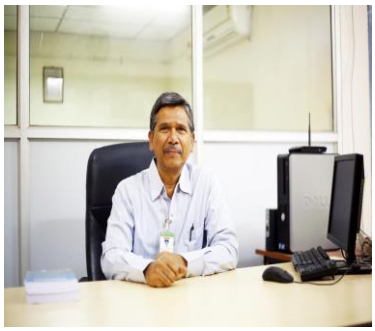
Student Hand Book 2020-21

PREPARED BY
INTERNAL QUALITY ASSURANCE CELL
K.S.R.M COLLEGE OF ENGINEERING
Autonomous
Approved by AICTE, Affiliated by JNTUA
Kadapa Andhra Pradesh
www.ksrmce.ac.in

Editorial Committee



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WELCOME NOTE

Dear Students

Engineering is a human activity aimed at creating new artefacts, algorithms, processes and systems that serve humans and in turn society. An engineer seeks to create what never did exist. It is a privilege to embark on a career related to engineering.

K.S.R.M. College of Engineering Autonomous Kadapa, a premier engineering college in the country, since its establishment in 1980, has been carrying forward the legacy of Kandula Obul Reddy Charities. Guiding thousands of students on their way, shaping their future and moulding the rural students into engineers that the country would be proud of, is the goal of the institute. The passion for excellence that drives it can be seen in every aspect of this vibrant Institute from its stringent recruitment policies, teaching and learning process and academic performance to its outstanding infrastructure and placement activities. KSRMCE is UGC an Autonomous institute approved by the All India Council for Technical Education, New Delhi and is affiliated to the Jawaharlal Nehru Technological University, Anantapur and is certified by ISO and accredited by NAAC, Bangalore which substantiates the high standards of excellence that the institution has set for itself. From the year 2021-22 the college is offering new course in B.Tech AI & ML, M.Tech – AI & DS, Power systems, VLSI, Renewable Energy.

As part of co-curricular and extra-curricular activities, we conduct national and intercollegiate level seminars and workshops, encourage students to participate in technical paper presentation contests; organize lectures by experts from leading industries, conduct university sports meets etc. Many of our students regularly form parts of university teams and a few parts of the state teams.

At KSRMCE, we have a student friendly environment with all facilities including well equipped departments, qualified and experienced faculty.

We at KSRMCE, seek to define the moral obligation of the engineer using traditional moral philosophy and describe how this obligation might be translated into a more positive definition of success. The programs offered by the institute prepare students for careers in industry or for post graduate study in engineering or related fields.

It gives me immense pleasure to welcome all those who aspire to have a career in engineering a fruitful stay at our institute.

With Warm Regards

Principal

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1. KSRMCE

1.1 About the Institution

The college owes its existence to the keen interest of Late Kandula Obul Reddy to develop technical education in Rayalaseema region of Andhra Pradesh. With a view to translating his noble ideal of imparting technical education into reality, a Technical Training Institute at Vempalli, Kadapa District was started in 1979 under the aegis of Sri Kandula Obul Reddy charities. It is in the year 1980 that K.S.R.M. College of Engineering was established to perpetuate the memory of Late Sri. Srinivasa Reddy, youngest son of Late Sri Obul Reddy. Sri Srinivasa Reddy, a brilliant student of III year Mechanical Engineering at Delhi College of Engineering, New Delhi, met with his untimely death in a scooter accident on 18th Oct, 1979.

The college was formally inaugurated on 14 November 1980 by Sri T. Anjaiah, the Chief Minister of Andhra Pradesh and it started functioning from the academic year 1980-81.

Development:

The college had its modest beginnings in 1980 with an intake of 160 students with core branches Civil, Electrical & Electronics, Electronics & Communications and Mechanical Engineering. Keeping in view the latest trends, priorities and relevance in Engineering and Technology, the Board of Management decided to start Computer Science and Engineering in 1990 commemorating the decennial year of the college. With the concerted efforts of the Management and the Successive Principals, the departments have been strengthened year after year and the intake has steadily been increased to 1080 by the year 2014.

Furthering its sphere of activity, the college started post graduate programme in CAD/CAM (ME), Geo-technical Engineering (CE) in the year 2004, Power Systems (EEE) & Computer Science and Engineering (CSE) during 2010-11 and Digital Electronics and Communication Systems (ECE) in 2011-12 respectively.

The branches have constantly been strengthened by increasing the intake from time to time. This reflects one aspect of the progress and development of the college.

The Campus:

The College campus is located 7 K.M. away from Kadapa town on Kadapa to Pulivendula Highway in a calm and salubrious area of 35 acres. The College is set in a serene environment with lush greenery and fresh air. Four multi-stored RCC structures measuring 26,700 sqm provide accommodation for the departments. The College has dedicated electric power feeder and 250 KVA substation. Other capital resources include transport vehicles and four hostels. Excellent Bus facilities exist from Kadapa to Hyderabad, Vijayawada, Nellore, Tirupati, Kurnool, Bangalore, Chittoor and Chennai.

1.2 Vision and Mission

VISION:

KSRMCE seeks to be recognized as one of the Best Engineering Colleges in India in providing high standards of academics with most productive, creative learning environment

by inculcating research, innovation thoughts and producing graduates with human-values & leadership qualities to serve the nation.

MISSION:

- To provide high quality education in Engineering & Technology to bring out knowledgeable engineers
- To provide a collaborative environment for stakeholders to take up need-based research and industry specific programs.
- To organize co-curricular and extracurricular activities for character and personality development to produce highly competent and motivated engineers and professionals to serve and lead the society.

1.3 Goal

In seeking to fulfil its comprehensive mission, KSRMCE pursues three principal institutional goals: meaningful research, effective teaching, and service to society. Contribution towards the realization of these goals essentially constitutes the standard by which members of the academic staff are evaluated.

1.4 TEACHING

KSRMCE is committed to the transmission of knowledge. The institution's primary responsibility is to impart quality education to the student community, and, in this regard, effective classroom teaching is college's most pervasive medium for the dissemination of the results of its faculty's scholarly endeavours. The central concern of the institution is, therefore, excellence in its instructional activities that provide students with opportunities for a comprehensive education and a specialized professional training. The institution assigns substantial weightage to teaching in its process of faculty evaluation, recognizing that excellence requires not only knowledge on the part of a teacher but a continuing quest for knowledge, a constant review of curricula and methods, flexibility and creativity in the classroom, and an unceasing effort to individualize instruction. Towards this end, KSRMCE seeks to measure the quality of instruction through student and peer evaluation, and review of its academic programmes by accrediting agencies.

1.5 RESEARCH

The KSRMCE acknowledges that the preservation and expansion of knowledge through scholarly inquiry is a function that distinguishes institutions of higher learning. The institution believes that scholarly quest promotes effective teaching, besides serving the society. Aurora, therefore, seeks to preserve knowledge in its archives and libraries, employs teaching faculty holding research degrees awarded

by reputed institutions of advanced education, honours those who achieve distinction as scholars, and maintains laboratories, research centres and numerous administrative entities that function to promote the expansion of knowledge.

2. COURSES OFFERED

The Institute offers 6 courses leading to the Bachelor's in Technology (B. Tech.) degree and 5 courses for Post Graduate Degree:

2.1.	**Department of Computer Science and Engineering**	**INTAKE**
	i. B. Tech.(Computer Science and Engineering)	180
	ii. M.Tech (AI & DS)	18
2.2	**Department of AI & ML**	
	B. Tech. (AI & ML)	60
2.3.	**Department of Electronics and Communication Engineering**	
	i. B. Tech (Electronics and Communication Engineering)	180
	ii M. Tech(Embedded System& VLSI Design)	18
2.4.	**Department of Electrical and Electronics Engineering**	
	B. Tech (Electrical and Electronics Engineering)	60
	M. Tech (Power Systems)	18
2.5.	**Department of Mechanical Engineering**	
	B. Tech (Mechanical Engineering)	120
	M.Tech (Renewable Energy)	18
2.6.	**Department of Civil Engineering**	
	B. Tech (Civil Engineering)	120
	M.Tech (Geo-technological Engineering)	18
2.7.	**Department of Humanities & Applied Sciences**	

2.1 DEPARTMENT OF COMPUTERSCIENCE AND ENGINEERING

Vision & Mission:

Vision

To produce globally competitive and self- disciplined Computer Engineers with innovative skills, moral values and societal concern by providing education of global standards and research in the field of Computer Science and Engineering.

Mission

M1: To produce globally competent and qualified computer professionals.
M2: To impart high quality professional training with emphasis on basic principles of Computer Science and Engineering and to foster leading edge research in the fast-changing field.

M3: To facilitate the students to work with recent tools and technologies and train the students by inculcating the spirit of ethical values contributing to societal ethics.

PO's & PSO's:

PO's

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

PO2 - Problem Analysis: Identify, formulate, review research literature, and analyze complex engineering problems reaching substaniated conclusions using first principles of mathematics, natural sicences, 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 predicition 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 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.

PSO's

PSOs are statements that describe what the graduates of a specific engineering program should be able to do:

PSO1 - Professional Skills: The ability to understand, analyze and develop computer programs in the areas related to algorithms, system software, multimedia, web design, big data analytics, and networking for efficient design of computer-based systems of varying complexity.

PSO2 - Problem-Solving Skills: The ability to apply standard practices and strategies in software project development using open-ended programming environments to deliver a quality product for business success.

PSO3 - Successful Career and Entrepreneurship: The ability to employ modern computer languages, environments, and platforms in creating innovative career paths to be an entrepreneur, and a zest for higher studies.

2.1.1 B.TECH.(COMPUTERSCIENCEANDENGINEERING)

2.1.1.1 COURSEOBJECTIVE

The undergraduate program in Computer Science & Engineering is essentially aimed at equipping a student with excellent programming and system related competencies. The student is expected to possess skills and core knowledge

both in hardware and software technologies related to the discipline of Computer Science. Teaching is focused on systems programming as well as application programming. Knowledge is imparted in Computer Architecture and Design, maintenance and networking. Students are also taught a spectrum of programming languages spanning assembly language programming, C, Java, C++, dot net and also operating systems like UNIX and Windows. In addition, they are also imparted skills in packages and tools like Multimedia, Weka etc,

2.1.1.2 COURSE DETAILS

YEARSem-1

1. Linear Algebra and Calculus
2. Chemistry
3. C-Programming&DataStructures
4. Basic Electrical&Electronics Engineering
5. Engineering Workshop
6. IT Workshop
7. Chemistry Lab
8. C-Programming&DataStructures Lab
9 .Basic Electrical&Electronics Engineering Lab

2.1.1.3DISTINCT FEATURES OF THIS COURSE

The Computer Science and Engineering Programme has a distinctly different course offered at the undergraduate level as compared to any other programme. There are many features that distinguish this course from that of the Information Technology course. Apart from software technology, focus is also on hardware technologies, such as Computer organization, Micro Processor and Computer Architecture. The course also focuses on Networking and System Administration with special emphasis on Unix Programming.

