is based on the following criteria:

- Students who have good academic record and cleared all the courses without any backlog
- Students who have involved in co-curricular activities and possess leadership qualities. .

Sl. No	Position
1	Convener of Student's Council (Final Year Student) along with two Faculty Advisors
2	Joint Convener of Student's Council (Pre Final Year Student)
3	Convener of Anaadyanta (Final Year Student) along with one Faculty Advisor
4	Joint Convener of Anaadyanta (Pre Final Year Student)
5	Coordinator for Sports Activities (Final Year Student) along with One Faculty Advisor
6	Coordinator for Placement Activities (Final Year Student) along with two Faculty Advisors
7	Convener for Cultural Activities (Final year Student) along with two Faculty Advisors
8	Joint Convener of Cultural Activities (Pre Final year student)

COMMITTEES & COMMITTEE INCHARGE

SI No	Committee	Committee In charge
1	Anti-Ragging Committee	Dr Abdul Sattar
2	Anti-Ragging Squad	Dr Sanjay H A
3	Anti-Sexual Harassment Committee Anti-Sexual Harassment Squad	Dr Nalini N Dr Srilatha Rao
4	Grievance Redressal Committee	Dr Venkatesh R
5	Mal Practice Enquiry Committee	Dr H C Nagaraj
6	Internal Quality Assurance Cell	Dr Jharna Majumdar
7	Parents Relation Centre	Mrs. Sony Malli and Ms Varsha
8	Mentors	Every 15 students will be allocated one mentor
9	SC/ST and BCM Cell	Dr Prasad Naik Hamsavath
10	Committee on Women's Security, Welfare and Grievance Redressal	Dr Vidyavathi
11	Literary Committee	Dr Jarna Majumdar
12	Cultural Committee	Dr Nalini N

13	Students Council	Dr. H. C. Nagaraj, Principal
14	Library Committee	Prof. Mahaveera Swamy
15	Research Council	Dr. L. M. Patnaik
16	Academic and Administration Audit Committee	Prof K Sudha Rao
17	Induction Committee	Dr Swarna Latha Dr Ramachandra
18	Finance Committee	Dr. H. C. Nagaraj, Principal

COURSE CONTENT, SCHEME OF TEACHING AND EXAMINATION

FOR I AND II SEMESTER B.E. PROGRAMME (AUTONOMOUS SCHEME)

2018 - 2019

(COMMON TO ALL BRANCHES)

SEMESTER: I

Physics Group

Sl No	Course Code	Course Title	Course Type	Teaching Dept.	Teaching Hours/week				Examination			Credits
					L#	T#	P#	S#	CIE*	SEE**	Total	
1	18MAT11	Engineering Mathematics-I	BS^	MAT	3	2	0		50	50	100	4
2	18PHY12	Engineering Physics	BS^	PHY	3	2	0		50	50	100	4
3	18CP13	C- Programming- I	EC\$	CS/IS	0	0	4		50	50	100	2
4	18ELE14	Basic Electrical Engineering	EC\$	EEE	3	1	1		50	50	100	4
5	18EME15	Elements of Mechanical Engineering & Workshop	EC\$	ME	3	0	2		50	50	100	4
6	18PHL16	Engineering Physics Lab	BS^	PHY	0	0	2		50	50	100	1
7	18ENG17	Communicative English	HU@	HUM	2	0	0		100+	-	100	-
8	18CIV18	Environmental Studies	HU@	HUM	2	0	0		100+	-	100	-
TOTAL									500	300	800	19

SEMESTER: I

Chemistry Group

Sl No	Course Code	Course Title	Course Type	Teaching Dept.	Teaching Hours/week				Examination			Credits
					L#	T#	P#	S#	CIE*	SEE**	Total	
1	18MAT11	Engineering Mathematics-I	BS^	MAT	3	2	0		50	50	100	4
2	18CHE12	Engineering Chemistry	BS^	CHE	3	0	0		50	50	100	3
3	18CP13	C- Programming- I	EC\$	CS/IS	0	0	4		50	50	100	2
4	18ELN14	Basic Electronics Engineering	EC\$	ECE	3	2	0		50	50	100	4
5	18CED15	Computer Aided Engineering Drawing	EC\$	ME	1	0	4		50	50	100	3
6	18CIV16	Engineering Mechanics	EC\$	CVE	3	2	0		50	50	100	4
7	18CHL17	Engineering Chemistry Lab	BS^	CHE	0	0	2		50	50	100	1
8	18CIP18	Constitution of India, Professional Ethics and Cyber laws	HU@	HUM	2	0	0		100+	-	-	-
TOTAL									450	350	800	21

^BS- Basic Science, \$EC-Engg.Core, @Hu-Humanities,*Continuous Internal Evaluation, ** Semester End Examination
L- Lecture, T- Tutorial, P- Practical, S-Self Study

Note: One hour of Lecture = 1 Credit,
Two hours of Tutorials = 1 Credit,
Two hours of Practical's = 1 Credit

+Non-credited Audit course, not considered for calculating the GPA and vertical promotion. However without securing the pass grade student will not be eligible for the award of the degree

SEMESTER: II**Physics Group**

Sl No	Course Code	Course Title	Course Type	Teaching Dept.	Teaching Hours/week				Examination			Credits
					L#	T#	P#	S#	CIE*	SEE**	Total	
1	18MAT21	Engineering Mathematics-II	BS^	MAT	3	2	0		50	50	100	4
2	18PHY22	Engineering Physics	BS^	PHY	3	2	0		50	50	100	4
3	18CP23	C- Programming- II	EC\$	CS/IS	0	0	4		50	50	100	2
4	18ELE24	Basic Electrical Engineering	EC\$	EEE	3	1	1		50	50	100	4
5	18EME25	Elements of Mechanical Engineering & Workshop	EC\$	ME	3	0	2		50	50	100	4
6	18PHL26	Engineering Physics Lab	BS^	PHY	0	0	2		50	50	100	1
7	18ENG27	Communicative English	HU@	HUM	2	0	0		100+	-	100	-
8	18CIV28	Environmental Studies	HU@	HUM	2	0	0		100+	-	100	-
TOTAL									500	300	800	19

SEMESTER: II**Chemistry Group**

Sl No	Course Code	Course Title	Course Type	Teaching Dept.	Teaching Hours/week				Examination			Credits
					L#	T#	P#	S#	CIE*	SEE**	Total	
1	18MAT21	Engineering Mathematics-II	BS^	MAT	3	2	0		50	50	100	4
2	18CHE22	Engineering Chemistry	BS^	CHE	3	0	0		50	50	100	3
3	18CP23	C- Programming- II	EC\$	CS/IS	0	0	4		50	50	100	2
4	18ELN24	Basic Electronics Engineering	EC\$	ECE	3	2	0		50	50	100	4
5	18CED25	Computer Aided Engineering Drawing	EC\$	ME	1	0	4		50	50	100	3
6	18CIV26	Engineering Mechanics	EC\$	CVE	3	2	0		50	50	100	4
7	18CHL27	Engineering Chemistry Lab	BS^	CHE	0	0	2		50	50	100	1
8	18CIP28	Constitution of India, Professional Ethics and Cyber laws	HU@	HUM	2	0	0		100+	-	-	-
TOTAL									450	350	800	21

^BS- Basic Science, \$EC-Engg.Core, @Hu-Humanities,*Continuous Internal Evaluation, ** Semester End Examination,
L- Lecture, T- Tutorial, P- Practical, S-Self Study

Note: One hour of Lecture = 1 Credit,
Two hours of Tutorials = 1 Credit,
Two hours of Practical's = 1 Credit

+Non-credited Audit course, not considered for calculating the GPA and vertical promotion. However without securing the pass grade student will not be eligible for the award of the degree

ENGINEERING MATHEMATICS – I

Course Code	18MAT11	Credits	4.5
Hours/Week (L-T-P)	3-2-0	CIE Marks	50
Total Hrs	52	SEE Marks	50
Exam Hrs	03	Course Type	Core

COURSE OUTCOMES

Students will able to

1. Apply concept of calculus to Taylor series and hence to the problems arising in engineering.
2. Differentiate functions with several variables and will be able to apply same to optimization
3. Integrate functions of two and three variables and apply the concepts to find area and volume and also special functions
4. Differentiate vector functions and apply the same for physical situations like finding flux, divergence, rotation etc.
5. Use least square methods and find the best fitting curves for given data.

COURSE CONTENTS

UNIT -1- (8 Hrs)

Differential Calculus: Polar curves, angle between tangent and radius vector, angle of intersection, pedal equation, radius of curvature. (no derivations).
Successive differentiation – nth derivative of standard functions, Leibnitz rule, Taylor’s and Maclaurin series (without proof), L’ Hospital rule (statement only), Indeterminate form using L’ Hospital rule – problems.

UNIT -2- (8 Hrs)

Partial differentiation: Partial derivatives, Homogeneous function, Euler’s theorem, Total derivative, Implicit and composite function, Jacobian, Maxima and Minima for function of two variables.

UNIT -3- (8 Hrs)

Integral Calculus: Reduction formula $\int \sin^n x dx$, $\int \cos^n x dx$ and $\int \sin^m x \cos^n x dx$, for (no derivations), Multiple integrals - double and triple integration, application to find area and volume.
Gamma and Beta functions (Definitions, Derivation of $\Gamma(1/2)$), Relation between Beta and Gamma functions, Evaluation of $\beta(m, n)$ and problems.

UNIT -4- (8 Hrs)

Vector Calculus: Differentiation of vectors, velocity and acceleration, Gradient, divergence and curl of a vector, solenoidal and irrotational vectors, Laplacian, vector identities.

UNIT -5- (8 Hrs)

Curve fitting: Curve fitting using least square method, straight line, parabolic and exponential curves, Regression lines, correlation, rank correlation, multiple linear regression, nonlinear regression

TEXT BOOKS

UNIT 1-5	‘Higher Engineering Mathematics’ - Dr. B S Grewal, 42nd Edition/ 2012, Khanna Publishers
UNIT 1-4	‘Advance Engineering Mathematics’, Volume - I - Ervin Kreyszig, 2014, Wiley.

REFERENCE BOOKS

UNIT 1-5	‘Mathematics for science students’ - Louis Lyons, Cambridge university press, 2005.
UNIT 1-5	‘Vector calculus’ - P C Matthews, Springer, 2005.
UNIT 1-5	‘Advanced Engg. Mathematics’ - Erwin E Kreyszig, 9th edition, 2011, Wiley.

COURSE ASSESSMENT METHOD:

1. Surprise test / Tutorials tests to be conducted each for 10 marks.
2. Three mid semester examinations will be conducted each for 30 marks and the average of best of two will be taken.
3. Final examination will be conducted for 100 Marks and evaluated for 50 marks.

