K. J. SOMAIYA INSTITUTE OF ENGINEERING

AND

INFORMATION TECHNOLOGY

SION, MUMBAI - 400 022

2. DEPARTMENTS

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2.1   DEPARTMENT OF ELECTRONICS AND TELECOMMUNICATION ENGINEERING

Electronics and Telecommunication Engineering department started in the year 2001 with the intake of 60. In 2003 department intake increased to120 and continues to remane the same.

The Department of Electronics and Telecommunication Engineering has well qualified and highly motivatedted faculty supported by dedicated non teaching staff members. The department committed to impart excellent teaching-learning, training and research in the field of technical education in most efficient manner to its students. The department believes in innovation & perfection and works to give an engineering attitude to the students for their confidence building so as to solve technical problems.

2.1.1   VISION :

To provide excellent academic environment that helps students to develop their technical knowledge and learning skills to become successful engineers.

2.1.2   MISSION :

To achieve the Vision of the department following Mission statements aredefined.

M1: To offer required training in Electronics and Telecommunication Engineering to groom students into successful professionals.

M2: To instil the skills that enable students to design and implement the technical solutions.

M3: To inculcate ethical behavior in students.

2.1.3   PROGRAM EDUCATIONAL OBJECTIVES (PEOs):

PEO1: To train learners to analyse and apply the engineering fundamentals to formulate solutions by using appropriate engineering techniques and tools.

PEO2: To make the learners aware of professional practices in Electronics and Telecommunication engineering sector, scientific research and career.

PEO3: To apply the knowledge of Electronics and Telecommunication Engineering to solve societal and environmental problems.

PEO4: To develop the necessary professional skills of learner along with effective

oral and written communication skills.

2.1.5 PROGRAM SPECIFIC OBJECTIVES (PSOs) :

The graduates of this program will be able to:

PSO_1 To demonstrate and contrive archetype the principles of electronics and telecommunication engineering which can be instrumental in addressing engineering problems.

PSO_2 Design, simulate and analyze software models that lead to the development of solution prototypes.

2.2 DEPARTMENT OF ELECTRONICS ENGINEERING

The department of Electronics Engineering is a harmonious group of many enthusiastic and dedicated minds, having vibrant atmosphere in the department. Students are encouraged to participate in co-curricular and extra-curricular activities. The department facilitates educational experience through industry institute interaction, and integration of theory and practice.

2.2.1 VISION :

To be a place of academic excellence by imparting quality teaching in the field of Electronics Engineering, creating competent and skilled graduates.

2.2.2 MISSION :

M1: To offer excellent teaching and the required resources needed to acquire cutting edge professional skills.

M2: To encourage innovative practices and multidisciplinary interaction through academic and industry exposure.

M3: To impart training to the learners to prepare the students for leading a successful professional life.

2.2.3 PROGRAM EDUCATIONAL OBJECTIVES (PEOs):

1. The necessary skills needed to design and develop and hardware and software solutions applicable in real life situations.

2. The analytical skills, written and oral communication skills, critical thinking and problem-solving abilities needed for personal growth.

3. Professionalism, team skills and the desire to engage in lifelong learning.

2.2.5   PROGRAM SPECIFIC OBJECTIVES (PSOs) :

The graduates of this program will be able to:

PSO_1: Design, test equipments and arrive at cost effective and appropriate solutions to problems.
PSO_2: Use software for design, simulation and analysis of systems.

2.3   DEPARTMENT OF COMPUTER ENGINEERING

The Computer Engineering department provides excellent education to all students which foster creativity in learning, research and building a knowledge base by imparting quality education. The department has well qualified and motivated faculty members and support staff. The laboratories are adequately equipped with state-of-the art facilities.

2.2.1   VISION :

To be an excellent centre of learning, by imparting quality teaching in the field of computer engineering and to create dynamic young engineers.

2.2.2   MISSION :

M1: To prepare students to be ready for the constantly changing scenario in the field of computer engineering.