2.1.1.4 Program Educational Objectives

A graduate of the K.S.R.M.C.E, C.S.E should have a successful career in CSE or a related field, and within three to five years, should

- **Technical Competence**: To disseminate inclusive knowledge of fundamentals of engineering and modern computing practices, through advanced curriculum, enabling the graduates to synthesize novel ideas.

- **Learning Environment**: To sensitize the graduates with the efficacy of continuous learning reinforced through student-centric pedagogy that inculcates creative talents to survive and thrive in the profession.
- **Sustainable Skills**: To nurture professional behavior and industry-specific acumen in the students to effectively operate and sustain in heterogeneous work environments.
- **Ethical Behavior**: To help the students understand the ramifications of emerging computing technologies and ethical application of technical expertise to resolve contemporary challenges for the welfare of the nation.

2.1.1.5 GRADUATEDESTINATIONS

Students can pursue higher education in specialized courses, such as Software Engineering, Artificial Intelligence, Networking, etc. Alumni of this college have been securing seats in premier national institutes such as the IITs, IIIT, University of Hyderabad, S.V University, Jawaharlal Nehru Technological University and in Institutions in the United States, Australia and Canada.

2.1.2 M. TECH. (AI & DS)

2.1.2.1 COURSE OBJECTIVE

Artificial Intelligence (AI) is any technique that enables computers to mimic human intelligence. AI is an interdisciplinary science with multiple approaches to build smart machines capable of performing tasks that typically require human intelligence. Data Science (DS) is an umbrella term for a group of fields that are used to analyze large datasets. It is the field of study that combines domain expertise, programming skills, and knowledge of mathematics and statistics to extract meaningful insights from data.

Data Science is a comprehensive process that involves pre-processing, analysis, visualization and prediction. On the other hand, AI is the implementation of a predictive model to forecast future events. Data Science comprises of various statistical techniques whereas AI makes use of computer algorithms. With Data Science, we build models that use statistical insights. On the other hand, AI is for building models that emulate cognition and human understanding. Data Science does not involve a high degree of scientific processing as compared to AI. Blend of AI & DS allows the students to get best of both worlds.

2.1.2.2 COURSE DETAILS

M.Tech. Artificial Intelligence & Data Science program aims at serving the demand for the experts and engineers who can develop sophisticated and complex systems to work with or even to augment the humans in developing solutions and solving Engineering problems. The program content is designed to produce Engineers having exceptional technical skills for creating new AI systems and who also understand the nature of the human environments in

which the systems they build will be deployed. This program will be a perfect blend of class works, internships at industries, research and projects.

The course research areas includes Intelligent Systems, Machine Learning, Deep Learning, Reinforcement Learning, Natural Language Processing, Text Technologies for Data Science, Data Analytics and Mining, Big Data Management, Data Visualization, Cloud Technologies, Internet of Things, Pattern recognition etc.

2.1.2.3 DISTINCT FEATURES OF THIS COURSE

Artificial Intelligence (AI) is any technique that enables computers to mimic human intelligence. Data Science is a comprehensive process that involves pre-processing, analysis, visualization and prediction. It is the field of study that combines domain expertise, programming skills, and knowledge of mathematics and statistics to extract meaningful insights from data.

Data Science comprises of various statistical techniques whereas AI makes use of computer algorithms. With Data Science, we build models that use statistical insights. On the other hand, AI is for building models that emulate cognition and human understanding. Data Science does not involve a high degree of scientific processing as compared to AI. Blend of AI & DS allows the students to get best of both worlds.

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2.2 B. TECH. (AI & ML)

Vision & Mission:

Vision

To become centre of excellence in computer science and engineering by enriching the problem solving skills and teaching environment that adapts swiftly to the challenges of the society and producing professionals who shall be the leaders in technology innovation, research, entrepreneurship and management.

Mission

M1: To practice the students with essential concepts, logical ability, problem solving and programming skills.

M2: To promote teaching and learning process that yields advancements in computer science and engineering leading to innovations and research.

M3: Practicing the organizational and leadership skills to the students with the multidisciplinary knowledge through projects, industry training, leading to a sustainable competitive edge in research and development to serve the society needs.

PO's & PSO's:

PO's

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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.

PSO's

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PSO2 - Problem-Solving Skills: The ability to apply standard practices and strategies in software project development using open-ended programming environments to deliver a quality product for business success.

PSO3 - Successful Career and Entrepreneurship: The ability to employ modern computer languages, environments, and platforms in creating innovative career paths to be an entrepreneur, and a zest for higher studies.

2.2.1.1 COURSE OBJECTIVE

Artificial Intelligence involves all those things, in which we can make our computers do the job, that human does. The purpose is to imitate natural intelligence to solve complex real world problem. Machine Learning is making a machine learn on its own without being explicitly programmed. It is an application of AI that provides system the ability to automatically learn and advance from experience.

2.2.1.2 COURSE DETAILS

I YEAR SEM -I

Linear Algebra & Calculus
Environmental Chemistry
Problem Solving with Algorithmic thinking
Professional Communication
Python Programming
Agriculture for Engineers & Field Activity
Introduction to Digital Manufacturing
Problem Solving using C Lab
Python Programming Lab
Indian Traditional Knowledge

2.2.1.3 DISTINCT FEATURES OF THIS COURSE

KSRMCE offers **B Tech CSE in Artificial Intelligence & Machine Learning** covering the topics of Data Science, Machine Learning, Artificial Intelligence, Robotics, Data Engineering and Data Science. There is a Government plan for the deployment of AI in many sectors in India e.g. Agriculture, Health Care, Manufacturing, Education and Public Utilities. Hence, the students should look forward to a wide variety of careers after graduating from our **B Tech Course in Artificial Intelligence and Machine learning**

2.2.1.4 Program Educational Objectives

- Engineers will practice the profession of engineering using a systems perspective and analyze, design, develop, optimize & implement engineering solutions and work productively as engineers, including supportive and leadership roles on multidisciplinary teams.
- Continue their education in leading graduate programs in engineering & interdisciplinary areas to emerge as researchers, experts, educators & entrepreneurs and recognize the need for, and an ability to engage in continuing professional development and life-long learning.
- Engineers, guided by the principles of sustainable development and global interconnectedness, will understand how engineering projects affect society and the environment.
- Promote Design, Research, and implementation of products and services in the field of Engineering through Strong Communication and Entrepreneurial Skills.

2.2.1.5 GRADUATE DESTINATIONS

Students can pursue higher education in specialized courses, such as Software Engineering, Artificial Intelligence, Networking, etc. Alumni of this college have been securing seats in premier national institutes such as the IITs, IIIT, University of Hyderabad, SV University, Jawaharlal Nehru Technological University and in Institutions in the United States, Australia and Canada.

2.3 DEPARTMENT OF ELECTRONICS & COMMUNICATION ENGINEERING

Vision & Mission:

Vision

To emerge the Electronics and Communication Engineering Department as a value based globally recognized center ensuring academic excellence, fostering research innovation and entrepreneurial attitude.

Mission

M1: To be a student centric institute imbibing experiential, innovative and lifelong learning skills, addressing industrial and societal problems.

M2: To promote all-inclusive research and development**.**

M3: To inculcate entrepreneurial attitude and values amongst the learners**.**

M4: To strengthen National and International, Industrial and Institutional collaborations for symbiotic relations.

PO's & PSO's:

PO's

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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.

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PSO's

The Program Outcomes after successful completion of B.Tech ECE program are,

PSO1: An ability to design and conduct experiments, as well as to analyze and interpret data.

PSO2: An ability to design a system, component, or process to meet desired needs within realistic constraints such as economic, environmental, social, political, ethical, health and safety, manufacturability, and sustainability.

PSO3: An ability to understand the impact of engineering solutions in a global, economic, environmental and societal context.

PSO4: An ability to use the techniques, skills, and modern engineering tools necessary for engineering practice.

2.3.1 B.TECH (ELECTRONICS & COMMUNICATION ENGINEERING)

2.3.1.1 COURSE OBJECTIVE

The main objective of this course is to produce talented engineers in the field of Electronics & Communication Engineering. Emphasis is on teaching design, testing and implementation of electronic circuits required for communication-related areas. Students are taught the applications of electronics in the field of communication systems, computer engineering, radar engineering, satellite communication, etc. FPGA advantage software, supposed to be the best and adopted worldwide, is used. Modern methods of electronic communication like Optical Communications, FSK, PSK, MSK and DPSK are tested using the best modules.

2.3.1.2 COURSE DETAILS

I YEAR Sem -1

1. LinearAlgebraandCalculus
2. AppliedPhysics3. Mathematical Methods
3. CommunicativeEnglish
4. FundamentalsofElectricalEngineering
5. EngineeringDrawing
6. EngineeringDrawingLab
7. AppliedPhysics Lab
8. CommunicativeEnglishLab
9. FundamentalsofElectricalEngineeringLab

2.3.1.3 DISTINCT FEATURES OF THE COURSE

The Electronics and Communications Engineering Course offered at the undergraduate level is a distinctly different course, with emphasis on electronics subjects, such as Digital & Micro Electronics, and communication engineering subjects, such as Satellite Communication, Optical Communication and Digital Signal Processing. Students can specialize in advanced communication engineering subjects, like Cellular and Mobile Communications, Radar Engineering, or applied electronics subjects, such as Embedded Systems, VLSI and Biomedical Instrumentation.

2.3.1.4 PROGRAM EDUCATIONAL OBJECTIVES

- To provide students with a strong foundation in mathematics, science and engineering.
- To provide students with sufficient technical and programming skills to meet the industry demands.
- To provide students with sufficient leadership, entrepreneurship qualities, professional and ethical attitude for a successful professional career.
- To generate graduates with a multidisciplinary approach and an ability to relate engineering issues to broader social context.

2.3.1.5 GRADUATE DESTINATIONS

Students can opt for placements in government and public sector companies like ECIL, BSNL, ISRO, NRSA, AIR, Doordarshan, Indian Railways, DRDO and NGRI; private sector companies like Motorola, TI, Qualcomm and Sasken to name a few. Those interested in going for higher studies to IITs/IISc have to qualify the All-India GATE Examination. Apart from these, our students have been getting excellent placements in MNCs both in India and abroad.

2.3.2M.TECH (EMBEDDED SYSTEMS &VLSI DESIGN)

2.3.2.1 COURSE OBJECTIVE

This course is an introduction to EMBEDDED SYSTEMS & VLSI DESIGN which presents both design methods and real examples of the impact of VLSI on modern digital systems. Its objectives are to give theoretical and practical knowledge in hardware modelling and model based performance analysis the present and future complex digital and analog systems.

The course is intended to give the student an understanding of the fundamental system level electrical issues involved in the design of digital deep submicron CMOS VLSI systems and a mastery over the basic techniques and methods used to deal with these issues. The key focus in this course is on impact of interconnects (metal Al or Cu wires) to circuit and system properties. Issues related to inter connects will be introduced in the areas of power distribution, signalling, timing, synchronization, noise-management, and related chip power consumption minimization. In each area, the fundamental problems and the engineering architecture and circuit solutions to these problems are discussed.