CO-PO-PSO Mapping

CO	PO	PSO1	PSO2
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	1	2	3	4	5	6	7	8	9	10	11	12		
1	*	*												
2	*	*												
3	*	*												
4	*	*												
5	*	*		*										

ENGINEERING PHYSICS

Course Code	18PHY12/22	Credits	4
Hours/Week (L-T-P)	3-2-0	CIE Marks	50
Total Hrs	L39+T26	SEE Marks	50
Exam Hrs	03	Course Type	Basic Science

COURSE OUTCOMES

Students will able to

1. Explain the generation of LASER beam, Signal Propagation through Optical Fibres and their applications in the different fields
2. Illustrate the elastic properties of materials for Engineering applications.
3. Illustrate the characteristic properties and their applications of Dielectrics, Semiconducting materials.
4. Apprehend the discrepancy between classical estimates and laboratory observations of physical properties exhibited by materials at sub atomic level.
5. Realize the design and manufacture of MEMS involves the applications of multidisciplinary science and engineering principles.

COURSE CONTENTS

UNIT -1- (8 Hrs)

Lasers: Introduction, Basic concepts (absorption, spontaneous emission and Stimulated emission) Einstein coefficients and their relations, Population inversion, Lasing action, - Characteristics of Lasers, Working principle and components of CO₂ laser and Semiconductor Laser, Applications of Laser in Industry, medicine and Holography-Construction and reconstruction of hologram. Numerical Problems.

Fiber Optics: Introduction, Basic structure of optical fibre, Principle of optical fibre - Acceptance angle, acceptance cone and Numerical aperture - Types of optical fibres (Based on Refractive index profile and Mode guiding) - Attenuation - Mechanisms, Advantages and disadvantages of Optical fibres, Fibre optic Communication system, Numerical problems.

UNIT -2- (8 Hrs)

Elastic properties of Materials: Concept of elasticity, plasticity, stress, strain, tensile stress, shear stress, compressive stress, strain hardening, strain softening, failure (fracture/ fatigue), Hooke's law, different elastic moduli, Poisson ratio, Expression for Young's modulus(Y), Bulk modulus(K) and Rigidity modulus (η) in terms of ' α ' and ' β ', relation between Y, η and K, limits of Poisson's ratio.

Bending of beams: Neutral surface and neutral plane, expression for bending moment of a beam with rectangular cross section (Derivation), Single cantilever (Derivation).

UNIT -3- (8 Hrs)

Dielectric Properties: Dielectric constant - polarization - Polarizability - Internal field (Qualitative discussion) - Clausius -Mossotti equation - Types of Polarization: Orientation, Ionic and Electronic Polarization, Dielectric loss-frequency dependence of dielectric constant, Ferro and Piezo electricity and its applications, mention of solid, liquid and gaseous dielectrics with examples, applications of dielectrics in transformers.

Semiconductor Physics: Introduction -carrier concentration and position of Fermi level in intrinsic semiconductors - Intrinsic conductivity and its Temperature dependence, Extrinsic semiconductors (Qualitative analysis) -Hall Effect and its applications, Numerical problems.

UNIT -4- (7 Hrs)

Quantum Mechanics: Introduction, Wave particle dualism, de-Broglie hypothesis, matter waves and their characteristic properties, Heisenberg's Uncertainty principle-non confinement of electron in the nucleus- Phase velocity, Group velocity and relations between phase velocity, group velocity and particle

velocity- Schrodinger Time Independent wave equation – Eigen values and Eigen functions, Physical significance of wave function - Particle in a potential box (one dimensional), Numerical problems.

UNIT -5- (8 Hrs)

Free electron theory of Metals: Classical free electron theory –drawbacks- Quantum free electron theory – Fermi-Dirac distribution function and its dependence on temperature - Heat capacity and electrical conductivity through quantum considerations, Numerical problems.

MEMS: Introduction to MEMS, working Principle, Sensors-Acoustic sensor, optical sensor, pressure sensor, Actuators- actuation by thermal forces, electrostatic forces, shape memory alloys, electrostatic forces. Applications of MEMS -Micro grippers, Micro accelerometers.

TEXT BOOKS

UNIT 1,3, 4, 5	'Solid State Physics' - R. J. Singh, Pearson Education India, 2012.
UNIT 2	'Engineering mechanics' - MK Harbola, Cengage publications, 2nd Edition 2009.
UNIT 5	'MEMs and Microsystems Design and Manufacture' - Tai-Ran HSU, Tata Mc Graw-Hill, 2002.

REFERENCE BOOKS

UNIT 3	'Semiconductor Physics and Devices: Basic Principle' - Donald A Neamen, Mc Graw Hill, NewYork, 4th Edition, 2012.
UNIT 2-4	'Principles of Engineering Physics' - Md N Khan S & Panigrahi, Cambridge University Press, India, 2017.
UNIT 3	'Introduction to Solid State Physics' - Charles Kittel, Wiley India Pvt.Ltd, 7th Edition, 2008.
UNIT 1,3, 4	'Engineering Physics' - V Rajendran, Tata McGraw Hill, 2011.
UNIT 1	'Springer Handbook of Lasers and Optics' - Frank Träge, Springer, 2012.
UNIT 1,2, 4	'Solid State Physics' - S.O. Pillai, New age Publications, 2010.

COURSE ASSESSMENT METHOD:

- Continuous internal Evaluation (CIE) for 50Marks
 - Assignments/ Oral presentation - 10 Marks
 - Surprise tests/Tutorials - 10Marks.
 - Three mid examinations will be conducted each for 30 marks and the Average of best of two will be taken.
- Semester End Examination (SEE) for 50 Marks
 - Final examination for 100 Marks later it will be scaled to 50Marks.
 - Two Questions are to be set from each unit, carrying 20 Marks each.
 - Students have to answer 5 questions selecting one full question from each unit.

CO-PO-PSO Mapping

CO	PO												PSO1	PSO2	
	1	2	3	4	5	6	7	8	9	10	11	12			
1	*														
2	*	*													
3	*	*													
4	*	*													
5	*	*													

ENGINEERING CHEMISTRY

Course Code	18CHE12/22	Credits	3
Hours/Week (L-T-P)	3-0-0	CIE Marks	50
Total Hrs	39	SEE Marks	50
Exam Hrs	03	Course Type	Basic Science

COURSE OUTCOMES

Students will able to

1. Analyze different forms of energies and study the reaction mechanisms of batteries and Super capacitors and apply the knowledge to design the batteries.
2. Recognize different forms of Corrosion, their significance and preventive measures and gain knowledge in different chemical techniques for water treatment and green chemistry.
3. Identify structures of solid crystals using Miller indices and to find applications of LCD's and OLED's in electronic devices.
4. Apply the knowledge in the field of Semiconductors, relevant theories and ideas in non-conventional sources of energy to provide solutions to our current and future energy problems using spectroscopic techniques.
5. Ability to analyze Nanoscience paradigm in terms of properties at Nano scale dimensions and synthesize membranes and materials for solving interdisciplinary problems in industries.

COURSE CONTENTS**UNIT -1- (8 Hrs)**

Chemical energy sources: Introduction to energy, Fuels-definition, classification, importance of hydrocarbon fuels, Calorific value-definition, Gross and Net calorific value, (SI units). Determination of calorific value of a solid/liquid fuel using Bomb calorimeter. Determination of calorific value of a gaseous fuel using Bouy's calorimeter Petroleum cracking-Fluidized catalytic cracking, Reformation of petrol. Numericals.

Conversion and storage of electrochemical energy: Single electrode potential- definition, origin, sign convention. Derivation of Nernst's equation. Standard electrode potential- definition. Construction of galvanic cell-classification of primary, secondary and concentration cells. EMF of a cell-definition, notation and convention.

Batteries and super capacitors: Batteries: Introduction to batteries, charging and discharging, characteristics of batteries, types, Secondary battery (Li -Ion) construction and working principle.

Super capacitors: Definition, Classification construction and working advantages and Disadvantages

UNIT -2- (8 Hrs)

Corrosion Science: Corrosion- definition, Chemical Corrosion and electrochemical theory of Corrosion, Types of Corrosion, Differential metal corrosion, Differential aeration corrosion (Pitting and water line corrosion) Stress corrosion, Factors effecting the rate of corrosion. Corrosion control: Design, Metal coatings-Galvanizing and Tinning, Cathodic Protection.

Environmental Chemistry and waste management: Water pollution -Impurities in the water, Definition- COD and BOD: Determination of different constituents in water- COD and DO. Numericals. Sewage Treatment, Potable water, Purification of water, Electrodialysis, and Reverse osmosis.

Waste management: Introduction, various types of waste management, Solid waste management - non-hazardous and municipal and E - waste management.

Green Chemistry: An overview of Green chemistry, twelve principles of green chemistry and numericals on Atom economy.

UNIT -3- (8 Hrs)

Crystal structure: Introduction to crystal structure. Miller indices, Features of Miller indices, Packing fraction or atomic packing factor (APF) OR relative density of packing, Inter planar spacing, Expression for spacing between lattice planes, Numericals

Liquid crystals and their application: Introduction, Classification thermotropic and Lyotropic with examples Types of Mesophases-Nematic and Chiral nematic (cholesteric) smectic and columnar with example. Application of liquid crystals in display systems .working of L.C.D.

OLED'S : Introduction to OLEDs, Types of OLEDs, OLED Structure, Working of OLEDs, current and future OLEDs

UNIT -4- (7 Hrs)

Semiconductors: Introduction to Semiconductors, conductivity equation of pure semiconductors, defects in solids photocopying process.

Renewable energy sources: Definition, history, importance of renewable energy sources, notational and international energy scenario, Main stream renewable technologies- solar energy(PV Cells dye sensitizer), Wind energy, Tidal energy, Hydro thermal and Applications of solar, Wind, Tidal, Hydro thermal energies.

Thermodynamics: Thermodynamic functions Energy, entropy and free energy, Estimation of entropy and free energy, I law of thermodynamics

UNIT -5- (X Hrs)

Nanoscience: Introduction- Overview of Nanoscience Theory, definitions and history – Properties at nanoscale. Different classes of Nanomaterials –1D, 2D, 3D and 0D; Nano Scale materials – nano rods, nanotubes, Quantum dots, nanomembranes Synthesis by “Top-down” approach- Hydro thermal and Photolithography “Bottom up approach” – CVD, PVD, Solgel and precipitation methods.

Characterization: Introduction, principle, working of Scanning Electron Microscope

Applications: Nano Solar cells and Bio medical application –diagnosis using sensors and treatment of cancer using Gold nano particles.

Nano Membranes and Technology: Introduction, Overview of membrane science and Technology, History, Types of membranes, Advantages and Limitations of Membrane Processes, Fundamentals of Mass Transport in Membranes and Membrane Processes, Mathematical Description of Mass Transport in Membranes, Membrane preparation and characterization, Membrane Materials Preparation of Membranes Membrane Characterization, Future Developments in Membrane Science.

TEXT BOOKS

UNIT 1-3	'Text book of Polymer Science' - F.W. Billmeyer, John Wiley & Sons 1994.
UNIT 3,4	'Environmental studies' - Benny Joseph, Mc Graw-Hill publishing company 2004.
UNIT 5	'Corrosion Engg' - M.G. Fontana, Mc Graw Hill Publication.2005.