M2: To inculcate in the students the ability to analyse, design and develop software projects and work in a multidisciplinary environment.

M3: To mould students into responsible and principled citizens who will utilize their potential for the need of society and industry.

2.2.3   PROGRAM EDUCATIONAL OBJECTIVES (PEOs):

PEO I: To prepare the students with sound knowledge of computer engineering fundamentals to build a lifelong career in computer engineering domains.
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PEO II: To train the students to design and develop software projects for solving real world problems with the use of modern tools and techniques.

PEO III: To inculcate professional ethics, leadership qualities and social awareness in the students.

2.2.5   PROGRAM SPECIFIC OBJECTIVES (PSOs) :

The Computer Engineering graduates will be able to:

1. Use computer engineering technique and open source software tools.
2. Work on real time social and industry based projects.

2.4   DEPARTMENT OF INFORMATION TECHNOLOGY

Department of Information Technology imparts the quality based technical education in the IT field with constant value addition in the frontiers of Computer and Information Science. The strength of the department is the students and the faculty of good caliber.

2.4.1   VISION :

To educate students to be among the best in the challenging world of Information Technology and to also groom future leaders for industry, academia, government and society.

2.4.2   MISSION :

1. To groom competent engineers ready to face the challenges of the dynamic IT industry.
2. To enable students to analyse, design and implement novel IT solutions to engineering problems.
3. To instil professional ethics and social awareness in the students.

2.4.3   PROGRAM EDUCATIONAL OBJECTIVES (PEOs):

1. To provide students with the technical knowledge to build a lifelong career in IT domain.
2. To develop research, analysis, design and implementation skills in the students.
3. To impart professional, social and ethical values which enable them to work effectively in a multidisciplinary environment.

2.4.5   PROGRAM SPECIFIC OBJECTIVES (PSOs) :

The graduates of this program will be able to:

1. Develop various applications using open source software.

2. Analyze and implement Web based technology and create IT infrastructure.

2.5   DEPARTMENT OF BASIC SCIENCES AND HUMANITIES

The department of Basic Sciences and Humanities endeavors to accomplish the objectives concerned with the Engineering courses. The teaching learning process is instrumental in instilling sense of formal acknowledgement and generative powers of information so as to respond to the requirements of transactional commercial culture.

2.6   DEPARTMENT ADVISORY BOARD

Department Advisory Board (DAB) is constituted for each department. It consists of Head of the Department, Industry representatives, Parent representative, Alumni representative and two senior faculty members of the department. Meeting of DAB is conducted before the commencement of every semester. DAB members are given information on plans of the department and are invited to respond with advice that will help the department in accomplishing the PEOs and POs. DAB acts as the primary source of external guidance for the department and provides advice, assistance and counselling for improvement.

2.7   DEPARTMENT QUALITY CIRCLE

The Departmental Quality Circle (DQC) meeting is held before the beginning of semester to chart out the different activities to be conducted during the course of the semester. DQC is headed by Head of the Department with 5-6 teachers as members. DQC ensures timely, efficient and progressive performance of academic tasks of the department. DQC finalises the academic calendar of the department, suggests and implements ideas that help in positive growth of the department.

2.8   PROGRAM ASSESSMENT COMMITTEE

The Program Assessment Committee (PAC) is formed under the leadership of Head of the Department. One senior faculty acts an academic co-ordinator and class-teachers are the other members of PAC. It monitors and evaluates the programme delivery. It also prepares periodic progress reports. Monthly monitoring reports regarding syllabus completion are collected and

corrective actions are devised in HOD meetings.

2.9 DEPARTMENT PROGRAM OUTCOMES (PO) :

The graduates of this program will be able to:

1. **Engineering knowledge:** Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.
2. **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.
3. **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.
4. **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.
5. **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.
6. **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.
7. **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.
8. **Ethics:** Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.
9. **Individual and team work:** Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.
10. **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.
11. **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.
12. **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.