The objective of Embedded Systems is to impart an in-depth understanding of the role of embedded systems and embedded systems design and development. Students completing this course will have a framework for evaluating, developing, implementing and integrating Embedded Systems software projects which are in high demand and will understand the role of embedded systems in the context of complex engineering systems.

2.3.2.2 COURSE DETAILS

The duration of this course is two years. The course consists of 4 semesters out of which III and IV semesters are set for project work and submission of the dissertation/thesis.

In the first semester, the subjects taught are Micro controllers for Embedded System Design, CPLD & FPGA Architectures and Applications, VLSI Technology & Design, Algorithms for VLSI Design Automation. The student can choose a subject each from elective - I, Hardware Software Co-Design, Digital System Design and Device Modelling and Elective - II - Advanced Digital Signal Processing, Network Security and Cryptography, Micro Electromechanical Systems. A Simulation Lab (VLSI) is also part of the curriculum.

2.3.2.3 DISTINCT FEATURES OF THIS COURSE

This course explores the technology, circuits, architecture, systems and CAD tools for VLSI design. The emphasis is on modern CMOS processes and circuits. Students learn how to design at different levels of abstraction, from detailed circuits for custom memory, logic and data-path to high-level

behavioural languages for automatic chip compilers. Basic methods of VLSI CAD tools are a part of the course.

2.4 DEPARTMENT OF ELECTRICAL & ELECTRONICS ENGINEERING

Vision & Mission:

Vision

The prime motto of the department of Electrical and Electronic Engineering is to focus on the new developments to promote innovative ideas in various fields of Electrical Engineering in such a way that it would not only fulfill its obligation towards promoting undergraduate training at high level technology but also to cater the needs and aspirations of Electrical Engineering industry in particular.

Mission

M1: To produce graduates with a strong foundation in the basic sciences and mathematics that will enable them to identify and solve electrical engineering problems and also prepare them for life-long careers and professional growth in fields of their choice.

M2: To afford our students with the basic skills to communicate effectively and to develop the ability to function as members of multi-disciplinary teams.

M3: Provide our students with a broad-based education so that they can appreciate diversity of opinion, better understand ethical issues, and develop a more global perspective**.**

PO's & PSO's:

PO's

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

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

PO3 - Design/Development of solutions: Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations.

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

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

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

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

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

PSO's

PSO1: Able to apply the knowledge of Science, Mathematics & Electrical Engineering fundamentals to solve complex problems in Electrical Machines, Control Systems, Power Systems & Power Electronics.

PSO2: Able to analyze the performance of Electrical Machines, Power Systems and Control Systems.

PSO3: Able to apply the knowledge of ethical & Management principles required to work on a team as well as to lead a team.

2.4.1 B.TECH (ELECTRICAL & ELECTRONICS ENGINEERING)

2.4.1.1 COURSE OBJECTIVE

The course provides classroom and laboratory instruction on the prerequisites for a career in Electrical and Electronics Engineering, including theory and design, and the basic science upon which future technology is based.

This a four year course for students wishing to learn about Electrical Engineering, Electronics Engineering and Software Engineering. Electrical Engineering include all the aspects of Power generation, Transmission, Distribution, Utilization and Electrical measurement with barriers like Electrical circuits, Electromagnetics, Control systems, and Electrical machines. Electronics engineering include basics of electronic devices, Power electronics, Digital logic circuits, Microprocessors and Micro controllers, Digital signal processors, Fuzzy logic and neural networks. Software Engineering includes C and Data structures, Simulation techniques, and DBMS.

2.4.1.2 COURSE DETAILS

I YEAR Sem - 1

1. Linear Algebra and Calculus
2. Applied Physics
3. Communicative English
4. Engineering Physics
5. Engineering Drawing
6. Engineering Drawing Lab
7. Applied Physics Lab
8. Communicative English Lab
9. C-Programming & Data Structures Lab

2.4.1.3 DISTINCT FEATURES OF THIS COURSE

The Electrical and Electronics Engineering Course offered at the undergraduate level is a specialized engineering course. Students are trained in Electrical Substation Design, Electrical maintenance, Electrical Machine Design and Electrical Energy auditing. Students are given special instruction in computer-aided power management systems, and computer-aided design of electrical machines. They also study advanced subjects, such as VLSI and Embedded Systems and their applications with fuzzy, AI and Neural Networks.

2.4.1.4 PROGRAM EDUCATIONAL OBJECTIVES

- To provide students with strong foundation in the Mathematical, scientific and engineering fundamentals necessary to formulate, solve, analyze and design engineering problems and to prepare them for graduate studies & application to product design.

- To inculcate professional attitude in students, effective communication skills & capability to succeed in multi disciplinary and diverse fields and to fulfil the needs of society.
- To promote students for continuous professional development including advanced education relevant to their career growth and to create enthusiasm for lifelong learning.
- To prepare students for successful career in industry to meet the needs and to lead their professional disciplines to work as part of team on multi disciplinary projects and to introduction to professional ethics and course of professional practices.

2.4.1.5 GRADUATE DESTINATIONS

Students can pursue postgraduate programmes in electrical power systems, power electronics, electrical drives, electromagnetics, high voltage AC/DC engineering, advanced control systems, digital electronics and micro-electronics. Alumni of the college have been joining premier educational institutions both in India and abroad. A large number of students are getting placed in MNCs such as DELL, HP, Motorola, and in Indian companies like Infosys, Wipro, APSEB, NTPC, BHEL, BEL, ABB and LANCO. They can also make a career in Indian electrical manufacturing units and industries, both; public and private sectors. Students of this college have been placed in companies widely known for Embedded Systems and VLSI design such as Portal Player.

2.4.2 M.TECH (POWER SYSTEMS)

2.4.2.1 COURSE OBJECTIVE

This course aims at training graduate engineers in the field of Power Systems. This course deals with the state of the art techniques in Power System analysis, stability evaluation planning, reliability and forecasting. The course also covers subjects on high voltage DC transmission, industrial electronics and controls, power electronics and drives, wind and solar energy electric conversion systems and advanced topics in micro processors and micro controllers which are very much needed for today's power system engineer. Projects of practical relevance in these areas of carried out in the final semester of the course.

2.4.2.2 COURSE DETAILS

1st semester- Power system operation & control, Advanced power system protection, High voltage dc transmission, Distribution automation, Power system reliability, Micro processors & Microcontrollers, Advanced digital signal processing, Digital control system, Lab-Power system lab. 2nd

Semester - Power system control & stability, Flexible ac transmission systems, extra high voltage transmission, Neural & fuzzy systems, operation research, embedded system, power quality, Control System and Simulation Lab

2.4.2.3 DISTINCT FEATURES OF THIS COURSE

It gives an exposure to the field of "Power System Analysis" such as Automation tasks, Hardware structure of the power system automation, Controlling (output) devices, Communications devices, over current protection, Supervisory Control and Data Acquisition. It deals with the overview of Power System Automation control to analyses of Power transmissions line, distributions line and their faults in a transmissions line.

2.5. DEPARTMENT OF MECHANICAL ENGINEERING

Vision & Mission:

Vision

The Vision of the Department of Mechanical Engineering is to be Globally recognized in providing Mechanical Engineering education , leading to well qualified engineers who are innovative, immediate contributors to their profession and successful in advanced studies.

Mission

M1: To educate, prepare and mentor students to excel as professionals.

M2: To afford our students with the basic skills to communicate effectively and to develop the ability to function as members of multi-disciplinary teams.

M3: To strengthen continuing education with special focus on training and skill up gradation of teaching and technical manpower of the region.

PO's & PSO's:

PO's

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

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

PO3 - Design/Development of solutions: Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations.

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

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

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

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

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

PSO's

PSO 1: Apply their knowledge in the domain of engineering mechanics, thermal and fluid sciences to solve engineering problems utilizing advanced technology.

PSO 2: Successfully apply the principles of design, analysis and implementation of mechanical systems/processes which have been learned as a part of the curriculum.

PSO 3: Develop and implement new ideas on product design and development with the help of modern CAD/CAM tools, while ensuring best manufacturing practices.

2.5.1B.TECH (MECHANICAL ENGINEERING)

2.5.1.1 COURSE OBJECTIVE

The course provides classroom & laboratory instruction on the prerequisites for a career in Mechanical Engineering, including theory & Practical application. It involves understanding of core concepts of design, manufacturing, production and analysis including subjects like mechanics, kinematics, Fluid Mechanics, Material science, Production Technology, Thermal Engineering, finite element analysis etc.

2.5.1.2 COURSE DETAILS

IYEAR Sem - 1

1. Linear Algebra and Calculus
2. Engineering Chemistry
3. C-Programming & Data Structures
4. Basic Electrical & Electronics Engineering
5. Engineering Workshop
6. IT Workshop
7. Engineering Chemistry Lab
8. C-Programming & Data Structures Lab
9. Basic Electrical & Electronics Engineering Lab

2.5.1.3 DISTINCT FEATURES OF THIS COURSE

Mechanical Engineering is a large & diversified field. Mechanical Engineering touches almost every aspect of technology that applies the principles of design, manufacturing, analysis & maintenance of Mechanical systems.

2.5.1.4 PROGRAM EDUCATIONAL OBJECTIVES

- Our graduates have the ability to adopt contemporary technologies in Mechanical Engineering to cater the needs of the society.

- Our graduates have the ability to apply the knowledge gained from modern design methodologies to address current technical issues.

- Our graduates emphasize on high degree of ethics and standards while executing multi disciplinary engineering projects; they also consider economic environmental and social issues while executing such projects.

2.5.1.5 GRADUATE DESTINATIONS

Students can pursue postgraduate programmes in Mechanical Engineering specialization areas like Thermal, Design, Production, CAD/CAM etc .Alumni of the college have been joining premier educational institutions both in India and abroad. They can be placed in MNCs and Government Organisations. Students can further pursue PhD in the specialization areas after post graduation leading to good career growth.

2.5.2M.TECH (Renewable Energy)

2.5.2.1 COURSE OBJECTIVE

The program aims to give students real world technical expertise in strategic renewable energy disciplines as well as depth understanding in various fields such as solar, wind energy , biogas & biomass etc.

2.5.2.2 COURSE DETAILS:

The duration of this course is two years. The course consists of 4 semesters out of which III and IV semesters are set for project work and submission of the dissertation/thesis. The program aims to give students real world technical expertise in strategic renewable energy disciplines as well as depth understanding in various fields such as solar, wind energy , biogas & biomass etc. The subjects taught in the four semesters are: Fluid mechanics and Turbo machinery, Industrial Energy Management, Thermal Science Engineering, Fuel Technology, Non- Conventional Energy Sources etc with a given project in the semester end.

2.6 DEPARTMENT OF CIVIL ENGINEERING

2.6.1B.TECH (CIVIL ENGINEERING)

VISION:

To produce high competent ethical Civil Engineering professionals with globally perspectives for catering to local, national and global needs and evolving the department to provide state-of-the-art consultancy, research & development in the field of Civil Engineering and its allied areas.