REFERENCE BOOKS

UNIT 1,2	'Physical Chemistry' - Gordon M Barrow, Mc Graw Hill-Kagakusha, 1987.
UNIT 3,4	'Environmental Chemistry' - Stanley and Co, Mc Graw Hill Publication,2008.
UNIT 2	'Supercapacitors: Materials, Systems, and Applications' - François Béguin, Elżbieta Frąckowiak Wiley-VCH Verlag GmbH & Co.2013.
UNIT 3,4	'Organic and Inorganic Nanostructures' - A Nabok, Artech House 2005.
UNIT 5	'Nanostructured Materials and Nanotechnology' - Hari Singh Nalwa, Academic Press. 2015.
UNIT 5	'Introduction to Membrane Science and Technology' - Heinrich Strathmann, Wiley publishers 2011.

COURSE ASSESSMENT METHOD:

1. Internal exams -30marks
2. Seminars- 10 marks
3. Problem solving and miniprojects-10 marks
4. Semester end exams – 50 marks

CO-PO-PSO Mapping

CO	PO												PSO1	PSO2	
	1	2	3	4	5	6	7	8	9	10	11	12			
1	*														
2	*														
3	*														
4	*														
5	*														

C PROGRAMMING -I

Course Code	18CP13		Credits	2
Hours/Week (L-T-P)	0-0-4		CIE Marks	50
Total Hrs	48		SEE Marks	50
Exam Hrs	03		Course Type	Engg. Core

COURSE OUTCOMES

Students will able to

1. Identify the working of key components of a computer system and describe the software development lifecycle.
2. Will apply appropriate concepts of Data types, Constants, Variables, Declarations, Operators and Expressions in C for solving module of real world applications.
3. Will use the concepts of control structures, looping statements and arrays in C.
4. Illustrate and apply the concepts of arrays and strings in C.

5. Design and implement C programs using functions to solve real world problems.

COURSE CONTENTS

UNIT -1- (10 Hrs)

Introductory concepts: Introduction to computers, What is a computer? Block diagram of computer, hardware vs software, How to develop a program?, Software development lifecycle, structured programming, Sample C program - C main and library function

Problems / Lab exercises

UNIT -2- (10 Hrs)

Variable Names, Data Types and Sizes, Constants, Declarations, Arithmetic Operators, Relational and Logical Operators, Increment and Decrement Operators Bitwise Operators, Assignment Operators and Expressions, Conditional Expressions.

Problems / Lab exercises

UNIT -3- (10 Hrs)

Control flow – If-Else, Switch, Loops (While, For, Do-while), Break and Continue

Problems / Lab exercises

UNIT -4- (9 Hrs)

Arrays Basics of Array, Character array and strings, Header files (System and user defined), C preprocessor / conditional compilation

Problems / Lab exercises

UNIT -5- (9 Hrs)

Functions (User defined and library), Call by value vs call by ref, Recursion, Storage classes – Global, local, static, register, external Source program in multiple files

Problems / Lab exercises

LABORATORY EXERCISES

SINO

- | | |
|---|---|
| 1 | Exercise-1 programs on Data Types and Sizes, Constants, Declarations and operators |
| 2 | Exercise-2 Programs on Control flow – If-Else, Switch, Loops (While, For, Do-while), Break and Continue |
| 3 | Exercise-3 Programs on Arrays, Character array and strings, |
| 4 | Exercise-4 Programs on Header files (System and user defined),C preprocessor / conditional compilation. |
| 5 | Exercise-5 Programs on Functions (User defined and library), Call by value vs call by ref, Recursion, Storage classes – Global, local, static, register, external Source program in multiple files |

TEXT BOOKS

- | | |
|----------|---|
| UNIT1-5 | 'Programming with C' - Byron Gottfried, Third edition Shaum's outlines 2017. |
| UNIT 3,4 | 'Computer Science a Structured Programming Approach using C' - Behrouz a. Forouzan, Richard f. Gilberg, Second edition, CENGAGE Learning, 2015. |

REFERENCE BOOKS

- | | |
|----------|---|
| UNIT 1,2 | 'C Traps and Pitfalls' - Andrew Koenig, Pearson Education, India 2006. (http://www.literateprogramming.com/ctraps.pdf). |
| UNIT1-5 | 'The C programming language' - Brian W. Kernighan and Dennis Ritchie, second edition PHI, 1998. |
| UNIT 1 | 'Introduction to Computer' - Peter Norton,7th edition TATA MCGRAWHILL, 2010. |
| UNIT1-5 | 'Let Us C' - Yashvant Kanetkar, 15 th edition, BPB publication, 2016. |

ONLINE RESOURCES (Links to MOOCS, NPTEL, MIT COURSEWARE etc)

Link

C Traps and Pitfalls	http://www.literateprogramming.com/ctraps.pdf
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COURSE ASSESSMENT METHOD:

1. Three internals, 30Marks each will be conducted and the Average of best of two will be taken.
2. Programming assignment for 10 marks.
3. Surprise test will be conducted for 10 marks.
4. Final examination, of100 Marks will be conducted and will be evaluated for 50 Marks.

CO-PO-PSO Mapping																
CO	PO												PSO1	PSO2	PSO3	
	1	2	3	4	5	6	7	8	9	10	11	12				
1	*								*	*						
2	*	*	*						*	*						
3	*	*	*						*	*						
4	*	*	*						*	*						
5	*	*	*						*	*						

LABORATORY EXERCISES

SINO	
1	Exercise-1: Programs on Data Types and Sizes, Constants, Declarations and operators
2	Exercise-2: Programs on Control flow – If-Else, Switch, Loops (While, For, Do-while), Break and Continue
3	Exercise-3: Programs on Arrays, Character array and strings,
4	Exercise-4: Programs on Header files (System and user defined),C preprocessor / conditional compilation.
5	Exercise-5: Programs on Functions (User defined and library), Call by value vs call by ref, Recursion, Storage classes – Global, local , static, register, external Source program in multiple files.

LABORATORY COURSE LEARNING OUTCOMES.

1. Identify the working of key components of a computer system and describe the software development lifecycle.
2. Will apply appropriate concepts of Data types, Constants, Variables, Declarations, Operators and Expressions in C for solving module of real world applications.
3. Will use the concepts of control structures, looping statements and arrays in C.
4. Illustrate and apply the concepts of arrays and strings in C.
5. Design and implement C programs using functions to solve real world problems..

LABORATORY ASSESMENT METHOD

CIE - Test: 30 marks
 Record -10
 Observation-05
 Viva voce-05
 SEE - Final Exam: 50 Marks

CO-PO-PSO Mapping																
CO	PO												PSO1	PSO2	PSO3	
	1	2	3	4	5	6	7	8	9	10	11	12				
1	*								*	*						
2	*	*	*						*	*						
3	*	*	*						*	*						
4	*	*	*						*	*						
5	*	*	*						*	*						

BASIC ELECTRICAL ENGINEERING

Course Code	18ELE14/24	Credits	4
Hours/Week (L-T-P)	3-1-1	CIE Marks	50
Total Hrs	39	SEE Marks	50
Exam Hrs	03	Course Type	Engg. Core

COURSE OUTCOMES

Students will able to

1. Students will be able to solve problems in DC circuits using Kirchhoff's laws, Single phase and three phase balanced circuits by understanding the concepts of impedance, phase angle and power factor.
2. Students will be able to understand the working of DC generators, DC motors and solve problems.

3. Students will be able to understand the working of Transformers, Alternators and Induction motors and solve problems.
4. Students will have the fundamental knowledge of Electrical measuring instruments, concepts of various types of lamps, domestic wiring and different types of earthing..

COURSE CONTENTS

UNIT -1- (9 Hrs)

D.C. Circuits: Ohm's Law and Kirchhoff's Laws (Not for Assessment). Analysis of series, parallel and series – parallel resistive circuits excited by independent voltage sources, Power and Energy in such circuits. Solution by Loop Analysis. Illustrative examples.

Electromagnetism: Introduction to Electromagnetism (Not for Assessment). Statically and dynamically induced emf. Concept of self-inductance, mutual inductance and coefficient of coupling. Energy stored in magnetic field. Illustrative examples.

Domestic Wiring: Two-way and three-way position control of a lamp. Elementary discussion on fuses . Necessity of earthing, Pipe and Plate earthing. Concept of earth leakage current and ELCB. Electric Shock and precautions against it. Concepts of CFL, LED and Induction lamps.

UNIT -2- (7 Hrs)

DC Machines: Working principle of DC machine as a generator and a motor. Types of DC Generator (Self and Separately Excited). Constructional features. emf equation of generator, voltage build up . Illustrative examples on emf Equation.

Principle of operation of DC motor, Back emf and its significance, torque equation. Types of DC motors, Characteristics and applications. Necessity of a starter for DC motor. Illustrative examples on Back emf and torque.

UNIT -3- (8 Hrs)

Single-Phase A.C. Circuits: Generation of sinusoidal voltage, Definition of average value, root mean square value, form factor and peak factor of sinusoidally varying voltage and current, phasor representation of alternating quantities. Analysis, with phasor diagrams of R, L, C, R-L, R-C and R-L-C elements (illustrative examples involving series, parallel and series-parallel circuits). Real power, reactive power, apparent power and power factor. Illustrative examples

Measuring Instruments: Construction and Principle of operation of dynamometer type wattmeter. Measurement of energy using single phase Induction type energy meter. Digital meter(Only block diagram approach).

UNIT -4- (8 Hrs)

Three Phase Circuits: Necessity and advantages of three phase systems, generation of three phase power, meaning of Phase sequence, balanced supply and balanced load. Relationship between line and phase values of balanced star and delta connections. Power in balanced three-phase circuits, Measurement of power and power factor using two-wattmeter readings. Effect of load on wattmeter readings and power factor. Illustrative examples.

Synchronous Generators: Principle of operation. Types and constructional features. emf equation. Concept of winding factor (excluding derivation of distribution and pitch factors). Illustrative examples on emf equation only.

UNIT -5- (7 Hrs)

Transformers: Principle of operation and construction of single-phase transformers (core and shell type). emf equation, losses, efficiency, condition for maximum efficiency (Open circuit and Short circuit tests, equivalent circuit and phasor diagrams are excluded). Illustrative problems on emf equation and Efficiency only.

Three Phase Induction Motors: Concept of rotating magnetic field, Principle of operation, Types and Constructional features, Synchronous speed, rotor speed, Slip, Frequency of the rotor induced emf. Applications of squirrel cage and slip ring motors. Necessity of a starter. Illustrative examples on slip calculations.

TEXT BOOKS

UNIT 1-5 'Basic Electrical Engineering' - D C Kulshreshtha, TMH, 2009 Edition.

UNIT 1-5 'Electrical Technology', E. Hughes, International Students Pearson 9th Edition, 2005

REFERENCE BOOKS

UNIT 1-5 'Fundamentals of Electrical Engineering', Rajendra Prasad, PHI, Second Edition, 2009.

UNIT 1-5 'Basic Electrical Engineering', M.V.Rao, Edition 2010.

UNIT 1-5 'Fundamentals of Electrical Engineering and Electronics', B. L. Theraja, S. Chand & Company Ltd. Reprint Edition 2013.

