



Savitribai Phule Shikshan Prasarak Mandal's  
**SKN SINHGAD COLLEGE OF ENGINEERING**

(Approved by AICTE, Recognized by DTE (MS) &  
Affiliated to Punyashlok Ahilyadevi Holkar Solapur University, Solapur)

Accredited 'A' Grade by NAAC

DTE Code : EN-6643

**Prof. M. N. Navale**  
M. E. (Elect.), MIE(I), MBA  
PRESIDENT

**Mr. Rohit M. Navale**  
M. E. (Mech.)  
GENERAL SECRETARY

**Dr. K. J. Karande**  
M. Tech. Ph. D. (E&TC)  
PRINCIPAL

Outward No. : SKNSCOE /

Date :

**Program Educational Objectives (PEOs), Program Outcomes (POs)  
and Program Specific Outcomes (PSOs) of the Under Graduate  
Courses**

**Institute has following Under Graduate courses:**

1. Computer Science and Engineering
2. Mechanical Engineering
3. Civil Engineering
4. Electronics and Telecommunication Engineering
5. Electrical Engineering

Following are the Program Educational Objectives (PEOs), Program Outcomes (POs) and Program Specific Outcomes (PSOs) of the Under Graduate courses.

**COMPUTER SCIENCE & ENGINEERING**


**A. Program Educational Objectives:**

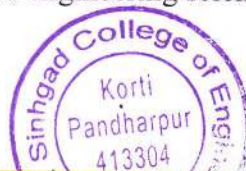
1. Graduate will exhibit strong fundamental knowledge and technical skills in the field of Computer Science & Engineering to pursue successful professional career, higher studies and research.
2. Graduate will exhibit capabilities to understand and resolve various societal issues through their problem solving skills.
3. Graduate will be sensitive to ethical, societal and environmental issues as a software engineering professional and be committed to life-long learning.


**B. Program Outcomes:**

Engineering Graduate 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.

  
IQAC Coördinator  
**Dr. A. O. Mulani**



  
Principal  
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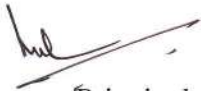
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3. Design/development of solutions: Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, 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.

  
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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.

**C. Program Specific Outcomes (PSOs):**

1. Apply the principles of computational mathematics, computer systems and programming paradigms to solve computational problems.
2. Design and develop application software with functionalities applicable for desktop, web and mobile applications with due consideration of system software constraints.
3. Apply software engineering methods, cutting edge technologies and ICT, using appropriate tools and FOSS alternatives for designing, developing & testing application software.

**University Link for reference:**

[http://su.digitaluniversity.ac/WebFiles/TY%20BTech%20\(CSE\)%2003072020.pdf](http://su.digitaluniversity.ac/WebFiles/TY%20BTech%20(CSE)%2003072020.pdf)

  
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## MECHANICAL ENGINEERING

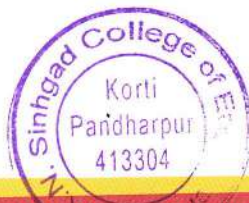
### A. Program Educational Objectives (PEOs):


1. Graduate will excel in professional career in Mechanical and allied interdisciplinary areas.
2. Graduate will exhibit strong fundamentals required to pursue higher education and continue professional development in Mechanical and other fields.
3. Graduate will adhere to professional ethics; develop team spirit and effective communication skills to be successful leaders with a holistic approach.
4. Graduate will be sensitive to ethical, societal and environmental issues while serving at their professional work.

### B. Program Outcomes:

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.

  
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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.

**C. Program Specific Outcomes:**


1. Graduate will be able to design and develop mechanical equipments, devices and contrivances that would be able to serve the society in a sustainable manner.
2. Graduate will be able to handle the problems associated with manufacturing of goods using latest technology and tools while ensuring productivity, quality and economy.
3. Graduate will be able to analyze complex problems related to IC engines, RAC equipments, Turbo Machines for improvement of performance.

**University Link for reference:**

<http://su.digitaluniversity.ac/WebFiles/TY%20BTech%20Mechanical%20Syllabus%2029102020.pdf>

  
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## CIVIL ENGINEERING

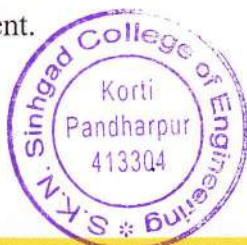
### A. Program Educational Objectives (PEOs):


1. Practice civil engineering in construction industry, public sector undertaking or as an entrepreneur for successful professional career.
2. Pursue higher education for professional development.
3. Exhibit leadership qualities with demonstrable attributes in lifelong learning to contribute to the societal needs.

### B. Program Outcomes:

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.
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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.

**C. Program Specific Outcomes:**

1. Graduates will be able to survey, conduct geo-technical investigations, plan, analyze, design, estimate and construct residences, public buildings, industrial buildings, townships and infrastructural projects by adopting appropriate construction methods.
2. Graduates will analyze and design the water resources systems, municipal and industrial waste treatment plants with due consideration to pollution free environment.
3. Graduates will use appropriate application software, develop skills necessary for professional practice as a Civil Engineer and prepare themselves for competitive examinations for higher education & for public service commissions.

**University Link for reference:**

<http://su.digitaluniversity.ac/WebFiles/SY%20BTech%20Civil%20Engg%20%20Syllabus%20%20wef%202019-20.pdf>

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**ELECTRONICS & TELECOMMUNICATION ENGINEERING**

**A. Program Educational Objectives (PEOs):**


1. To make students competent for professional career in Electronics & allied fields.
1. To build strong fundamental knowledge amongst student to pursue higher education and continue professional development in Electronics & other fields
2. To imbibe professional ethics, develop team spirit and effective communication skills to be successful leaders and managers with a holistic approach.
3. To nurture students to be sensitive to ethical, societal & environmental issues while conducting their professional work.

**B. Program Outcomes:**

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.
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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.

**C. Program Specific Outcomes:**


1. Graduates will be able to attain a solid foundation in Electronics and Communication Engineering with an ability to function in multidisciplinary environment.
2. Graduates will be able to use techniques and skills to design, analyze, synthesize, and simulate Electronics and Communication Engineering components and systems.
3. Graduate will be capable of developing programs in Assembly, High level and HDL languages using contemporary tools for software development.

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<http://su.digitaluniversity.ac/WebFiles/TY%20BTech%20ETC%20%2003072020.pdf>

  
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## ELECTRICAL ENGINEERING

### A. Program Educational Objectives (PEOs):


1. To develop an ability to understand the basic concepts of fundamental laws in electrical circuits and their applications in the working principle of electrical apparatus.
2. To introduce students about the power generation, transmission, distribution and utilization of electrical energy and their controls.
3. To develop an application oriented understanding amongst the students about electrical energy utilization.
4. To develop an analytical skills amongst the students about electrical systems used in power sector and various industries

### B. Program Outcomes:

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