MISSION:

M1: To produce high calibre Civil Engineers by providing rigorous hands-on education with innovative and original thinking in the minds of budding engineers to face the challenges of future.

M2: With continuous interaction of industries, research organizations and eminent professionals enriching the curriculum and setting the department as center of excellence for academics, consultancies and research in the field of Civil Engineering and allied areas.

M3: By inculcating the field activities, certificate programs, professional and ethical values to our students in order to make them prepare to face the competitive world.

PO's & PSO's:

PO's

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

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

PO3 - Design/Development of solutions: Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations.

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

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

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

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

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

PSO's

The graduates in Civil Engineering will be able to

PSO 1: Analyze Design, Construct, Maintain and Operate infrastructural projects.

PSO 2: Assess the environmental impact of various projects and take required measures to curb environmental deterioration.

PSO 3: Use latest softwares pertaining to various streams of Civil Engineering.

3.6.1.1 COURSE OBJECTIVE

The Objective of this course is to equip the students both professionally and personally with required knowledge as well as moral and ethical values, thus providing value added education, which can make the students competitive in their field of study.

2.6.1.2 COURSE DETAILS

I YEAR

1. Linear Algebra and Calculus
2. Engineering Physics
3. Communicative English
4. Basic Electrical & Electronics Engineering
5. Engineering Drawing
6. Engineering Drawing Lab
7. Engineering Physics Lab
8. Communicative English Lab
9. Basic Electrical & Electronics Engineering Lab

2.6.1.3 DISTINCT FEATURES OF THIS COURSE

The department has well equipped laboratories with all necessary machines. All the laboratories of the department are well equipped with advanced

sophisticated instruments to fully satisfy the training needs of the students and meet the research and consultancy requirement of the department.

2.6.1.4 PROGRAM EDUCATIONAL OBJECTIVES

- **Technical & Employability Skills**: To enable the students for acquiring the required skills by successful completion of an advanced degree, professional development with industrial training course(s) in order the meet the industrial needs and embed the knowledge to adopt the futuristic transformation in technology.
- **Problem solving, Self learning & Leadership**: By utilizing the new technologies and tools to enhance the technical knowledge for advance professionalism to develop an ability for solving complex technical problems. Encouraging for publishing papers or delivering effective conference presentations for acquiring knowledge and instilling confidence to become a successful professional/entrepreneur.
- **Professional Ethics**: To prepare students work in multidisciplinary teams on problems whose solutions lead to significant societal benefit.

2.6.1.5 GRADUATE DESTINATIONS

Just after the completion of B.Tech degree, a student can be placed in jobs like Design Engineer and Site Engineer. Knowledge in Auto CAD package makes a Civil Engineering graduate a AutoCAD Engineer. A good grooming in STAAD, NISA, ANSYS or any other Structural Engineering package can help to procure jobs like software engineer in core field of engineering, Scientist in SERC (Structural Engineering Research Centre). By learning Geographical Information System (GIS) packages like Arc INFO, Arc VIEW or other related packages, a B.Tech graduate can expect a job as a Scientist in RRSC (Regional Remote Sensing Centres). A B.Tech graduate can also pursue M.Tech (2 years)/Ph.D (5 years).

2.6.2M.TECH (GEO-TECHNOLOGICAL ENGINEERING)

2.6.2.1 COURSE OBJECTIVE

M.Tech Geotechnical Engineering subjects consists of various core and elective subjects necessary to emphasize the graduates' knowledge. In addition to that, the M.Tech Geo technological Engineering course imparts specific practical and theoretical knowledge in the subject areas to the students, such as engineering geology, material sciences, petroleum engineering and so on. The M.Tech Geotechnical Engineering syllabus is for

students interested in designing dams, embankments, cuts, foundations, retaining walls, tunnels, and other engineering-related domains.

2.6.2.2 COURSE DETAILS

Many subjects in the course structure of M.Tech Geotechnical Engineering are necessary for the students to pursue a degree course related to engineering, geology, material science, mining, petroleum etc. Some of the subjects are from the undergraduate degree classes corresponding to that technical Engineering, while some other new topics have been introduced in the course as well. Some of the M.Tech Geotechnical Engineering subjects list in the course curriculum is listed below:

Core Subjects:

- Advanced Engineering Mathematics
- Advanced Soil Mechanics
- Geotechnical Laboratory - I
- Theoretical Soil Mechanics
- Dynamics of soil and foundation
- Geotechnical Investigation Practice

Elective Courses:

- Structural Design of Foundation and Retaining structure
- Finite Element Methods in Geotechnical Engineering
- Rock Mechanics
- Design of Road Pavements
- Environmental Geo technology

2.7 DEPARTMENT OF HUMANITIES & APPLIED SCIENCES

The department of Humanities and Applied Sciences (H & AS) comprises the disciplines of English, Mathematics, Physics and Chemistry. A blend of experience and enthusiasm, the department plays an instrumental role in moulding students from the first year itself. The objective of the department is to prepare students to face challenges in a globalised world by imparting intensive training in English Language and Communication Skills, Mathematics, Physics and Chemistry that will help them apply their core knowledge to related fields. The department caters to the placement – related

needs of the students by training them in areas like Verbal Ability, Group Discussions, Interview Techniques, Quantitative Aptitude, etc.

The department consists of English Language Communication Skills Lab, Advanced Communication Skills Lab, Engineering Physics Lab and Engineering Chemistry Lab. The licensed Software used for advanced communications lab.

3. TEACHING-LEARNING PROCESS

The college is making an earnest attempt with the determination to deliver its promises. The salient feature of the teaching-learning process is that it synthesizes conventional mechanisms of learning, such as lectures and laboratory sessions, with interactive teaching-learning aids, like seminars, on-course projects, guest lecturers/expert sessions, industrial visits, and assignments. For the teaching-learning process to be truly interactive, the innovative concept of 'learning groups' has been adopted. In addition, each student receives a student handbook that provides a detailed plan of activities to be undertaken during the semester/year.

3.1 LEARNING METHODOLOGY

3.1.1 LECTURES

Lectures are designed to provide the framework of a subject. They normally last for 60 minutes and are given by expert faculty. Students are expected to note the main points. Handouts are often given summarizing the important points and explaining complex concepts.

3.1.2 LABORATORIES

Laboratory work is essential to science and engineering. It provides students with an opportunity to apply their knowledge and develop appropriate practical skills. Laboratories normally involve carrying out experiments using some of the most sophisticated equipment. Both group and individual project work is undertaken in laboratory sessions.

3.2 INTERACTIVE LEARNINGMETHODOLOGY

The different learning groups are formed for different activities like Class Tests, Student Seminars, Assignments, Guest Lectures, Mini Projects and Industry Institute Interaction.

3.2.1 CLASS TESTS

In addition to the mid examinations, class tests are conducted by the respective faculty after completion of every unit. Students who fail in these

tests will have to reappear. Absence from these tests is viewed strictly. The student is required to clear the test the following week.

3.2.2 STUDENT SEMINARS

Seminars characteristically involve learning groups and a member of the teaching staff. They provide an opportunity for active discussions on relevant topics, many of which are covered in the lectures. They help develop transferable skills such as communication and teamwork, and offer a platform to participate fully in learning. The major feature of a seminar is that the student is encouraged to take a measure of control over his studies and contributes positively to these discussions.

Each learning group has to submit the synopsis of their seminar to the head of department one week prior to the presentation.

3.2.3 STUDENT ASSIGNMENTS

Students should submit the assignments as per the schedule given in the student handbook. Each class is divided into 15 assignment groups. Each group consists of four students. A minimum of twenty questions are given under each unit. The first question of every unit is answered by Group I and the second question of every unit is answered by Group II and so on. If the questions under the units are exhausted, the same questions are repeated.

3.2.4 GUEST LECTURES

In order to provide students with expert guidance, the college organizes regular guest lectures and training sessions.

The student learning groups shall coordinate with the faculty in arranging guest lectures. The students will be responsible for accompanying the guest speakers, and taking care of their hospitality. The student groups in rotation will prepare a synopsis of the lecture and present it to the class. They will also be responsible for sending the necessary feedback to the guest speakers immediately after.

3.2.5 PROJECTS

The knowledge acquired by the students during the course of their tenure culminates in the project of the student. The project is the essential ingredient of the U.G. programme of engineering which depicts not only the knowledge of student in various theoretical courses but also shows the experimental skills developed by the candidate. Needless to say that the project report developed by the student would be referred to by various experts in assessing the skills of the candidate at least in the initial phases of candidate's career

development. The serious involvement of staff members in the student's projects will go a long way in increasing the rapport with the students and the department gets benefited by way of infrastructure and development. As such Aurora's Technological and Research Institute gives a lot of importance to students' projects and all the students are advised to follow meticulously the guidelines given.

1. All B.Tech projects are to be done in-house
2. Each student will have an internal guide and an external guide. The attendance during the semester is compulsory and will be given 8 hr/ week as per JNTUA norms.
3. Students are advised to know their strengths and weaknesses.
4. A maximum of two members for a project are allowed.
5. Students are advised to identify projects in the area where they have more interest.
6. After ratification of the area students are supposed to discuss with the staff member and prepare a synopsis. The staff member may ultimately become his internal guide. The synopsis should contain the source of material, websites, journals etc.
7. The synopsis submitted by the student is discussed in the department and is ascertained for implementation of the project where department has internal resources namely expert guidance, the necessary hardware and software platform for implementing the project.
8. The workload distribution of the student members for a particular project is to be clearly defined.
9. If it is a hardware project, it should culminate in the development of a working model, which would be kept, in the department after the project work is completed.
10. If it is a software project, the entire code has to be made available to the department and the student should be able to demonstrate the software to the examiners.
11. The student projects are continuously monitored on weekly basis on the prescribed guidelines by the department.
12. Student is supposed to give 3 seminars during the course work of the semester.
13. All the seminars of the students should be in the form of PPTs only along with any demonstrable package.
14. The department has every right to reject the project if it is not up to the mark and if the student fails to implement the suggestions received by them during the course of the project.

3.2.6 MINI PROJECTS

During their summer vacation, students of III B.Tech have to work for a minimum of three to four weeks on mini projects (75 to 100 hours project). The projects are designed by the department well in advance and intimated to the learning groups. Each learning group is expected to submit a report on the work done in the schedule given in the almanac to the head of the department. This helps students to study the design and programming aspects.

3.2.7 INDUSTRY-INSTITUTION INTERACTION

Visits to local industries every semester are organized to provide practical exposure to the students. Students can experience first-hand the industrial developments taking place in the country. Different learning groups are formed to do this activity. Each learning group is required to submit a report within two days from the date of interaction, to the head of the department.

3.2.8 STUDENT COUNSELING

In order to keep track of the development of the students, the college has divided each class into two counselling groups. Each faculty is assigned 30 students. There are 2 counselling sessions in a semester.

3.2.9 LEARNING GROUPS

The students in each class are facilitated to form 'learning groups' of six each. These groups are formed for academic work. Each learning group is given the name of a scientist / Entrepreneur / Researcher / Eminent Personality etc., of the concerned branch of Engineering. The group must present a profile of the scientist.