ONLINE RESOURCES (Links to MOOCS, NPTEL, MIT COURSEWARE etc)	Link
Basic Electrical Technology	http://nptel.ac.in/courses/108108076/
Basic Electrical Technology	https://www.youtube.com/watch?v=rLUyP6g1VNI

COURSE ASSESSMENT METHOD:

CIE:

1. Three internal tests (each 30 marks) will be conducted and average of best of two tests marks will be considered.
2. Assignments/mini projects will be given for 10 Marks.
3. Laboratory Experiments will be evaluated for 10 marks.

SEE:

1. Two questions are to be set from each unit, carrying 20 marks each.
2. Students have to answer 5 questions selecting one full question from each unit.

CO-PO-PSO Mapping

CO	PO												PSO1	PSO2	
	1	2	3	4	5	6	7	8	9	10	11	12			
1	*	*	*												
2	*	*	*												
3	*	*	*												
4	*	*	*												
5	*	*	*												

LABORATORY EXERCISES

(13 Hrs)

Sl.NO	
1	Exercise-1: Domestic wiring- Control of Lamp by Two Way and Three Way
2	Exercise-2: Measurement of power by two Wattcmeters method
3	Exercise-3: Power factor improvement
4	Exercise-4: Energy measurement
5	Exercise-5: Star-Delta connection

LABORATORY COURSE LEARNING OUTCOMES.

1. Students will be able to understand basics of two way and three-way control of lamps
2. Students will be able to understand measurement of power, power factor and energy.
3. Students will be able to understand power factor improvement.
4. Students will be able to understand relationship between line and phase values of voltage and current in star and delta connections. .

LABORATORY ASSESMENT METHOD

CIE – Record and observation: 10 marks

CO-PO-PSO Mapping

CO	PO												PSO1	PSO2	PSO2
	1	2	3	4	5	6	7	8	9	10	11	12			
1	*	*							*						
2	*	*							*						
3	*	*							*						
4	*	*							*						

BASIC ELECTRONICS ENGINEERING

Course Code	18ELN14/24	Credits	4
Hours/Week (L-T-P)	3-0-0	CIE Marks	50
Total Hrs	39	SEE Marks	50
Exam Hrs	03	Course Type	Engg. Core

COURSE OUTCOMES

Students will able to

1. Students will be able to interpret the fundamental concepts and basic building blocks used in Digital Electronics.
2. Students will be able to analyze the basic principles of semiconductor physics in Electronic devices.
3. Students will be able to analyze the working of basic components of Analog Circuits
4. Students will be able to analyze the working of analog/digital circuits.
5. Students will be able to summarize the basic concepts of communication systems.

COURSE CONTENTS

UNIT -1- (8 Hrs)

Number system and Digital logic: Introduction, Decimal, Binary, Octal & hexadecimal number system conversion, Compliments (only 2's,1's,10's & 9's compliment) Addition and Subtraction (Binary and Decimal numbers system), Binary Coded Decimal number, Boolean Algebra, Logic Gates .Introduction to Combinational Logic : Half Adder, Full adder ,Introduction to Sequential circuits : Flip Flops(RSFF , JK FF,D FF , T FF) (only truth table)

T1 Ch: 1.2,1.3,1.4,1.5,1.6,2.1,2.3,2.4,2.7,4.1,4.3,6.1,6.2

UNIT -2- (8 Hrs)

Semiconductor Diode and Applications: PN junction Diode, Characteristics and parameters, Diode approximations, Zener diode, ,Half wave Rectification, Full wave diode Rectification , Bridge rectifier, Half wave rectifier DC power supply, full wave rectifier DC power supply, Numerical Problems , Optoelectronics devices: Light Emitting Diode, Photo diode.

T2 Ch: 2.1, 2.2, 2.3, 2.9, 3.1, 3.2, 3.3, 3.4, 20.2

UNIT -3- (8 Hrs)

Transistor: Bipolar Junction transistor, Transistor voltages and currents, Amplification, Common Base, Common Emitter and common Collector Characteristics (only input and output characteristics) numerical.

Amplifiers: Classification of Amplifiers, Single stage CE amplifier, Cascaded amplifier and capacitor coupled 2-stage CE amplifier.

Introduction to IC Technology: The IC era, Basic MOS transistor.

T2 CH: 4.1,4.2,4.3,4.5,4.6,4.7,9.5,12.1

UNIT -4- (8 Hrs)

Oscillators & Op-Amps: Oscillator: Introduction to Oscillator, RC phase shift Oscillator, Hartley Oscillator, Colpitt Oscillator, Numerical.

Introduction to Operational Amplifiers: Ideal Op-Amp, Voltage follower, Non Inverting amplifier ,Inverting amplifier , Summing amplifier, Difference amplifier (circuits, derivations of output voltage and numerical).

T2 Ch : 14.1, 14.3, 14.4, 14.5, 14.6, 14.7, 16.1, 16.2, 16.3

UNIT -5- (8 Hrs)

Introduction to Communication systems: Introduction, Block diagram of communication system, Definition of modulation, need for modulation, Types of modulation, Amplitude modulation: concept, waveform (no derivation & problems), Frequency modulation: Concept & waveform (No derivation), Comparison between AM&FM, Super heterodyne receivers, Optical Fiber Communication: Block diagram, Advantage & Disadvantage of OFC cable, OFC construction.

Cellular Telephone Concept: Cellular telephone, Frequency reuse (no problems), Cellular system topology, Roaming & Hands off

T3 Ch: 13.5, 13.3, 13.6.1, 19.4, 19.5, 19.8, 19.9

TEXT BOOKS

UNIT 1 **“Digital Logic and Computer Design”, Morris Mano ,PHI 2002**

UNIT 2-4 **“Electronics Devices and circuits”, David A. Bell, PHI, 2004**

UNIT 5 **“Electronic Communications Systems “ , Wayne Tomasi , Fifth edition**

REFERENCE BOOKS

UNIT 1-5 **“Principles of Electronics “ , V K Mehta , S Chand publications , 2003**

UNIT 1-5 **“Basic VLSI design” , Douglas A Pucknell& Kamran E, Third Edition (PHI)**

COURSE ASSESSMENT METHOD:

CIE:

- a. Tutorials - 10 Marks

- b. Surprise tests - 10Marks.
- c. Three mid examinations, 30 Marks each will be conducted and the Average of best of two will be taken.

SEE:

- a. Two Questions are to be set from each unit, carrying 20 Marks each.
- b. Students have to answer 5 questions selecting one full question from each unit..

CO-PO-PSO Mapping														
CO	PO												PSO1	PSO2
	1	2	3	4	5	6	7	8	9	10	11	12		
1	*	*										*		
2	*	*	*											
3	*	*	*									*		
4	*	*	*									*		
5	*	*										*		

ELEMENTS OF MECHANICAL ENGINEERING & WORKSHOP

Course Code	18EME15/25	Credits	4
Hours/Week (L-T-P)	3-0-2	CIE Marks	50
Total Hrs	65	SEE Marks	50
Exam Hrs	03	Course Type	Engg. Core

COURSE OUTCOMES

Students will able to

1. Learn the different operations performed on various machine tools with simple sketches
2. Interpret the working principles of various fluid machineries, IC engines and RAC systems and the various machine tool operations.
3. Comprehend the processes of welding, soldering and Brazing and prepare the models on welding and sheet metal and do the basic electrical connections.
4. Distinguish and classify the different robots, turbo machineries, belt drives, gear drives, mechatronic systems and various engineering materials.
6. Evaluate the Engine performance parameters, length & tensions in belt drives and velocity ration in gear drives.

COURSE CONTENTS

UNIT -1- (8 Hrs)

Machine Tools and Operations: Lathe operations -Turning, Facing, Knurling, Thread Cutting, Drilling, Taper Turning by swivelling the compound rest. Drilling Operations- Boring, Reaming, Tapping, Counter Sinking, Counter Boring. Milling Operations- Plane milling, End milling, Face milling, Slot milling. (No sketches of Machine tools but students to be shown the available machine tools in the Machine Shop before explaining the operations of machine tools).

Introduction to CNC: Working principle, Difference between conventional Machine and CNC

UNIT -2- (8 Hrs)

Turbo machinery: Principle of Impulse- and reaction turbines

Gas Turbines: Application in Aircraft - Turbo Propeller, Turbo fan and Turbojet Engines

Water Turbines: Pelton wheel, Francis turbine and Kaplan turbine

Working principles of Centrifugal compressor and Centrifugal pump

Internal Combustion Engines: Working principles of petrol and diesel engine, Performance parameters: indicated power, brake power, friction power, indicated thermal efficiency, brake thermal efficiency, mechanical efficiency, specific fuel consumption, simple numerical problems.

UNIT -3- (6 Hrs)

Engineering Materials: Classifications, Properties & Applications of Ferrous & Nonferrous metals and alloys - Titanium and Aluminum alloys. Introduction and applications of Smart materials, Nano materials. Composites- FRP & MMC- Introduction, classification and applications (Air craft and Automobiles).

Metal Joining: Welding principles, classification of welding techniques; Oxyacetylene Gas welding, equipment and field of application, Arc-welding, Flux: composition, properties and functions; Electrodes, Types of joints and edge preparation, principles of Brazing and soldering.

UNIT -4- (8 Hrs)

Belt drives: Open & crossed belt drives, concepts of slip, creep, velocity ratio, Timing belt, advantages and disadvantages of V belts, simple numerical problems on length, tensions and power transmitted by the flat belt drives.

Gear drives: Types and uses of gears like spur, helical, bevel, worm, and rack and pinion. Velocity ratio, advantages and disadvantages over belt drives

Refrigeration and Air-Conditioning: Refrigeration: concepts - Refrigerating effect, Ton of Refrigeration, COP, Refrigerants: properties, list of commonly used refrigerants, Working principles of vapour compression refrigeration and vapour absorption refrigeration. Air conditioning: Concept and working principle of Room (window) air conditioner

UNIT -5- (8 Hrs)

Robotics: Introduction, classification based on robots configuration: Cylindrical, Cartesian, Articulated, SCARA and spherical. Application: Industrial automation and Home appliances. Advantages, and disadvantages.

Mechatronics: Introduction, Control systems- Feedback, open and closed loop systems, Elements of closed loop systems, Applications such as automatic control of water level in tank, Shaft speed control, Washing machine, Engine management system and Digital camera.

LABORATORY EXERCISES (26Hrs)

SI NO	
1	Exercise-1: Development and sheet metal work: Models: Funnel, Tray, Transition Piece (Circular to hexagon/Pentagon, circular to square, square to a rectangle) (03 models).
2	Exercise-2: Soldering, Brazing and Welding: Definitions, classification and method of soldering, Brazing and welding. Differences between soldering, brazing and Welding. Models: Butt Joint, Lap joint, T-Joint, V-Joint (with edge preparations)
3	Exercise-3: Demonstration: <ol style="list-style-type: none"> a. Lathe Operations b. Milling Operations c. Drilling, Reaming & Tapping d. Working principle of Pelton wheel e. Working principle of Francis Turbine f. Working principle of Air compressor g. TIG Welding h. Performance of 4 S Diesel Engine i. Performance of 4S Petrol Engine j. Working principle of Vapour Compression Refrigeration System

TEXT BOOKS

UNIT	
1-5	'Basic Mechanical Engineering' - N R Banapurmath, V S Yaliwal, Vikas publishing house Pvt ltd Noida, 1st Edition, 2014.
1-5	'Elements of Mechanical Engineering' - SKH Chowdhary AKH Chowdhary & Nirjar Roy, Media Promotors and Publishers, Mumbai.

