

# DEPARTMENT OF CIVIL ENGINEERING

## Attainment of Programme outcomes

POs	Observations
<p><b>PO1:</b> Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.</p>	
<b>PO1</b>	<p>Civil engineering curriculum requires the strong foundation of theoretical and practical knowledge of basic science and mathematics, which the students study in their first year, but student's lags in correlating the theoretical concepts with applications. Also Lateral entry Students are not exposed to mathematical basic fundamental in those subjects.</p>
<p><b>ACTION</b> We inspire students to participate in technical events (model making) and other related events where their basic knowledge should convert to application matching with defined level of their standards. For this a platform known as Do it Yourself (DIY) has been set up for giving exposure to students regarding practical approach.</p>	
<p><b>PO2:</b> Identify, formulate, review research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.</p>	
<b>PO2</b>	<p>The problem solving and analyzing skills gained through first and second year courses helps the students to apply in real time application.</p>
<p><b>ACTION</b> Students are encouraged to observe, their homes and surroundings to gain insight into real life engineering problems and think of possible approaches/solutions to these problems. Also students are encouraged to work on some real life engineering problems/ case studies in their first year to analyze complex engineering problems. Gained knowledge on complex engineering problems and solution on visiting industries.</p>	
<p><b>PO3:</b> 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.</p>	
<b>PO3</b>	<p>Some of the projects developed by the student as hobby projects/major projects (final year) are not fully considering the social and environmental issues.</p>
<p><b>ACTION</b> Environmental awareness Programs conducted for Practical approach of environmental issues in society. More design classes to be taught in tutorial classes. Students are motivated to include all standard parameters and constraints according to National and International safety norms and to address environmental concerns.</p>	
<p><b>PO4:</b> 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.</p>	
<b>PO4</b>	<p>It is observed that most of the project abstract and literature survey are addressing the</p>

	research based approach but does not end with valid conclusions
<b>ACTION</b> Academic workshops are coming into picture to apply more knowledge in terms of conduction of experiments and analysis of results at required level.	
<b>PO5:</b> 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.	
<b>PO5</b>	It is observed that Up-gradations of tools and resources are necessary to meet the industry standards and research
<b>ACTIONS</b> 1. Technical talk on challenges in construction is conducted for the professional development. 2. Practical approach of teaching design to be adapted. 3. More problems will be given for practice Modern labs are developed to demonstrate the use of Modern tools like MATLAB, Arduino, Lab View, Cadence etc. to specify fulfillment of requirement in engineering applications in new industrial era.	
<b>PO6:</b> <b>The engineer and society:</b> 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.	
<b>PO6</b>	The courses of Civil Engineering are addressing the needs of, health, safety and social concerns regarding engineering practices in real life.
<b>ACTIONS</b> To understand the safety concerns and social aspects, students visited industry to expand their practical knowledge with the effect of improved practices in engineering.	
<b>PO7:</b> <b>Environment and sustainability:</b> Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.	
<b>PO7</b>	The issues of global and environmental awareness among the student should be improved.
<b>ACTION:</b> Students are encouraged to indulge in projects, in which global and environmental issues are improved, with respect to consumption of energy and utilization of renewable energy resources.	
<b>PO8:</b> <b>Ethics:</b> Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.	
<b>PO8</b>	The students are doing better in improving the overall expertise in field of engineering but due to lack of communications and other ethical moral knowledge, some are lagging in real

	life situations.
<b>ACTION:</b> Career readiness program, corporate lectures and motivational talks are arranged to overcome the above observations	
<b>PO9:</b> <b>Individual and team work:</b> Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.	
<b>PO9</b>	The students are not able to work as individual as well as in team.
<b>ACTION</b> Institute has initiated Program which provides a platform to work in individual as well as a group in the fields of Engineering helps the students to groom the skills like leadership, effective team member.	
<b>PO10:</b> <b>Communication:</b> 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.	
<b>PO10</b>	The communication, presentation and report writing skills are to be further improved among the students.
<b>ACTION</b> Soft skills training is imparted to students to enhance various aspects of communication/technical talks by group discussions, presentations and new learning outcomes.	
<b>PO11</b> <b>Project management and finance:</b> 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.	
<b>PO11</b>	Few courses of curriculum give knowledge of Management principle and applying managerial principles to his/her work including financial implications and to manage the project in multidisciplinary environments.
<b>ACTION</b> The awareness created among the student regarding the management principles and managing projects.	
<b>PO12:</b> <b>Life-long learning:</b> 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.	

<b>PO12</b>	The pre final year and final year courses of the program are demonstrating the resource for contemporary issues and lifelong learning.
<b>ACTION</b> Using ICT facilities, such as PPTs, live demonstration of topic imparted using video lecture. Lecture content includes new technological developmental tools and knowledge of new Products.	