3.2.10 INDUSTRIAL / EDUCATIONAL TOURS

It is important for students of technical education to keep themselves abreast of changes taking place in the industry. Towards this end, the college organizes regular industrial tours. Students are also encouraged to visit at least one company, either Indian or a multinational, every semester. The student must prepare in advance a detailed note on the industry to be visited. Information could be collected from the website of the company or any other source. The student, guided by the faculty, shall conduct a survey/interview of the people and the place visited. He/she shall then prepare a detailed report of the tour for a class presentation.

3.2.11 ADJUNCT COURSES

Adjunct courses have been introduced with the objective of making efficient engineers. With conventional syllabi having limited practical use to the

modern day student, our specially charted value-added Adjunct Courses offer students the opportunity to enhance their skills and add to their knowledge base without having to seek training off-campus. Various seminars and workshops are also conducted by all departments.

4. EVENTS

KSRMCE organizes various events spaced throughout the academic year which provide a platform for students across the state to present their innovative ideas. Competitions in programming, Poster Presentations, Paper Presentations, Projects, Quizzers etc., are conducted. In addition, cultural events like Dance, Singing, Mehendi, Face Painting, Photography, also bring out the talents of the students.

4.1 COLLEGE LEVEL COMPETITIONS

4.1.1 LITERARY

The Department of Humanities encourages the students to improve their communication skills through different events, which are usually organized during weekends at college level. Literary competitions like *Book Review Competition, What's the Good Word?, General Knowledge Quiz, Poster Competition, Floor Crossing, Essay Writing , Creative Activity (Picture Interpretation), 'Ad'Venture (Advertising Activity) and Extempore* are conducted.

4.1.2 CULTURAL

KSRMCE provides a platform for students to showcase their talents by conducting cultural events in areas like singing, dancing, painting and so on.

4.1.3 GAMES & SPORTS

Competitions like Chess, Caroms, Table Tennis, Shuttle Badminton, Volley – Ball, Throw – Ball and Cricket are conducted throughout the year.

5. FESTIVALS, FUNCTIONS & CELEBRATIONS

The following are the important festivals, functions and events that are celebrated in KSRMCE.

5.1 FESTIVALS

5.1.1 INDEPENDENCE DAY

KSRMCE reaffirms its commitment towards the process of nation building. Various social activities and community services are initiated on this day.

5.1.2 GANESH CHATURTHI

On this day KSRMCE rededicates itself to the supreme values of education. The idol of Lord Ganesha is installed with pomp and it is immersed with much fervour.

5.1.3 REPUBLIC DAY

Celebrated on January 26, the Republic Day is another occasion when the staff and students get an opportunity to uphold their commitment as responsible citizens of India and derive inspiration from the great leaders and intellectuals whose vision has guided this nation on the path of progress.

5.1.4 VASANT PANCHAMI

On this day we worship Devi Saraswati and celebrate the day.

5.2 FUNCTIONS

5.2.1 INDUCTION DAY

Every year the college warmly welcomes the new batch of students. While the induction is meant to make students feel at ease in their new environs, it has a serious purpose behind it. It is an initiation into the culture and traditions upheld by the college. Students are apprised of the rules and norms of the college, and the challenges that they will surely face over four years of demanding course. A three-day programme consisting of lectures by distinguished personalities, cultural events, and a formal get-together mark the induction process every year, which is held in the month of September / October.

5.2.2 FRESHERS' DAY

Senior students organize Freshers'day within the stipulated time in consultation with their respective heads of the departments. It is necessary that the Freshers' Day be held within four weeks from the commencement of the academic year for the first year students. Senior students should form a committee and work under the supervision of their Head of the Department.

5.2.3 ANNUAL DAY

The annual day celebrations of the college take place in the month of March/April. Sports, cultural and literary competitions are conducted as a run-up to the main program. In addition to the staff and the students, parents, alumni, and other guests are invited for the event. This is an occasion for the college to reaffirm its commitments. The annual report consisting of the achievements and record of events of the past year is presented to the College Board a week before the proposed annual day.

5.3 CELEBRATIONS

5.3.1 ENGINEERS' DAY

The birthday of Bharat Ratna Sir Mokshagundam Visveswaraiah is celebrated on 15th September as Engineers' Day. Exhibition and Lectures are organized. It is also an opportunity to honour engineers who have excelled in their respective fields.

5.3.2 TEACHERS' DAY

September 5, the birthday of Dr. Sarvepalli Radhakrishnan, is celebrated as Teachers' Day all over the country. It is one of the most important days in the KSRMCE calendar, when students give the campus a festive look. Felicitation of teachers marks the occasion.

5.3.3 CHARLES BABBAGE DAY

The birthday of Charles Babbage, the founder of the first computer is celebrated on 18th October. This is an important day for the faculty and students. Quizzes and Lectures are organized by the CSI student chapter.

5.3.4 LINUX TORVALD DAY

The birthday of Torvald, founder of Linux Operating System is celebrated on 28th December. Quizzes and Lectures mark the day.

5.3.5 JAMES WATT DAY

The birthday of James Watt, inventor of the Steam Engine is celebrated on 12th January. On this day at KSRMCE, quizzes and Lectures pertaining to the discipline are organized.

5.3.6 ALEXANDER GRAHAM BELL DAY

The birthday of Alexander Graham Bell is celebrated on 03rd March. Seminars and Lectures mark the day.

6. RULES & REGULATIONS

6.1 COLLEGE TIMINGS

The college functions from 09:00 AM to 05:00 PM. Classes start at 9.00AM with a lunch break of one hour, from 12:00Noon to 01:00 PM. The Director may take a decision to extend the timings and the days depending upon the necessity to complete the curriculum and other activities.

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6.2 ID CARDS

Students are issued ID cards only after they have filled in details in a prescribed form that is issued to them at the time of registration. All the students should submit their details to the college at the time of registration.

In case the card is lost, a duplicate ID card is issued against a payment of Rs 100.

Without the ID Card no student is allowed into the college campus.

6.3 ATTENDANCE

The continuous evaluation system adopted by the college clearly expects every student to be responsible for regularity in class rooms, internal tests and other tasks assigned to him/her in the course. As such, students are advised not to remain absent without the submission of leave letter to the respective heads/class in charges.

1. A student has to put in a minimum of 75% attendance in aggregate of all the subjects in the year/ semester.
2. A student will not be promoted to the next semester unless he/she satisfies the attendance requirement of the present semester/year.
3. Shortage of Attendance **below 75% in aggregate shall in no case be condoned.**
4. Students who have shortage of attendance are not eligible to take their examination of that class and their registration shall stand cancelled. They may seek re-admission for that semester/year when offered next.
5. Students coming out in the middle of the classes or late entry into the class will be seriously viewed and attendance will not be given for the hour.
6. The attendance of each student along with the unit test marks will be displayed on the notice board every fortnight. These will be sent to the parents at the address registered with the college at the cost of the student.
7. Students will not be given lab attendance unless they submit practical records of the previous lab sessions within a week.
8. In case of ill-health, the student must submit proof of evidence for absence and the leave application to the Principal/Head immediately on rejoining the college. Medical leave will be considered only if the student has been absent continuously for at least five days. Late submission of leave application will not be accepted for consideration at the time of condonation of shortfall of attendance.
9. Students with less than 75% of attendance will not be permitted to participate in co-curricular, extra-curricular and sports activities. No

college facilities like bus pass, travel concessions, scholarships will be admissible for students who fall under the 75% category.

6.4 CELL PHONES

Students are not allowed to keep the cell phone switched on in the college campus. The cell phones with camera are strictly not allowed. If found, the cell phone is confiscated and not returned to the student.

7. CODE OF CONDUCT

7.1 RAGGING

1. Ragging is prohibited as per Act 26 of A.P. Legislative Assembly, 1997.
2. Ragging entails heavy fines and/or imprisonment.
3. Ragging invokes suspension and dismissal from the college
4. Outsiders are prohibited from entering the college without permission.
5. All the students must carry their Identity Cards.

NATURE OF OFFENCE - PUNISHMENT

1. For assaulting or using criminal force or criminally intimidating a student - Imprisonment up to 6 months or fine of Rs. 1,000/- or both
2. For restraining or causing hurt to student - Imprisonment up to 1 year or fine up to Rs. 2,000/- or both
3. For causing grievous hurt or kidnapping, raping or committing unnatural offence with a student - Imprisonment up to 2 years or fine up to Rs. 5,000/- or both
4. For causing death or abetting suicide - Imprisonment for life or up to 10 years with fine extending to Rs. 50,000/-

7.2 DISCIPLINE

Discipline is a priority for the success of any venture. Be it related to matters of general conduct, attendance, punctuality, dress, body language, or academic performance. Discipline has a bearing on all aspects of a student's personality. At KSRMCE discipline is valued and promoted, both among the staff and students.

Students are expected to abide by the rules of the college and refrain from any activity that harms the dignity of the individual or casts a slur on the image of the institution. Any violation of the college norms shall be dealt with strictly and the student will be penalized accordingly. The cooperation of parents/guardians is essential in this regard.

A novel method of correcting acts of misconduct has been devised. Instead of monetary penalization, students will be given academic punishments for a

range of undesirable acts, like, giving proxy attendance, not attending classes regularly, bunking classes while on campus, not observing the dress code, scribbling on college property, littering the classroom and many more such acts. (See No. 1.6 for list of Academic punishments.)

1. Consumption of alcoholic beverages, narcotics and other addictive substances on the college premises, or coming to college having consumed them elsewhere, will entail dismissal from the college and conduct certificate will not be issued.
2. Smoking on the college campus is strictly prohibited and the student will be suspended from college with immediate effect and recommended for punishment as per Section 4 of the "Cigarettes and Other Tobacco Products Act 2003".
3. Ragging is a legal offence as per "Act 26 of the AP Legislative Assembly 1997". Students are cautioned against indulging in any activity that may be classified as "ragging" in and around the college campus, in student buses or at boarding/alighting points. Those found aiding and abetting are also equally accountable for their actions. Ragging entails suspension, dismissal, heavy fines, and imprisonment.
4. Adherence to the Dress Code laid down by the college is a must.
5. Entry shall not be given if a student is late to college. The student should be in the class before 9.00 A.M. The entry of latecomers will be regulated and monitored by the college authorities.
6. The kind of language we use is a reflection of our personality and our home environment. Use of slang and abusive language, whistling in the college premises, are strictly discouraged and liable to be penalized.
7. Not attending classes while being on the premises and en masse absenteeism are both viewed with displeasure.
8. Students are advised to mind their body language. It communicates more than words. Slouching in corridors or sitting on the parapet walls or on the steps at the entrance are discouraged.
9. Any damage to college property, scribbling on walls, tables, drawing boards, is seriously viewed.
10. Rising to greet when a teacher enters the classroom adds value to one's own personality Conduct towards faculty and peer group should be impeccable.