REFERENCE BOOKS

UNIT 1-5	'Elements of Mechanical Engineering' - V K Manglik, PHI publications, 1st Edition 2014.
UNIT 5	'Industrial Robotics' - Groover, McGrawHill, 2003.
UNIT 5	'Mechatronics' - W. Bolton, Longman, Pearson Publications, 2ndEdition, 2007
UNIT 1-5	'A Text Book of Mechanical Engineering Science' - K R Gopalkrishna, Subas Publishers, Bangalore, 30th Edition, 2012.

ONLINE RESOURCES (Links to MOOCS, NPTEL, MIT COURSEWARE etc)

Topic/Title	Link
Essential Machining Skills: Working with a Lathe, Part One	https://www.youtube.com/watch?v=Za0t2Rfjewg
Essential Machining Skills: Working with a Lathe, Part two	https://www.youtube.com/watch?v=jXET1-g6CJA

Basic Milling Machine Operation:	https://www.youtube.com/watch?v=T5gikYvMg8A
Drilling Operation using Radial Drilling Machine	https://www.youtube.com/watch?v=mFT32GQHdsg
Turbomachinery Fundamentals	https://www.youtube.com/watch?v=k0BLOKEZ3KU
Four Stroke Petrol Engine Working Principle.	https://www.youtube.com/watch?v=Pu7g3uIG6Zo
Metal joining	https://www.youtube.com/watch?v=Njp44NbAnQU
Belt and Belt – types	https://www.youtube.com/watch?v=0mb_XMGja_c
Mechanical Drives, Types, Gear drives	https://www.youtube.com/watch?v=P4rNX0gCm3E
Robotics & Mechatronics	https://www.youtube.com/watch?v=wZWGKzZK7hA

COURSE ASSESSMENT METHOD:

CIE:

- Three internal tests (each 30 marks) are conducted, average of best two tests marks will be considered.
- Workshop to be evaluated for 20 marks
 - Record (combined ex 1, ex 2, ex 3) -05 marks
 - Observation(models ex1 & ex2)- 7.5 marks
 - Test: 05 marks
 - Viva voce: 2.5 marks

SEE:

- Two Questions are to be set from each unit, carrying 20 Marks each.
- Students have to answer 5 questions selecting one full question from each unit.

CO-PO-PSO Mapping

CO	PO												PSO1	PSO2
	1	2	3	4	5	6	7	8	9	10	11	12		
1	*		*			*				*				
2	*		*			*				*				
3	*		*			*				*				
4	*		*			*				*				
5	*		*			*				*				

COMPUTER AIDED ENGINEERING DRAWING

Course Code	18CED15/25	Credits	3
Hours/Week (L-T-P)	1-0-4	CIE Marks	50
Total Hrs	65	SEE Marks	50
Exam Hrs	03	Course Type	Engg. Core

COURSE OUTCOMES

Students will able to

- Apply the concept of conventions and Dimensioning while projecting different objects
- Apply the theoretical concept of orthographic projection in solving problems of points in four quadrants.
- Solve the problem on lines and planes for different positions.
- Project the solids for different positions, improve their visualization skills by develop a sketch into isometric and Convert Pictorial Views into Orthographic views
- Demonstrate and sketch the drawings using software

COURSE CONTENTS

UNIT -1- (6 Hrs)

Introduction to Computer Aided Engineering Drawing: Introduction, BIS Conventions, Types of lines, Splines, Systems of dimensioning, Dimensioning common features, Geometrical constructions. Introduction to software, Commands used for Engineering Drawing.

UNIT -2- (22 Hrs)

Orthographic Projections: Planes of projection, Reference line, Quadrants and conventions employed.
Projection of Points: In all the four quadrants.

Projection of Lines (First angle projection): True and apparent lengths, true and apparent Inclinations to reference planes, application problems (Chimney, Tripod, Flag post, Oranges on tree and Room problems)

Projection of Plane surfaces (First angle projection): Projection of regular polygons like triangle, square, pentagon, hexagon and circular.

UNIT -3- (22 Hrs)

Projections of Solids: Projections of right regular prisms like Square, Pentagon, Hexagon, Cylinder and pyramids like Square, Pentagon, Hexagon, cone and cube in different positions. (Inclined to both HP and VP. No problems on tetrahedron, octahedrons and combination of solids).

UNIT -4- (22 Hrs)

Isometric Projection: Introduction to Isometric scale, Isometric projection of combinations (only two) of solids like cube, regular prisms, cylinders, Pyramids, cone and frustum of pyramids, cone and sphere.
Conversion of Pictorial Views into Orthographic views: Recognizing circles, arcs of circles, curved surfaces, square and rectangular surfaces, plane surfaces inclined to the direction of view etc.

TEXT BOOKS

UNIT 1-4	'Fundamentals of Drawing' - K R Gopalkrishna, Subhas Stores, 6th Edition/ 2015
UNIT 1-4	'Engineering Drawing' - N D Bhat and V M Panchal, Charotar Publishing, 37th Edition/ 1996.

REFERENCE BOOKS

UNIT 1-4	'A Primer on Computer aided engineering drawing' - K Balaveera reddy, Rajasheka Patil, VTU Belgaum, 2nd Edition/ 2006.
UNIT 1,2	'Fundamentals of Engineering drawing with an Introduction to Interactive Computer Graphics for Design and Production' - Luzadder Warren J, Duff John M, Eastern Economy Edition/ 2005.

ONLINE RESOURCES (Links to MOOCS, NPTEL, MIT COURSEWARE etc)	Link
Computer aided engineering drawing Topic	http://nptel.ac.in/courses/112104031/
Engineering drawing	http://nptel.ac.in/syllabus/112103019/

COURSE ASSESSMENT METHOD:

1. CIE
 - MSE: 30 marks
 - Sketch book (class work): 10 marks
 - Laboratory work (print outs): 05 marks
 - MCQ test: 05 marks
2. SEE: 50 MARKS

CO-PO-PSO Mapping

CO	PO												PSO1	PSO2	
	1	2	3	4	5	6	7	8	9	10	11	12			
1	*	*													
2	*	*													
3	*	*													
4	*	*			*										
5	*	*			*										

ENGINEERING PHYSICS LAB

Course Code	18PHY16/26	Credits	1
Hours/Week (L-T-P)	0-0-2	CIE Marks	50
Total Hrs	26	SEE Marks	50
Exam Hrs	3	Course Type	Basic Science

COURSE OUTCOMES

Students will able to

1. Illustrate the behaviour of light in the phenomena of interference, diffraction and propagation through the optical fibre.
2. Demonstrate the elastic properties of materials.
3. Describe the characteristic behaviour of Zener diode, Photo diode, Transistor and charge discharging of capacitor.
4. Analyse temperature dependence of electrical resistivity of intrinsic semiconductors.

LABORATORY EXERCISES**PART-A- (12 Hrs)**

SINO	Experiment Name
1	Newton's Rings: To determine the radius of curvature of given Plano convex lens by forming Newton's rings.
2	Energy Gap of a Thermistor: To find the energy gap of a given thermistor.
3	Torsional Pendulum: To determine the moment of the given irregular body and also to determine the rigidity modulus of the material of the given suspension wire by setting up a Torsional Pendulum.
4	Dielectric Constant: To determine the dielectric constant of given dielectric by capacitor charge and discharge method
5	Zener Diode Characteristics: To study the V-I characteristics of Zener diode and find the reverse Zener break down voltage.

PART-B- (12 Hrs)

6	Young's modulus by single cantilever: To determine the Young's modulus of the given material in the form of a beam by the method of single cantilever.
7	Photodiode Characteristics: To study the distance vs Photo current characteristics of given photo diode at different operating voltages
8	Diffraction Grating: To determine the wave lengths of mercury spectral lines by grating minimum deviation method.
9	Transistor Characteristics: To study the input and output characteristics of given NPN Transistor in CE configuration and find the gain factor.
10	Numerical Aperture: To determine the numerical aperture of step index optical fibre.

LABORATORY ASSESMENT METHOD

1. **Continuous internal Evolution (CIE) for 50Marks**
 - a. Evolution of day to day performance in the laboratory - 20 Marks
 - b. Record - 10Marks.
 - c. Internal Examination -15Marks.
 - d. Viva voce -5Marks
2. **Semester End Examination (SEE) for 50 Marks**
Students are required to conduct two experiments, each will be evaluated for 25marks.

CO-PO-PSO Mapping

CO	PO												PSO1	PSO2	
	1	2	3	4	5	6	7	8	9	10	11	12			
1	*	*													
2	*	*													
3	*	*													
4	*	*													
5															

ENGINEERING MECHANICS

Course Code	18CIV16/26		Credits	4
Hours/Week (L-T-P)	3-2-0		CIE Marks	50
Total Hrs	39L+13T		SEE Marks	50
Exam Hrs	03		Course Type	Engg. Core

COURSE OUTCOMES

Students will able to

1. Describe the fundamentals of Engineering Mechanics.
2. Analyse the system of forces using principles of mechanics.
3. Calculate support reactions for a system of forces acting on a member, internal member forces in Trusses
4. Compute Centroid, Centre of Gravity and Moment of Inertia for Distributed forces

COURSE CONTENTS

UNIT -1- (09 Hrs+4T)

Concurrent system of forces: Introduction to fundamentals of engineering mechanics, definition of a force, classification of system of forces, principle of transmissibility, resolution of a force, composition of forces, resultant and equilibrant. Triangle law of forces, Polygon law of forces. Analytical method of determination of the resultant of the system of forces. Problems on the determination of resultant of concurrent, coplanar system of forces.

Non-concurrent system of forces: Moment of a force, Varignon's theorem of moments, couples and their characteristics. Determination of magnitude, direction and position of resultant for non-concurrent coplanar system of forces. Numerical examples.

UNIT -2- (08Hrs+3T)

Equilibrium of system of forces: Definition, conditions of equilibrium for concurrent coplanar system of forces, Lami's theorem. Example problems.

Support Reactions: Types of supports, loads and beams. Determination of support reactions for statically determinate beams and other simple structural beams.

UNIT -3- (07Hrs+2T)

Trusses: Definition: Plane truss, space truss, assumptions in trusses, Types of trusses: Determinate truss and indeterminate truss. Analysis of plane truss using method of joints and method of sections. Numerical examples

UNIT -4- (07Hrs+2T)

Friction: Introduction, angle of friction, coefficient of friction, cone friction, limiting friction, types of friction, laws of static friction, Example problems related to impending motion on horizontal and inclined planes, wedge friction and ladder friction.

UNIT -5- (08Hrs+2T)

Centroid and Centre of Gravity: Definition, derivation of expressions for centroidal distances of Standard geometrical figures or laminas. Determination of Centroid of compound laminas.

Moment of Inertia: Introduction, Definition, Theorems of perpendicular and parallel axis. Concept of axis of symmetry, derivations of expressions for moment of inertia of simple planar laminas like rectangle, triangle, circle and semi circle. Definitions of radius of gyration, Determination of moment of inertia, polar moment of inertia, radius of gyration of compound laminas about centroidal axes and about any specified reference line.