7.3 CODE OF CONDUCT IN LABORATORIES

1. Students should report to the labs concerned as per the timetable.
2. Students who turn up late to the labs will in no case be permitted to perform the experiment scheduled for the day.

3. After completion of the experiment, certification of the staff in-charge concerned in the observation book is necessary.
4. Students should bring a notebook of about 100 pages and should enter the readings/observations into the notebook while performing the experiment.
5. The record of observations along with the detailed experimental procedure of the experiment performed in the immediate previous session should be submitted and certified by the staff member in-charge.
6. Not more than two students in a group are permitted to perform the experiment on a set up.
7. The group-wise division made in the beginning should be adhered to, and no mix up of student among different groups will be permitted later.
8. The components required pertaining to the experiment should be collected from Lab- in-charge after duly filling in the requisition form.
9. When the experiment is completed, students should disconnect the setup made by them, and should return all the components/instruments taken for the purpose.
10. Any damage of the equipment or burnout of components will be viewed seriously either by imposing penalty or by dismissing the total group of students from the lab for the semester/year.
11. Students should be present in the labs for the total scheduled duration.
12. Students are expected to prepare thoroughly to perform the experiment before coming to the laboratory.
13. Procedure sheets/data sheets provided to the students' groups should be maintained neatly and are to be returned after the experiment.

7.4 PUNCTUALITY

1. All the students shall strictly observe college timings. If any student comes late to college, he/she shall not be sent to the class and attendance will not be marked for that hour.
2. If anyone is found to be regularly late, administrative action shall be initiated, including suspension from classes.
3. All the students should strictly adhere to the deadlines specified for the submission of assignments, laboratory reports, seminar reports, project reports etc., failing which students will be punished.

8. FACILITIES

9.1.1 CANTEEN

A spacious building is separately constructed for canteen purpose. It is situated at the west side of the college. It is neat and tidy. It has a large tables to dine freely. The canteen offers fresh snacks and beverages. Besides, the

canteen space is ideal for congregational activities of students. While using the canteen, students are expected to handle the furniture and other equipment with utmost care. They must take care not to indulge in any type of unruly behaviour that the college administration may find objectionable. Students who are found spending time in the canteen during class hours are liable to be punished.

8.1.2 STATIONERY SHOP

Students can purchase notebooks, pens, pencils and paper at a subsidized price from the stationery shop. Students can also avail facilities like spiral binding, photocopying & lamination at a nominal price. The shop remains open during college hours.

8.1.3 INTERNET

In the college, Internet facility is available at a speed of 100 MBPS to all the

Blocks in campus. Wi-Fi facility is also provided to the students and staff.

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8.1.4 TRANSPORTATION

The Institute provides bus service for all students. The bus service is operated strictly on 'No profit' basis and the charges cover the minimum operational and maintenance costs incurred, primarily for the convenience and safety of the student.

8.1.5 PLAY GROUNDS

The college has two big play grounds with international standards along with turf pitch, separate ground are available for boys and girls for different games.

8.1.6 COLLEGE RADIO

College Radio is going to establish from this academic year onwards. College Radio is a type of radio station that is run by the students of a college. Programming is exclusively by students which the radio station is based. College radio station is operated for the purpose of broadcasting educational programming, while other radio stations exist to provide alternative to commercial broadcasting or government broadcasters.

8.1.7 COMMON COMPUTER LAB

College has two well established common computer labs each with a capacity of 100 systems with latest configurations. These computer labs are connected to leased line internet facility. Students and faculty are allowed to use these labs.

8.1.8 HOSTELS

The Institution is housing 2 hostels for Boys and 1 hostel for Girls. "SAFETY" is the prime objective in the campus and the institution is known as "SAFE HEAVEN" especially for girl students. All the academic and daily needs of the students are in the campus and within reach for each student, making hostel life pleasant and comfortable. HOSTEL CAMPUS is known as "HOME AWAY FROM HOME**".**

8.1.9 GYM & YOGA ROOM

College has well established Gym and Yoga room with latest equipment. Staff and students can use this facility on mixed mode.

8.1.10 INDOOR STADIUM

Sports are perfect for uniting, strengthening and disciplining the students. The Indoor Stadium facilities encourage greater participation of students, thereby leading to a healthier, happier and more cohesive student community. The College has one multipurpose indoor stadium with a gymnasium, two badminton courts, two table tennis tables, and provision for basketball.

8.1.11 LIBRARY

Our library is truly a learning centre with reading space for more than 180 students at a time. The library stocks textbooks, reference books, journals, magazines, newspapers and an archive of editorial clippings on interesting subjects.

The library subscribes to a number of national and international journals and has a very large collection of reference books on advanced disciplines that are aimed at developing students beyond their normal curriculum. In all, the college library has more than 63503 volumes and around 11418 titles covering various advanced disciplines pertaining to the subjects offered by the college. All the books are bar-coded. The library is supported by a strong database which furnishes complete information about the books.

A dynamic CD library presents data and information in bytes. Furthermore, information is compiled for the students from various international websites and is collated topic-wise in the form of printouts which is made freely available to the students.

Supporting this excellent library facility is the computer-enabled digital library giving access to various international journals. The college library also offers reprographic facilities like photocopying, lamination, spiral binding, etc.

The library provides facility for the borrowing of books, magazines, freeware and SONET CDs. The Book Bank facility supported by the Social Welfare Department is available in the library for SC & ST scholarship holders.

8.1.12 Health Centre

College has well equipped medical room with a doctor and well trained nurse to provide necessary First aid to the students and staff in the time of emergency. Also First aid medical kits are available in all the laboratories.

8.1.13 Common Rooms

In the college, the common rooms are spacious, comfortable and furnished with a wide range of social opportunities. The chairs and tables are set up in these rooms.

9. SUPPORT SYSTEMS

9.1 PHYSICAL EDUCATION

Physical education is an integral part of education. Physical education helps in developing the physical fitness and social efficiency of an individual. The objectives of physical education are organic development, neuro-muscular coordination, and emotional development. The concept of total education will be complete only when there is a proper and balanced blend of mental and physical activities.

Sports Facilities:

Sports facilities are provided on the campus for the mentioned below for the use of students during sports period and free time

Football, Volley Ball, Throw Ball, Tennikoit, Cricket, Table Tennis, Caroms and Chess.

Sports Periods in the time table

In order to expose the talent of students in sports activities and to keep them physically fit, two sports periods are allotted per week for each class in the time table to make use of outdoor and indoor facilities on KSRMCE campus. Students are making use of the facilities.

Sports periods enable the students to participate in the sports activities of their interest and to improve the skills and techniques and to excel in the concerned sports events so that they can represent tournaments. Many students of KSRMCE have represented the country and JNTUA University, Anantapuramu.

Inter Class Tournaments in various games and sports are conducted for all students. Prize winners are given prizes on the college Annual Day Function.

9.2 PLACEMENTS

KSRMCE has a reputation of placing its students in reputed firms thus enabling them to settle down very early in their career.

1. The Placement cell in KSRMCE works in tandem with the students to compile a manual of placements, which can be used for ready reference. To facilitate this information is gathered about each and every student under an exhaustive portfolio.
2. Interaction with the organizations namely emailing, phone calls, mailing brochures, hospitality and scheduling placement activities is done weeks in advance by placement cell.
3. The placement cell works in coordination with Center for Career Counselling. Here the students are educated about the difference between a job and career. The Center for Career Counselling tries to provide rich information and structured understanding to students so that they can locate for themselves where exactly their talent lies and how best it can be utilised.
4. The Placement cell is also assisted by the Center for Communication. This Center does the preliminary job of scouting students who are potentially employable. It grooms the students in personality development, SWOT sessions, GDs, mock interviews, body language and etiquette and other areas, which boost their self-esteem and prepare them for the professional arena. In addition, Campus Recruitment Training is also given by external agencies.
5. All the students of final year undergo a one to one interaction with the placement officer. During these interactive sessions the officer acquaints the students with the activities of the placement cell. They are also helped to prioritize their future plans.
6. Student placement coordinators are selected from second, third and final years. This is done with the intention that these students are given necessary orientation to facilitate them to help their team members. These selections are in the month of July or August.
7. categorizing of the students is done on the basis of their performance in aptitude test conducted by placement and Center for Communication in the month of June. Based on the results the students are groomed to evolve into self-confident entities ready for recruitments.
8. An E-MAIL club has been established to have continuous accessibility to the students.

9. Placement fete is organized, wherein distinguished personalities from the industry are invited to address and motivate students about the prospects of early career placements. This fete also includes several competitions like Best Resume competition, Mock interviews, Group Discussions, JAM sessions, Interview based dressing, to name a few.
10. Alumni of KSRMCE who are currently placed in reputed organizations are invited to interact with the students and explain their strategies and hands - on experience to them.
11. Students are encouraged to collect and display placement literature on the notice board. The best contribution is duly rewarded.

9.2.1 ELIGIBILITY FOR PLACEMENTS

It is mandatory for a student to have a consistent academic track record which would be measured in terms of the Companies' requirement.

9.2.2 ALL ABOUT YOU

To facilitate the employer to have an insight into all the aspects of his prospective employees, the placement cell gives the database of students to the prospective employers.

9.3 NSS UNIT & COMMUNITY DEVELOPMENT

National Service Scheme (NSS) is a body under the Ministry of Youth Affairs and Sports. The NSS unit of KSRMCEis recognised by JNTUA from 2010-11. The aim of NSS is mainly centred on the personality development of the students through community service and programs. National Service Scheme is a centrally sponsored scheme.

9.3.1 THE CONCEPT OF NSS

The overall concept of NSS as envisaged earlier, is to give an extended dimension to the higher education system and orient the student youth to community service while they study in educational institutions. The reason for the formulation of this objective is the general realization that the colleges and the +2 level students have a tendency to get alienated from the villages/slum masses which constitute the majority of the population of the country. The educated youth who are expected to take the reins of administration in future are found to be unaware of the problems of the village/slum community and in certain cases are indifferent towards their needs and problems. Therefore it is necessary to arouse the social conscience of the students, and to provide them an opportunity to work with the people in the villages and slums.

9.3.2 THE PHILOSOPHY OF THE NSS

The NSS encourages the youth to develop a positive attitude towards the community and commitment to work for the upliftment of the weaker sections

and downtrodden people in the society . The NSS also creates a module to involve the students in the process of social development in the country by inculcating qualities such as social consciousness, service to the community and a sense of responsibility. It also facilitates Personality Development and self-confidence. This helps to contribute towards national integration, attaining perfection, creditability, stability and maturity. The NSS proves to groom the student into an active citizen, which brings about satisfaction to an individual and promotes peace in the community.

Community service rendered by NSS volunteers has covered several aspects like adoption of villages for intensive development work, carrying out medico-social service, setting up of medical centers, programs of mass immunization, sanitation drives, adult education programs for the weaker sections of the community, blood donation, helping patients in hospitals, helping inmates of orphanages and physically handicapped etc. The NSS volunteers did commendable relief work during natural calamities and emergencies such as cyclones, floods, famine, earthquake etc from time to time all over the country. They have also done useful work in organizing campaigns for eradication of social evils and popularization of objectives like nationalism, democracy, secularism, social harmony and development of scientific temper.

9.3.3 THE MOTTO OF THE NSS

The motto of NSS “not me but you” stands for two things

1. Forgetting and surrendering The Self and
2. Rendering selfless service to others

The word “not” before “me” is to reduce the self to enhance the importance of others. The abridged expression “not me but you” can be simply expanded as follows: I don’t live for me, but for you. The world is not only for me but for you also. The motto of NSS reminds us of the words of Swami Vivekananda “ not I but thou” which advises us to forget ourselves completely whatever we may be. According to the Swami the watchword of all moral good, is “not I but thou”.

9.3.4 CLASSIFICATION OF NSS PROGRAMME

NSS activities have been divided into two major groups. These are regular NSS activities and special camping programmes.

9.3.5 REGULAR NSS ACTIVITY

Under this students undertake various programs in the adopted villages, school campuses and urban slums during weekends or after college hours.

These activities are listed below

1. Orientation of NSS volunteers

2. Campus work
3. Natural calamities and national emergencies
4. National days and celebrations

9.3.6 SPECIAL CAMPAIGN PROGRAMME

Under this, camps of seven days duration are organized in adopted villages and urban slums during vacations with some specific projects by involving the local communities. 50 NSS volunteers are expected to participate in these camps.

9.3.7 HOW TO INVOLVE IN THE NSS ACTIVITIES

One should have a sense of nationalism and be a student of the college in which NSS unit exists. KSRMCE has an NSS unit for the benefit of the student community. One has to enrol with the NSS coordinator at the beginning of the academic year or as and when the dates for enrolment are announced.

9.4 WEBSITE

Our Websiteksrmce.ac.in is a mine of information. Provided in the most interactive manner, it helps in establishing a virtual family of students, faculty and parents.

10. STUDENT MATTERS

10.1 ADMISSION PROCEDURE

As per the state government rules 30% admissions will be filled up by the management. The Convener through EAMCET Counselling will fill up the rest of 70% Merit quota.

10.1.1 ELIGIBILITY

10.1.1.1 MANAGEMENT QUOTA

The candidates should have at least 50% in 10+2 Examination in Mathematics, Physics and Chemistry stream or 10+2 in vocational computer course.

10.1.1.2 MERIT QUOTA

The candidate should have minimum pass in 10+2 examination and should have qualified the EAMCET conducted by the state government.

10.1.2 FILLING IN THE FORM

The candidates allotted both by the Convener under merit quota or by the Management under the management quota shall approach the principal and take admission. The admitted candidates should fill in the prescribed Application forms in their own handwriting.

10.1.3 DOCUMENTS FOR ADMISSION

Candidates should submit their admission forms along with the allotment letter either issued by the convener or the management along with the one set photocopies of the following Certificates:

1. Transfer Certificate from the Institution where the Candidate last studied.
2. Date of Birth Certificate & SSC Memorandum of Marks.
3. Migration Certificate.
4. Bonafide Certificate for class I to XII.
5. Income Certificate of the parent/guardian (if necessary).
6. Nativity Certificate from Mandal Revenue Officer (if necessary).
7. Caste/Community Certificate from an officer, not below the rank of Mandal Revenue Officer (if necessary).

10.2 FEES

PARTICULARS	**EAMCET SEAT**
First Year and Second year	B.Tech fees: Rs. 56,700/-
Third Year and Fourth year	B.Tech fees: Rs. 85,000/-
First Year and Second year	M.Tech fees: Rs. 37,000/-
MANAGEMENT SEAT	
First Year	B.Tech fees: Rs. 1, 70,100/-
Second, Third Year and Fourth year	B.Tech fees: Rs. 85,000/-
Transportation Fee	As applicable

10.3 EXAMINATIONS

10.3.1 Award of B.Tech. Degree:

- Time Limit for completion of requirements for award of degree is eight academic years including gap-year from the date of admission. A student who could not complete all the requirements in this time limit shall forego admission and will be removed from the rolls of the Institute.
- A student shall be eligible for award of B. Tech degree provided she or he has:

1.Registered and successfully completed all required credit-bearing and mandatory subjects with a total of 160 credits

2.Secured a CGPA of 4.5 or more
3.Cleared all dues to the Institute, library and hostel
4.No disciplinary action is pending against her or him
5.Satisfied any other stipulation of the affiliating university

Award of Class: Each student will be given class in degree based on CGPA as follows:

Class of Degree	Range of CGPA
Pass Class	>= 4.5 but <5.5
Second Class	>= 5.5 but <6.5
First Class	>= 6.5 but <7.5
First Class with Distinction	>= 7.5

Requirements for the award of B.Tech degree:

i. Time limit for completion of requirements for award of degree is six academic years from the date of admission.
ii. Registered and successfully completed all required credit-bearing and mandatory subjects with a total of 121 credits. (third semester to eighth semester subjects)
iii. Honours/minors designation: shall earn extra 20 credits in addition to 121 credits.

10.3.2 Credits

All subjects that are assessed for marks have credits assigned to them. The credits assigned to subjects shall be given in curriculum. The total number of credits for entire course is 160 for all branches.

10.3.3 DISTRIBUTION AND WEIGHTAGE OF MARKS

Performance of students in all subjects is assessed continuously through assignments, internal assessment tests and an End examination.

Allocation of internal assessment and End examination marks

- For theory subjects, the allocation is 40 marks for internal assessment and 60 marks for End examination totalling100marks.
- For laboratory/drawing/projectworksubjects, the allocation is 40marks for internal assessment and 60 marks for End examination totalling 100 marks.
- For seminar/industrial training/internship subjects, the allocation is 100 marks for internal assessment. There is no end examination for these Subjects.
- For mandatory subjects the allocation is 40 marks for internal assessment and no allocation for End examination

Internal Assessment

Internal assessment means performance evaluation of students by faculty members who teach the subjects.

Guidelines:

a) Allocation: For theory subjects including mandatory subjects the total internal assessment marks is 40 of which 30 marks are assessed through midterm tests,5 marks by surprise or sudden quiz and 5 marks by assignments. The faculty members of the concerned subject will assess the marks in the midterm tests and assignments.

b) Midtermtests: Each midterm test will be of two hours duration and evaluated for 30 marks. Internal assessment marks for midterm tests will be calculated as weighted sum of the two midterm test marks, with 80%weight for the best and 20% weight for the other marks. Internal assessment marks for assignments is calculated as the average of all assignments. Total internal marks are the sum of midterm tests, surprise or sudden quiz and assignments assessment marks.

If any student abstains for any midterm test, she or he will be awarded zero marks for that midterm test. If any student fails to submit any assignment with in the specified deadline, she or he will be awarded zero marks for that assignment.

i**) Number and duration**: There shall be two midterm tests each with duration of two hours.

ii) Format of test and division of marks: Internal test shall consist of only descriptive part for 30 marks.

iii) Descriptive or Subjective part: Subjective parts hall contain three questions and all questions shall be answered. However, each question can have internal choice (either or type question).Generally, each question shall test one Course Outcome (CO).

iv) Syllabus: Each test shall cover 50% of the syllabus, approximately.

c) Assignments: The assignments shall aid and daily routine of students. Assignments shall be stimulating and thought provoking to the student. While some questions may test student's understanding of the subject, there shall be questions that imply connect to real world applications. A variety of questions can posed in assignments.

i) Number: A minimum of four assignments shall be given in each subject with one assignment from Unit Ito IV of syllabus of that subject.

ii) Quantum of work: An assignment shall take about four to six hours of study / work per week. Assignments shall not be overloaded nor under loaded. As a guideline, each assignment may contain five questions, each question taking an hour to answer.

iii) Marks: Each assignment must be evaluated for fifty marks. Final marks are obtained by averaging all the assignment marks and reducing it to five marks.

iv) Deadlines: Students shall be given at leastone-week time to complete and submit assignments. Assignments shall be submitted within deadline. Late submissions should be awarded zero marks.

v) General: It is advised to administer assignments using Google Classroom.

d) Quiz: The concerned faculty has to conduct 8 surprise quiz exams in the regular class itself. From each unit two quiz exams shall be conducted and each quiz is for 10marks.Out of 8quizzes 6 best quizzes shall be considered and average of 6 quizzes will be reduced to 5 marks. Each quiz can be fill in the blanks or single sentence definitions.

For laboratory/practical/drawing subjects, the internal assessment will be based on regular laboratory work over full semester. The assessment will be done by the faculty concerned. The students shall be informed sufficiently yearly of the procedure t o be followed for internal assessment.

For subjects like seminar, project-work, industrial training/internship, and comprehensive viva- voce,the internal assessment will be done by a Department Committee consisting of two senior faculty members and faculty guide of concerned student.The assessment procedure will be informed sufficiently yearly to the students.

i) Mandatory internships: University Guidelines shall apply.

ii) Evaluation of internships: Shall be evaluated through the departmental committee. A student will be required to submit a summer internship report to the concerned department and appear for an oral presentation before the department committee. The report and the oral presentation shall carry 40%and60%weightagesrespectively.

iii) Final Semester Internship: A student should mandatorily undergo internship (University Guidelines shall apply) and should work parallelly on a project. At the end of the semester the candidate shall submit an internship completion certificate and a project report. The project report shall be evaluated with an external examiner.

After the course work is over, the student is permitted to improve his/her internal marks of any 3 theory subjects in the entire course. However he/she will have to attend the course work.

End examinations

End examinations shall be conducted after completion of course work in each semester. End exams assessment is for 60 marks. The question paper contains 5 questions and all questions shall be answered. Each question have internal choice (either or type question).Each questioncarries12marks

- The question papers for theory subjects shall be set by faculty members outside of the Institute. The external faculty members for question paper setting shall be appointed by the Principal.
- Evaluation of answer scripts shall be done by either Internal or External examiners appointed by the Principal. A minimum of 50% of subjects will be evaluated by external examiners.
- For laboratory subjects, end examination shall be conducted by a committee consisting of two internal examiners. One examiner shall be appointed by Head of Department of concerned Major, and the other examiner shall be appointed by the Principal.
- For project work viva-voce, end examination s hall be conducted by a

committee consisting of one internal examiner, one external examiner, and the concerned guide of the student. Internal examiner shall be appointed by Head of Department of concerned Major, and the external examiner shall be appointed by the Principal.

- If a student abstains from End examination of any subject, for any reason, she or he shall be marked as "ABSENT" in that subject.
- There is no end examination for mandatory subjects.

10.3.4 ATTENDANCE REQUIREMENTS:

- A student is eligible to take regular End Examinations of current semester if she or he fulfils the attendance requirement.
- Astudentshallbepromotedfromcurrentsemestertosucceedingsemesteron satisfying the attendance and total credits-earned requirements.

Attendance Requirement

- Attendance of students shall be recorded for credit-bearing and Mandatory subjects as per the workload indicated in curriculum.