TEXT BOOKS

UNIT 1,2,3,4,5	'Vector Mechanics for Engineers (Statics and dynamics)', Ferdinand P Beer and E Russel Johnson, Tenth edition, McGraw Hill book company, New York.
UNIT 1,2,3,4,5	'Engineering Mechanics', S.Timoshenko, D.H.Young, and J.V.Rao, 5 edition, TATA McGraw-Hill Book Company, New Delhi
UNIT 1,2,3,4,5	'Elements of Civil Engineering & Engineering Mechanics', B.K. Kolhapure, Edition 2014, Eastern Book Promoters Belgaum [EBPB].

REFERENCE BOOKS

UNIT 1,2,3,4,5	'Engineering Mechanics', Meriam & Craige, Seventh edition, John Wiley & Sons
UNIT 1,2,3,4,5	'Elements of Civil Engineering', S.S Bhavikatti, 2015 New Age International Publishers
UNIT 1,2,3,4,5	'Engineering Mechanics', K L Kumar and Venu Kumar, Fourth Edition, Tata McGraw Hill Publishers, New Delhi,
UNIT 1,2,3,4,5	'Elements of Civil Engineering & Engineering Mechanics', M N Sheshaprakash & Ganesh M Mogaveer, . . 2015 PHI
UNIT 1,2,3,4,5	'Engineering Mechanics-Statics and Dynamics', A Nelson, 2009, Tata McGraw Hill Education Private Ltd, New Delhi,

ONLINE RESOURCES	Link
Fundamentals of Engineering Mechanics	http://nptel.ac.in/courses/112103108/1 to 2
Equilibrium of system of forces(Web Course)	http://nptel.ac.in/courses/112103109/1 to 2 http://nptel.ac.in/courses/112103109/41 to 44
Equilibrium of system of forces(Video Course)	http://nptel.ac.in/courses/122104015/1 to 4
Trusses(Video Course)	http://nptel.ac.in/courses/122104015/5 to 6
Friction(Web Course)	http://nptel.ac.in/courses/112103109/9 to 10 http://nptel.ac.in/courses/112103109/57 to 60
Friction(Video Course)	http://nptel.ac.in/courses/122104015/7 http://nptel.ac.in/courses/112103108/9 to 11
Centroid of plane areas (Video Course)	http://nptel.ac.in/courses/112103108/13 to 15
Moment of Inertia(Video Course)	http://nptel.ac.in/courses/112103108/16 to 17

COURSE ASSESSMENT METHOD:

Continuous Internal Evaluation (CIE):

1. Three internal tests (each 30 marks) are conducted, average of best two tests marks will be considered.
2. Minimum two Assignments/Model making - evaluated through rubrics for 10 marks. Average of two will be considered.
3. Tutorial classes and assessment are carried out/Surprise quiz tests are conducted and evaluated for 10 marks. Average of these two will be considered.

Semester End Examination (SEE):

1. Two Questions are to be set from each Unit, carrying 20 Marks each.
2. Students have to answer 5 questions selecting one full question from each Unit.

CO-PO-PSO Mapping

CO	PO												PSO1	PSO2	
	1	2	3	4	5	6	7	8	9	10	11	12			
1	*	*													
2	*	*													
3	*	*													
4	*	*													

COMMUNICATIVE ENGLISH

Course Code	18ENG17/27	Credits	-
Hours/Week (L-T-P)	2-0-0	CIE Marks	100
Total Hrs	26	SEE Marks	-
Exam Hrs	-	Course Type	Humanities

COURSE OUTCOMES

Students will able to

1. Student will be able to recognize their basic personal and interpersonal communication skills, understand the importance of speaking and listening for better communication.
2. Learn the art of effective presentation skills, decision making, and group behaviour.
3. Student will be able to use the software tool to have better knowledge of performing well in an interview and be prepared to face it with courage.
4. Demonstrate their writing skills, vocabulary and professional skills with confidence in the technical field.
5. Apply; exhibit overall personality, professionalism, leadership skills, positive attitude and body language.

COURSE CONTENTS

UNIT -1- (2 Hrs)

Communication Skills - Speaking/Listening

1. Personal & Interpersonal Communication-Self Introduction/ Introducing others, Effective speaking.	
2. Tips for Group Communication.	
3. Manners & Etiquette, Confidence Building Skills.	
4. Listening Skills-Art of Listening Patiently.	
UNIT -2- (6 Hrs)	
Public Speaking skills	
1. Effective Presentation Skills/Speeches, Strategies: Planning, Occasion, Purpose, Material, Audience and thesis.	
2. Extempore and Group Discussion- Meaning, importance and how it is conducted.	
3. Importance of Group Discussion in an Interview as a selection criterion.	
4. Attitude and behaviour during GD session.	
5. Debates, Role play, Group discussions, Arguments.	
UNIT -3- (8 Hrs)	
Interview Skills: (various stages)	
1. Introduction of types of Interviews: Campus, on -site, Face to face, Telephonic, Video conferencing.	
2. Skills and Attributes which most employers look for.	
3. Interview question and answers.	
4. How to prepare for facing an Interview, c) Before an Interview, (mental, psychological, physical preparation)	
5. What to do after an Interview is over.	
6. Factors responsible for failure in interviews	
7. Conducting mock interview	
UNIT -4- (6 Hrs)	
Writing Skills:	
1. Email drafting, --- plus email etiquette.	
2. Resume writing along with covering letter.	
3. Business correspondence/Letter writing/Technical Report writing	
4. Avoiding spelling mistakes and mispronunciations	
UNIT -5- (4 Hrs)	
1. Personality Development/Grooming Session:	
2. Body Language: - How to express your ideas effectively with proper body language.	
3. Kinesics (Body movement) Personal appearance, Posture, Gesture, Eye contact, Facial expressions.	
4. Proxemics (Physical space) - difference between Intimate, Personal, Social, and Public space and how to use it meaningfully, in different situations.	
5. Chronemics ((Use of time), Time resource and priority management, communicate professionalism with time mgt. skills.	
6. Art of Handling people.	
7. Leadership & Successful relationship at work place.	
8. Memory Enhancement & Time management.	
9. Overcoming worries & Criticism.	
10. Healthy mind & Decision making.	
11. Negotiation skills.	
LABORATORY EXERCISES	
PART-A- (8Hrs)	
SINO	
1	Exercise-1 Self Introduction
2	Exercise-2 Personal & Interpersonal Communication-
3	Exercise-3 Speech Video
4	Exercise-4 Introducing others,
5	Exercise-5 Art of Effective speaking.
PART-B- (8rs)	
6	Exercise-6 video on Presentation –how to make it
7	Exercise-7 Group Discussion- Meaning, importance and how it is conducted Video
8	Exercise-8 Group discussions, Arguments
9	Exercise-9 Attitude and behaviour during GD session
10	Exercise-10 Debates, Role play, Video

REFERENCE BOOKS														
UNIT 1-5	Technical Communication –Principals and Practices-Meenakshi Raman and Sangeeta Shama, Oxford university Press 2004													
COURSE ASSESSMENT METHOD:														
CIE:														
1. Three internals tests (30 Marks each) will be conducted, and the average of the best of two will be taken.(MSE I,MSE-II & MSE-III)= 60 marks														
2. Language Lab Record- for 20marks -Self introduction resumes writing, letter writing etc. will also be conducted in this regard.														
3. Writing 2-3 assignments , Listening, speaking, reading, and mock interview session will have 10 marks. Activities like Gds, presentations will have 10 marks= (20 marks)														
CO-PO-PSO Mapping														
CO	PO												PSO1	PSO2
	1	2	3	4	5	6	7	8	9	10	11	12		
1						*			*	*		*		
2									*	*				
3					*	*			*	*		*		
4									*	*		*		
5						*		*		*		*		

ENGINEERING CHEMISTRY LAB				
Course Code	18CHL17/27		Credits	1.5
Hours/Week (L-T-P)	0-0-2		CIE Marks	50
Total Hrs	26		SEE Marks	50
Exam Hrs	03		Course Type	I/II SEM
COURSE OUTCOMES				
Students will able to				
1. Identify the relationship between chemistry and other disciplines, and the applications of chemistry in the society.				
2. Analyze different types of titrations for the estimation of pollutants, dissolved salts present in the water to get quick and accurate results.				
3. Ability to perform and measure pKa, Conductance, EMF, Viscosity with effective graphical interpretation.				
7. Develop laboratory skills for the purpose of collecting, interpreting, analyzing, and reporting chemical data (in written form)..				
LABORATORY EXERCISES				
PART-A- (10 Hrs)				
SINO				
1	Exercise-1 Estimation of Total hardness of the given water sample.			
2	Exercise-2 Estimation of CaO in the given cement solution.			
3	Exercise-3 Synthesis of Nanoparticles by Solution Combustion method.			
4	Exercise-4 Determination of alkalinity of the given water Sample.			
5	Exercise-5 Determination of COD of waste water sample.			
PART-B- (10 Hrs)				
6	Exercise-6 Determination of PKa value of the weak acids			

7	Exercise-7 Potentiometric titrations of FAS against K ₂ Cr ₂ O ₇
8	Exercise-8 Determination of cell constant, Conductance of ions by Conductometric titration.
9	Exercise-9 Determination of λ_{max} to estimate Cu ions by Colorimetrically
10	Exercise-10 Estimation of Coefficient of viscosity of the unknown organic liquids

LABORATORY ASSESMENT METHOD

1. CIE - Test: 20 marks
Record -10 marks
Observation-10 marks
Viva voce-10 marks
2. SEE - Final Exam: 50 Marks.

CO-PO-PSO Mapping

CO	PO												PSO1	PSO2	
	1	2	3	4	5	6	7	8	9	10	11	12			
1	*														
2	*														
3	*														
4	*							*							
5	*							*							

ENVIRONMENTAL STUDIES

Course Code	17 EVS 17	Credits	-
Hours/Week (L-T-P)	2-0-0	CIE Marks	100
Total Hrs	26 hours	SEE Marks	-
Exam Hrs	---	Course Type	Humanities

COURSE OUTCOMES

Students will able to:

1. Students will study about the inter-relationship between the living organisms and their environment. They will have the knowledge about the damage, unsustainable development and improved standard of living that have on the environment and this will help them to develop a concern toward the same.
2. Students will interpret the importance of natural resources and its relationship with human activities, and also the importance of biogeochemical cycle.
3. Students will be able to identify the various types of pollution and their effects on the environment & on human population, its prevention method and also the various social issues connected with environment.
4. To correlate the exploitation and utilization of conventional and non-conventional resources.
5. Young engineers will gain legal literacy about the various acts and organization regarding the environment and pollution.

COURSE CONTENTS

UNIT -1- (5 Hrs)

Environment: Definition, Ecology, Ecosystem, Balanced ecosystem, Human activities — Food Shelter, Economic and Social security.

Effects of Human Activities on Environment — Agriculture, Mining. Environmental impact assessment, Sustainable development

UNIT -2- (5 Hrs)

Natural resources: Water resources - Availability and quality aspects. Water borne disease and Water induced disease. Fluoride problems in drinking water, Mineral resources, and Forest resources. Material cycles— Carbon, Nitrogen, and sulphur.

UNIT -3- (7 Hrs)

Environmental Pollution and their effects- Water pollution, Noise pollution, Air pollution, Radioactive Pollution and Automobile pollution.

Current Environmental issues of importance: Population growth, Climate change, Global warming, Natural disasters, Acid rain, Ozone layer depletion, Animal husbandry—effects and Water Management and Conservation.

UNIT -4- (5 Hrs)

Energy: Different types of energy, Electromagnetic radiation, Conventional and non-conventional Resources-Hydroelectric, Fossil fuel, Nuclear energy, solar energy, Bio-mass and Bio gas.

UNIT -5- (4 Hrs)

Environmental Protection- Role of Government, legal aspects, initiative by NGO's, Central Pollution Control Board (CPCB), State Pollution Control Board (SPCB), Environmental education.

TEXT BOOKS

1	Environmental Studies – Dr R Geetha Balakrishna, Sunstar publications
2	Environmental Studies- R Geetha Balakrishna, K G Lakshminarayana Bhatta, S M Publications
3	Introduction to Environmental Science and Engineering- Raman Sivakumar- Tata McGraw Hill

REFERENCE BOOKS

1	Environmental Studies- N. Balasubramanya, Gurudeep R. Chatwal. Himalaya Publication House.
2	Environmental Studies- Dr. S M Prakash, Elite Publications
3	Environmental Studies- Arvind walia , Kalyani Publishers

COURSE ASSESSMENT METHOD:

CIE:

1. Three internals tests (each 30 marks) are conducted, total of best two tests marks will be considered.
2. Minimum two Assignment tests evaluated for 10 marks.
3. Two written surprise tests conducted and evaluated for 10 marks.

CO-PO-PSO Mapping

CO	PO												PSO1	PSO2	
	1	2	3	4	5	6	7	8	9	10	11	12			
1						*	*						*		
2						*	*						*		
3						*	*		*				*		
4							*		*				*		
5						*	*						*		

CONSTITUTION OF INDIA, PROFESSIONAL ETHICS AND CYBER LAWS

Course Code	17 CIP 17	Credits	-
Hours/Week (L-T-P)	2-0-0	CIE Marks	100
Total Hrs	26 Hrs	SEE Marks	-
Exam Hrs	-	Course Type	Humanities

COURSE OUTCOMES

Students will able to

1. To impart basic knowledge about the Constitution of India.
2. To educate the students about their obligations, responsibilities, privileges and rights, duties and get insights on administrative and judicial setup of the country.

3. Inculcate national and patriotic spirit among the students as responsible citizens of the country.
4. To impart knowledge about state and central policies, fundamental duties, electoral process, amendment procedure and emergency provisions.
5. Impart the ethical values, responsibilities and obligations of the professional to the society and the nation. Educate the engineering students about the scope and aim of professional ethics, their responsibilities, virtues like honesty, integrity and reliability, the risk and liability in engineering profession.

COURSE CONTENTS

UNIT -1- (5 Hrs)

Preamble to the Constitution of India. Fundamental Rights under part —III- Details of exercise of rights, Limitations and Important cases.

UNIT -2- (3 Hrs)

Relevance of Directive Principles of State Policy under part-IV. Fundamental duties and their significance.

UNIT -3- (6 Hrs)

Union Executive- President, Prime minister, Parliament and the Supreme Court of India, State Executive- Governor, Chief Minister, State Legislator, and high Courts

UNIT -4- (6 Hrs)

Emergency provisions, Major Constitutional Amendment procedure — 42nd, 44th, 74th, 76th, 86th & 91st. Electoral process. Electoral process. Special Constitutional Provisions. Powers and functions of Municipalities and Panchayats. Cyber laws.

UNIT -5- (6 Hrs)

Scope and Aims of Engineering Ethics. Responsibilities of Engineers and Impediments, Honesty, Integrity & Reliability. Risk, Safety and Liability in Engineering.

TEXT BOOKS

Unit 1-5	"Constitution of India and Professional Ethics" by K R Phaneesh — Sudha Publications.
Unit 1-5	"Constitution of India and Professional Ethics" by Dr.Umapathi K.L, Ramesh L Chakrasali- Sahana Publications-2005
Unit 1-5	"Constitution of India and Professional Ethics" by M. Raja Ram, New Age International Publishers, 3 rd Edition,2015

REFERENCE BOOKS

Unit 1-5	Durga Das Basu: "Introduction to the Constitution Of India"-Prentice Hall of India, 19th/20/' Edn.,2001
Unit 1-5	"Engineering Ethics" By Charles E. Haries, Michael. S.Pritchard and Michael J.Robins-Thompson Asia, 2003.
Unit 1-5	"Constitution of India and Professional Ethics and Human Rights" by T.S. Anupama, Sunstar Publisher, 2014-15.
Unit 1-5	"Constitution of India- A Road to social revolution" by B.S.Lingaraj, Vidhyanidhi Prakashan, Gadag, 2006
Unit 1-5	Constitution of India, professional ethics and human rights. By Praveenkumar mellalli.

COURSE ASSESSMENT METHOD:

CIE:

1. Three internals tests (each 30 marks) are conducted, total of best two tests marks will be considered.
2. Minimum two Assignment tests evaluated for 10 marks each.
3. Two written surprise tests conducted and evaluated for 10 marks each.

CO-PO-PSO Mapping

CO	PO												PSO1	PSO2	
	1	2	3	4	5	6	7	8	9	10	11	12			
1						*	*								
2						*	*		*			*			

3						*			*			*		
4						*	*					*		
5						*	*	*				*		

ENGINEERING MATHEMATICS – II

Course Code	18MAT21	Credits	4
Hours/Week (L-T-P)	3-2-0	CIE Marks	50
Total Contact Hrs	52	SEE Marks	50
Exam Hrs	03	Course Type	Core

COURSE OUTCOMES

Students will able to

1. Solve ordinary and partial differential equations arising in practical problems using different analytical methods.
2. Apply optimize techniques to linear/non-linear engg. problems.
3. Model physical situations in terms of differential equations and solve them analytically.
4. Apply concepts of differentiation and integration of complex functions, transformations, poles and residues.
5. Apply techniques of finding the Eigen values and eigen vectors for given matrix and use the same for engg. Problems.

COURSE CONTENTS

UNIT -1 (8 Hrs)

Differential equations:

Exact and equations reducible to these forms, Higher order linear differential equations with constant coefficients – finding complementary function and particular integral, Cauchy and Legendre equations, simultaneous equations, Method of variation of parameters.

UNIT -2 (8 Hrs)

Series solution of ODE and applications:

Singularities, series solution by Frobenius method, Bessel equation, Solution of Bessel equation, Bessel function, Legendre polynomials and Rodrigue’s formula.

Applications – Growth and decay, Newton’s law of cooling, LC, LR and LCR circuits.

UNIT -3 (8 Hrs)

Partial differential equations:

Partial Differential equations- formation, separation of variables method, solution of Wave, heat and Laplace equations.

Calculus of complex functions:

Functions of complex variables, Analytic function, construction of analytic functions using CR equations, bilinear transformation, Laurent’s series. (No proofs)

UNIT -4 (8 Hrs)

Linear and non linear programming:

Linear programming - Basic concepts, Simplex method, dual simplex method Big M- method.

Nonlinear programming - Single variable problems, local and global optima, sequential search, Fibonacci search.

UNIT -5 (8 Hrs)

Linear algebra:

Rank of a matrix by reducing to echelon form, Inverse of a matrix by Gauss Jordan form, Solution of linear system – Gauss elimination method, Gauss Siedel method, Eigen values and Eigenvectors.

TEXT BOOKS

Unit 1 ,2, 3 & 5	1. ‘Higher Engineering Mathematics’ - Dr. B S Grewal, 42nd Edition/ 2012, Khanna Publishers.
Unit 5	2. ‘Advance Engineering Mathematics’, Volume - I - Ervin Kreyszig, 2014, Wiley.
Unit 1 ,2, 3	3. ‘Advance Engineering Mathematics’, Volume - II - Ervin Kreyszig, 2014, Wiley.

REFERENCE BOOKS

Unit 1 - 5	Mathematics for science students by Louis Lyons, Cambridge university press, 2005.														
	Advanced Engg. Mathematics by Erwin E Kreyszig, 9th edition, 2011, Wiley.														
COURSE ASSESSMENT METHOD:															
1. Surprise test / Tutorials tests to be conducted each for 10 marks.															
2. Three mid semester examinations will be conducted each for 30 marks and the average of best of two will be taken.															
3. Final examination will be conducted for 100 Marks and evaluated for 50 marks.															
CO-PO-PSO Mapping															
CO	PO												PSO1	PSO2	
	1	2	3	4	5	6	7	8	9	10	11	12			
1	*	*													
2	*	*	*		*										
3	*	*	*												
4	*	*	*												
5	*	*	*		*										

C PROGRAMMING-II				
Course Code	18CP23		Credits	2
Hours/Week (L-T-P)	0-0-4		CIE Marks	50
Total Hrs	48		SEE Marks	50
Exam Hrs	03		Course Type	Engg. Core
COURSE OUTCOMES				
Students will be to				
1. Design and implement C programs using structures and unions to solve real world problems				
2. Design and implement C programs using pointers to solve real world problems.				
3. Apply Dynamic memory allocation techniques in C to manage memory.				
4. Implement File I/O operations to develop record oriented applications.				
5. Design and implement C programs using different Searching and Sorting techniques.				
COURSE CONTENTS				
UNIT -1- (10 Hrs)				
Basics of Structures / Unions, Structure padding, typedef, Array of structures, Multi-dimensional arrays.				
Problems / Lab exercises				
UNIT -2- (9 Hrs)				
Pointers –I : Pointer basics, NULL pointer, Call by ref – An example, Valid operations on pointers, Array (1D, 2D) and pointer, String handling using pointer , Pointer arithmetic, Pointers to structures/Unions				
Problems / Lab exercises				
UNIT -3- (10 Hrs)				
Pointers – II: Void pointer, Dynamic memory allocation – library functions, Pointers as function parameters, Returning result via pointer (function parameter), Functions returning pointers, Function pointers, Array of pointers, Command Line Arguments.				
Problems / Lab exercises				
UNIT -4- (10 Hrs)				
File I/O: Opening and closing a Data file, Reading and Writing a data file, Processing a data File, Unformatted data file, Binary files, Accessing the File randomly.				
Problems / Lab exercises				
UNIT -5- (9 Hrs)				
Searching and Sorting, C Standards - C99 and C11-Features, Debugging (gdb)				
Problems / Lab exercises				
LABORATORY EXERCISES				
PART-A- (XX Hrs)				