- Total class-periods conducted shall be reckoned from beginning to end of a semester as published in academic calendar.
- Aggregate Percentage of Attendance is calculated using total number ofclass-periodsattendedasnumeratorandtotalnumberofclass-periodsconductedfor the concerned semester as the denominator.
- A minimum aggregate attendance of 75% is required for promotion to succeeding semester and be eligible to take End examinations of currentsemester.Inaddition,studenthastoacquireaminimumof40%attendanceineachsubject.
- A student can appeal to the Principal for condoning deficiency in aggregate attendance if she or he gets an aggregate attendance of65% or more but less than the required 75%, presenting a valid reason for deficiency. Such a student will be granted promotion if the Principal pardons the deficiency. Principal has the right to reject the appeal if he/she is not satisfied with the performance of the student or the reason cited for deficiency of the attendance.
- A student earning less than 65% aggregate attendance will be denied promotion. A student who is not promoted on basis of attendance shall be removed from the rolls and shall register for the semester when opportunity arises. The current semester record of the student is cancelled automatically.

10.3.5 MINIMUM ACADEMIC REQUIREMENTS

- Time Limit for completion of requirements for award of degree is eight academic years including gap-year from the date of admission.

- A student who could not complete all the requirements in this time limit shall forego admission and will be removed from the rolls of the Institute.

- **A student shall be eligible for award of B. Tech degree provided she or he has**:

1. Registered and successfully completed all required credit-bearing and mandatory subjects with a total of 160 credits
2. Secured a CGPA of 4.5 or more
3. Cleared all dues to the Institute, library and hostel
4. No disciplinary action is pending against her or him
5. Satisfied any other stipulation of the affiliating university

10.3.6 COURSE PATTERN

i) The entire course of study is for four academic years. I, II, III and IV years on semester pattern.

ii) A student, eligible to appear for the end examination in a subject, but absent from it or has failed in the end semester examination, may write the exam in that subject during the period of supplementary exams.

iii) When a student is detained for lack of credits/shortage of attendance, he may be re-admitted into the next semester/year. However, the academic regulations under which he was first admitted shall continues to be applicable to him.

10.3.7 AWARD OF CLASS:

Award of Class: Each student will be given class in degree based on CGPA as follows:

Class of Degree	Range of CGPA
Pass Class	>= 4.5 but <5.5
Second Class	>= 5.5 but <6.5
First Class	>= 6.5 but <7.5
First Class with Distinction	>= 7.5

10.3.8 MINIMUM INSTRUCTION DAYS:

i. The minimum instruction days for each semester shall be 90 clear instruction days.

ii.There shall be no branch transfers after the completion of admission process.

iii.There shall be no place transfer within the Constituent Colleges and Units of JNTUA.

10.3.9 ACADEMIC REGULATIONS FOR B. TECH. (LATERAL ENTRY SCHEME)

1. The Students have to acquire 122 credits from II to IV year of B.Tech. Program (Regular) for the award of the degree.

2. The attendance regulations of B. Tech. (Regular) shall be applicable to B.Tech. (LES).

10.3.10 PROMOTION RULE:

After a student has satisfied the requirement prescribed for the completion of the program and is eligible for the award of B. Tech. Degree, he shall be placed in one of the following four classes:
The marks obtained in the internal evaluation and the end semester examination shall be shown separately in the marks memorandum.

All the other regulations as applicable to **B. Tech. 4-year degree course (Regular) will hold good forB. Tech. (Lateral Entry Scheme)**.

10.4 ISSUE OF DOCUMENTS

10.4.1 BUS PASSES AND BONAFIDES

Students are required to submit their applications for bus passes and bonafides before 12:30 PM in the office and collect the certificates on the same day after 3:30 PM. This work has to be done only during a free period. Students having at least 75% of attendance are eligible to take new bus passes / renewal of bus passes.

10.4.2 ORIGINALS

The original certificates and memoranda of marks submitted by the student will not be returned during the study period. They can be issued to the student for valid reasons against a deposit of Rs 50, 000 or the remaining fee, whichever is higher, after seeking approval from the Director. Students should submit an application to the principal requesting for the same. The documents have to be returned to the college at the earliest and the security deposit can be taken back (Not Applicable for Fee Reimbursement students).

10.4.3 MEMORANDUM OF MARKS

The Memorandum of Marks can be collected from the examination cell of the Institute, during the specified hours.

10.5 SCHOLARSHIPS

All the SC, ST, BC, EBC Physically Challenged and Minority students can apply for scholarships through online, subject to fulfillment of annual income criteria. Fresh applications for scholarships have to be submitted at the Institute.

The documents to be enclosed with the application are:

1. Aadhaar Card
2. Caste & Income certificates issued by the MRO
3. Photocopies of SSC, Intermediate marks memo
4. Transfer certificate
5. Photocopy of parents' Electoral Card
6. Photocopy of parents' Ration Card
7. Photocopy of Counselling Allotment Order.
8. Bonafide Certificate (Annexure-1)

The following are the rules and regulations pertaining to scholarships:

1. Candidates seeking fee exemption have to submit their application form within the stipulated time; or they will not be eligible for exemption.
2. Students with less than 75% attendance are not eligible for maintenance allowance.
3. Students applying for scholarships have to open a savings bank account in any branch of Andhra Bank before submitting the application form.
4. The renewal of scholarships will be recommended to the authorities concerned only if the candidate secures 75% attendance and gets promoted to the next class/semester.
   Online websites :
   www.epass.cgg.gov.in for SC, ST, BC & EBC & PH.
   www. sbms2.ap.gov.in for SC/ST/BC and Physically Challenged students
   www.apsmfc.com for Minority students.

NOTE:

a) On scrutiny, if any student is found producing wrong evidence or information he/she will be rusticated from the college.
b) Candidates admitted under **Management Quota are not eligible** for fee reimbursement.

10.6 CHANGE OF ADDRESS

In case of change in permanent/contact address, students are required to incorporate the same in the registration cards to be filled by them at the beginning of every semester. If there is a change in the middle of any semester, students can forward an application for change of address to the college office through the Assistant Registrar.

10.7 TRANSFER OF ADMISSIONS

10.7.1 FROM COLLEGE TO COLLEGE

The transfer of admissions from one college to another college will be allowed only for the students of second year who have health problems.

The students who want to transfer their admissions from one college to another college shall submit their applications to the Commissioner, Technical Education Government of Andhra Pradesh, Near Secretariat, along with the following documents.

1. No objection certificate from both the colleges.
2. Medical certificate from Civil Assistant Surgeon working in government hospitals.
3. Requisition letter from the candidate.

10.7.2 FROM BRANCH TO BRANCH

As per the JNTUA Rules, the transfer of admission from branch to branch is not allowed from second year onwards.

11. STUDENT ACTIVITIES

11.1 STUDENTS' COUNCIL

A Students' council has been formed to create a perfect link between the students and the administration, the students and the faculty, the students and the community, and among the students themselves. The council aims to help students share ideas, interests, and concerns with the teachers and the Director. Being on the Students' Council will help students become responsible and active members of the Institute. A student should have cleared all subjects to be eligible for nomination on the council. A senior faculty member will be nominated as staff advisor by the Director.

The constitution of the Student's council would be as follows :

1) Class representatives (CR) – Class Toppers from all classes in the immediate past University examination to be nominated to the Students' Council as CRs.
2) One cultural representative (CuR), one sports representative (SR), two ladies' representatives (LR) and one NSS representative to be nominated by the Director.
3) Secretary – Students' Council – to be elected by secret ballot from amongst all CRs SRs, LRs &CuR.
4) HOD Nominees: A nominee by the HOD of every department.

11.2 NEWS LETTER

The college Newsletter "Tarang" records the events and also encourages the creative streak in the students. The purpose of the Newsletter is to make the

students aware of all the activities and developments (academic) taking place in the college. The names of Academic Toppers are published in "Tarang" to boost the morale of the students. Articles, sketches, puzzles etc contributed by the students are published in the Newsletter. "Tarang" records and consolidates the plethora of events and activities of KSRMCE.

11.3 ALUMNI ASSOCIATION

Our alumni are well placed in diverse fields and employed with many top-notch corporate. Their success has served to further strengthen their roots in KSRMCE. They are today our ambassadors in the corporate world, benefiting both fellow alumni members and current students. The Alumni association provides an opportunity for alumni and friends to stay connected with their almamater through communications, programs and services that foster a lifetime relationship with the institution. In return, the college gains from their valued inputs to update their teaching methodologies, subjects, research trends, and even provide employment opportunities and career counselling for freshers.

12. STUDENT CLUBS

The KSRMCE ethos believes that true education can be accomplished not through imposition but through aspiration. Nothing can accomplish this better than club activities that are 'by the students, of the students and for the students'.

12.1 LITERARY CLUB

The literary club organizes activities like debate, elocution, essay writing, and general quiz, during the academic year. Competitions are organized on special days like Independence Day, Engineers' Day, and the Annual Day. Students with talent and inclination are motivated to participate. The club also provides a forum for developing communication skills, and cultivates a creative outlook in students.

12.2 CULTURAL CLUB

Under the umbrella of the cultural club, students are encouraged to organize dramatics, music, painting, singing & dance competitions, etc. These activities tap the creativity of students and go a long way in making them successful as creative professionals. Such activities hone their personalities and allow them to be in sync with other aspects of their being.

12.3 NATURE CLUB

This club promises to rediscover man as part of the wonderful creation called Nature. Students here are involved in photo exhibitions, nature protection activities and awareness-building programs on sustainable development.

12.4 PROFESSIONAL CLUBS

This club is a reflection of new ideas and technologies. It shares the latest information on emerging trends, events and personalities involved in designing and working of technologies. In order to encourage involvement in technical activities and enhance professional competence among budding engineers, the college has instituted a number of student chapters of national and international professional bodies. Some of these are:

1. Institution of Electrical & Electronics Engineers (IEEE)
2. Institution of Electrical & Electronics Engineers (IEEE) - Computer Society
3. Institution of Electronics and Telecommunication Engineers (IETE)
4. Computer Society of India (CSI)
5. The Indian Society for Technical Education (ISTE)

13. Profile Building

13.1 Goal setting at First – year

- Completing all subjects without backlogs
- Gaining good percentage
- Improve Aptitude and communication skills

13.2 Goal setting at Second – year

- Clearing all subjects with good percentage
- Acquiring industry requirement skills
- Learning beyond the curriculum
- Doing basic projects

13.3 Goal setting at Third – year

- Registering for various certification courses
- Working with industry internships
- Grooming yourself for industry requirements

13.4 Goal setting at Fourth – year

- Preparing for competitive exams/ higher education
- Acquiring a good job in leading industries with appropriate package.
- Completing a project which caters industry needs

14. Last Year Achievements

14.1 Student achievements

- Nearly 400 placements are secured
- Got 8 student awards
- 20 merit awards

14.2 Faculty achievements

- More than 50 publications in reputed journals
- 10 faculty members obtained PhD degrees
- Some faculty members are appointed as editors of peer reviewed journals

14.3 College achievements

- Extended Autonomy status for 6 years from UGC
- Achieved best rank in Nirf Ranking
- Signed MOUS with top industries for internships and placements