SINO																
1	Exercise-1 programs on Structures / Unions, Structure padding, typedef, Array of structures, Multi-dimensional arrays.															
2	Exercise-2 programs on Pointer basics, NULL pointer, Call by ref – An example, Valid operations on pointers, Array (1D, 2D) and pointer, String handling using pointer , Pointer arithmetic, Pointers to structures/Unions															
3	Exercise-3 programs on Void pointer, Dynamic memory allocation – library functions, Pointers as function parameters, Returning result via pointer (function parameter), Functions returning pointers, Function pointers, Array of pointers, Command Line Arguments.															
4	Exercise-4 programs on File I/O: Opening and closing a Data file, Reading and Writing a data file, Processing a data File, Unformatted data file, Binary files, Accessing the File randomly															
5	Exercise-5 programs on Searching and Sorting															
TEXT BOOKS																
UNIT1-5	'Programming with C' - Byron Gottfried, Third edition Shaum's outlines 2017.															
UNIT 3,4	'Computer Science a Structured Programming Approach using C' - Behrouz a. Forouzan, Richard f. Gilberg, Second edition, CENGAGE Learning, 2015.															
REFERENCE BOOKS																
UNIT 1,2	'C Traps and Pitfalls' - Andrew Koenig, Pearson Education, India 2006. (http://www.literateprogramming.com/ctraps.pdf).															
UNIT1-5	'The C programming language' - Brian W. Kernighan and Dennis Ritchie, second edition PHI, 1998.															
UNIT 1	'Introduction to Computer' - Peter Norton, 7th edition TATA MCGRAWHILL, 2010.															
UNIT1-5	'Let Us C' - Yashvant Kanetkar, 15 th edition, BPB publication, 2016.															
ONLINE RESOURCES (Links to MOOCS, NPTEL, MIT COURSEWARE etc)																
	Link															
C Traps and Pitfalls	http://www.literateprogramming.com/ctraps.pdf															
COURSE ASSESSMENT METHOD:																
<ol style="list-style-type: none"> 1. Three internals, 30Marks each will be conducted and the Average of best of two will be taken. 2. Programming assignment for 10 marks. 3. Surprise test will be conducted for 10 marks. 4. Final examination, of 100 Marks will be conducted and will be evaluated for 50 Marks. 																
CO-PO-PSO Mapping																
CO	PO												PSO1	PSO2	PSO3	
	1	2	3	4	5	6	7	8	9	10	11	12				
1	*	*	*						*	*						
2	*	*	*						*	*						
3	*	*	*						*	*						
4	*	*	*						*	*						
5	*	*	*						*	*						

TIME TABLE**I SEMESTER**

Day / TIME	08.45 9.40	9.40 9.50	09.50 10.45	10.45 11.40	11.40 12.35	12.35 01.15	01.15 02.10	02.10 03.05	03.05 04.00
Mon		BREAK				LUNCH			
Tue									
Wed									
Thu									
Fri									
Sat									

II SEMESTER

Day / TIME	08.45 9.40	9.40 9.50	09.50 10.45	10.45 11.40	11.40 12.35	12.35 01.15	01.15 02.10	02.10 03.05	03.05 04.00
Mon		BREAK				LUNCH			
Tue									
Wed									
Thu									
Fri									
Sat									

LIST OF ABBREVIATIONS

ADE	Aeronautical Development Establishment
AICTE	All India Council for Technical Education
BE	Bachelor of Engineering
CAIR	Centre for Artificial Intelligence and Robotics
CGPA	Cumulative Grade Point Average
CIE	Continuous Internal Evaluation
CO	Course Outcome
CVRDE	Combat Vehicles Research & Development Establishment
DRDO	Defence Research and Development Organisation
DUGC	Department Undergraduate committee
GAC	Grievances Appeal Committee
HoD	Head of the Department
IEDC	Innovation and Entrepreneurship Development Centre
IISc	Indian Institute of Science
ISTE	Indian Society For Technical Education
KKC	Karnataka Knowledge Commission
KSOU	Karnataka State Open University
MBA	Master of Business Administration
MCA	Master of Computer Applications
MEMS	Micro Electro Mechanical Systems
MHRD	Ministry of Human Resource Development
MOU	Memorandum of Understanding
MSME	Micro, Small and Medium Enterprises
MTech	Master of Technology
NAAC	National Assessment and Accreditation Council
NBA	National Board of Accreditation
NCC	National Cadet Corps
NET	Nitte Education Trust
NMIT	Nitte Meenakshi Institute of Technology
NPTEL	National Programme for Technology Enhanced Learning
NRB	Naval Research Board
NSS	National Service Scheme
NUEPA	National University of Educational Planning and Administration
OBE	Outcome Based Education
OPAC	Open Public Access Catalogue
PEO	Program Educational Objective
PG	Post Graduate
PhD	Doctor of Philosophy
PIO	Person of Indian Origin
PO	Program Outcome
PSO	Program Specific Outcome
R&D	Research and Development
SEE	Semester End Examination
SGPA	Semester Grade Point Average
TEQIP	Technical Education Quality Improvement Program
UG	Under Graduate
USN	University Seat Number
VTU	Visvesvaraya Technological University

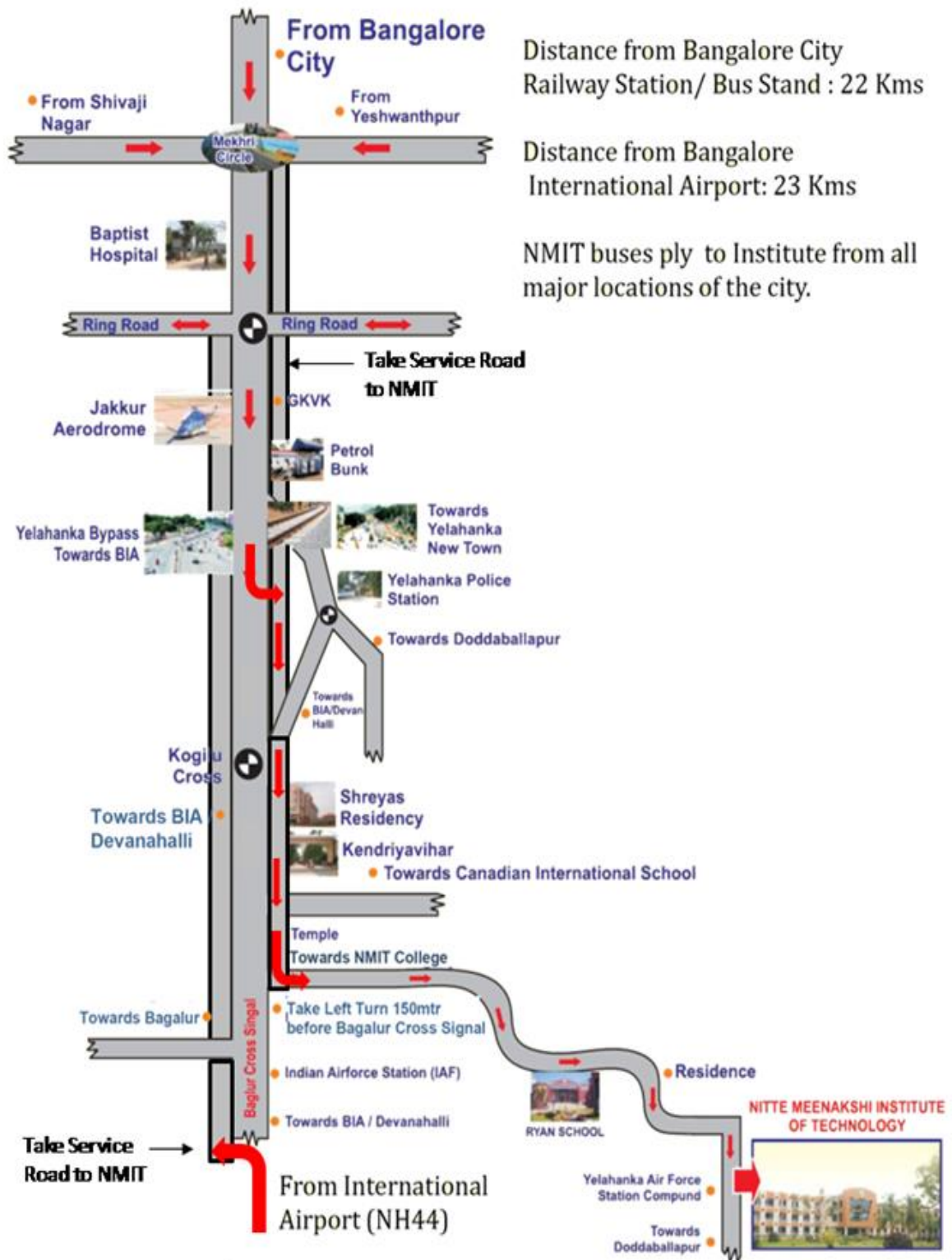
ACADEMIC CALENDAR FOR 2018-19 ODD SEMESTER

Event	Date
Registration for 1 st semester	6 th - 13 th Aug 2018
Induction Program	6 th - 25 th Aug 2018
First Mid Sem Examination (MSE-1)	17 th - 19 th Sep 2018
First feed Back from students through Gurukul	17 th - 22 nd Sep 2018
First Assignment based Test week – Learning Activity LA1	3 rd - 6 th Oct 2018
Second Mid Sem Examination (MSE-2)	25 th – 27 th Oct 2018
Second Assignment based Test week – Learning Activity LA2	29 th Oct – 3 rd Nov 2018
Second feed Back from students & Course Exit Survey through Gurukul	5 th – 7 th Nov 2018
Last Date to withdrawal of a course (to avail ‘W’ grade)	10 th Nov 2018
Third Mid Sem Examination (MSE-3)	12 th – 14 th Nov 2018
Attendance and CIE Finalization	21 st Nov 2018
Last Working day	24 th Nov 2018
Commencement of Semester End Examination (SEE)	27 th Nov 2018
Registration for Even Semester	27 th – 29 th Dec 2018

LIST OF GENERAL HOLIDAYS FOR THE YEAR 2018, AS PER VTU, BELGAUM

Sl. No.	Date	Day	Holiday
1	15-01-2018	Monday	Sankranthi
2	26-01-2018	Friday	Republic Day
3	13-02-2018	Tuesday	Mahashivarathri
4	29-03-2018	Thursday	Mahaveer jayanthi
5	30-03-2018	Friday	Good Friday
6	18-04-2018	Wednesday	Basava Jayanthi
7	01-05-2018	Tuesday	May Day
9	16-06-2018	Saturday	Ramzan
10	15-08-2018	Wednesday	Independence Day
11	22-08-2018	Wednesday	Bakrdi
12	13-09-2018	Thursday	Ganesha Chaturthi
13	21-09-2018	Friday	Last day of Moharam
14	02-10-2018	Tuesday	Gandhi Jayanthi Mahalaya
15	08-10-2018	Monday	Mahalaya Amavase
16	18-10-2018	Thursday	Ayooda Pooja
17	19-10-2018	Friday	Vijayadashami
18	24-10-2018	Wednesday	Valmiki Jayanthi
19	01-11-2018	Thursday	Rajyotsava Day
20	06-11-2018	Tuesday	Naraka Chaturdashi
21	08-11-2018	Thursday	Deepavali
22	21-11-2018	Wednesday	Id-Milad
23	26-11-2018	Monday	Kanaka Jayanthi
24	25-12-2018	Tuesday	Christmas Day

HOW TO REACH NMIT?



Campus Layout of Nitte Meenakshi Institute of Technology

