

| PO No | PROGRAM OUTPUTS (PO) AND SUBCOMPONENTS  | EDUCATIONAL OBJECTIVES (EO)   |
|-------|---|---|
| PO1   | Sufficient knowledge in mathematics, science and subjects specific to Civil Engineering; ability to use theoretical and practical knowledge in these areas to solve complex engineering problems.   |   |
|       | PO1.1. Ability to acquire sufficient theoretical knowledge in mathematics subjects.   | EO1.2, EO4.1, EO4.2   |
|       | PO1.2. Ability to acquire sufficient theoretical knowledge in science subjects.   | EO1.2, EO4.1, EO4.2   |
|       | PO1.3. Ability to acquire sufficient theoretical knowledge in Civil Engineering subjects.   | EO1.1, EO1.2, EO1.3, EO 2.2, EO3.1, EO3.2, EO4.1, EO4.2               |
|       | PO1.4. Ability to apply theoretical and practical knowledge in mathematics, science and civil engineering to model and solve engineering problems.  | EO1.1, EO1.2, EO1.3, EO3.1, EO3.2, EO4.1, EO4.2                       |
| PO2   | Ability to identify, formulate and solve complex Civil Engineering problems; ability to select and apply appropriate analysis and modeling methods for this purpose.  |   |
|       | PO2.1. Ability to identify, formulate and solve complex Civil Engineering problems.   | EO1.2, EO1.3, EO 2.2, EO3.1, EO3.2, EO4.1, EO4.2                      |
|       | PO2.2. Ability to select and apply analysis and modeling methods suitable for Civil Engineering Problems.   | EO1.2, EO1.3, EO4.1, EO4.2  |
| PO3   | Ability to design a complex system, process, device or product to meet specific requirements under realistic constraints and conditions; the ability to apply modern design methods for this purpose.   |   |
|       | PO3.1. Ability to design a complex system, process, device or product to meet specific requirements under realistic constraints and conditions.   | EO1.2, EO1.3, EO3.1, EO3.2, EO4.1, EO4.2                              |
|       | PO3.2. Ability to apply modern design methods to system, process, device or product design.   | EO1.2, EO3.1, EO3.2, EO4.1, EO4.2                                     |
| PO4   | Ability to select and use modern techniques and tools necessary for the analysis and solution of complex problems encountered in Civil Engineering applications; ability to use information technologies effectively.   |   |
|       | PO4.1. Ability to select and use modern techniques and tools required for the analysis and solution of complex problems encountered in Civil Engineering applications.  | EO1.1, EO1.2, EO1.3, EO 2.2, EO3.1, EO3.2, EO4.1, EO4.2               |
|       | PO4.2. Ability to use information technologies effectively.   | EO1.1, EO1.2, EO1.3, EO2.1, EO 2.2, EO3.3, EO4.1, EO4.2               |
| PO5   | An ability to design experiments, conduct experiments, collect data, analyze and interpret results for the study of complex Civil Engineering problems or discipline-specific research topics.  |   |
|       | PO5.1. An ability to design, conduct experiments, and collect data for the study of complex Civil Engineering problems or discipline-specific research topics.  | EO1.2, EO1.3, EO3.1, EO3.2, EO4.1, EO4.2                              |
|       | PO5.2. Ability to analyze and interpret the results of experiments.   | EO1.2, EO1.3, EO3.1, EO3.2, EO4.1, EO4.2                              |
| PO6   | Ability to work effectively in disciplinary and multidisciplinary teams; ability to work individually.  |   |
|       | PO6.1. Ability to work effectively in disciplinary teams.   | EO1.1, EO1.2, EO 2.2, EO3.3   |
|       | PO6.2. Ability to work effectively in multidisciplinary teams.  | EO1.1, EO1.2, EO1.3, EO 2.2, EO3.3                                    |
|       | PO6.3. Ability to work individually.  | EO1.2, EO2.1, EO4.1, EO4.2  |
| PO7   | Ability to communicate effectively both orally and in writing; knowledge of at least one foreign language; Ability to write effective reports and understand written reports, to prepare design and production reports, to make effective presentations, to give and receive clear and understandable instructions. |   |
|       | PO7.1. Ability to communicate effectively both verbally and in writing.   | EO1.1, EO1.2, EO1.3, EO2.1, EO 2.2, EO3.3, EO4.1, EO4.2               |
|       | PO7.2. Ability to acquire knowledge of at least one foreign language.   | EO 2.2, EO3.3, EO4.1  |
|       | PO7.3. Ability to write effective reports and understand written reports, to prepare design and production reports.   | EO1.1, EO1.2, EO1.3, EO2.1, EO 2.2, EO3.1, EO3.2, EO3.3, EO4.1, EO4.2 |
|       | PO7.4. Ability to present effectively, to give and receive clear and understandable instructions.   | EO1.1, EO1.2, EO1.3, EO2.1, EO 2.2, EO3.3, EO4.1, EO4.2               |
| PO8   | Awareness of the necessity of lifelong learning; the ability to access information, to follow developments in science and technology, and to constantly renew oneself.  |   |
|       | PO8.1. Awareness of the necessity of lifelong learning.   | EO1.1, EO1.2, EO1.3, EO2.1, EO 2.2, EO3.1, EO3.2, EO3.3, EO4.1, EO4.2 |
|       | PO8.2. Ability to access information, to follow developments in science and technology, and to constantly renew oneself.  | EO1.1, EO1.2, EO1.3, EO2.1, EO 2.2, EO3.1, EO3.2, EO3.3, EO4.1, EO4.2 |
| PO9   | Knowledge of ethical principles, professional and ethical responsibility, and standards used in engineering practices.  |   |
|       | PO9.1. Acting in accordance with ethical principles, professional and ethical responsibility.   | EO1.1, EO1.2, EO1.3, EO2.1, EO 2.2, EO3.1, EO3.2, EO3.3, EO4.1, EO4.2 |
|       | PO9.2. Knowledge of standards used in engineering applications.   | EO1.1, EO1.2, EO1.3, EO 2.2, EO3.1, EO3.2, EO4.1, EO4.2               |
| PO10  | Knowledge of business practices such as project management, risk management and change management; awareness about entrepreneurship and innovation; information on sustainable development.   |   |
|       | PO10.1. Knowledge of business practices such as project management, risk management, and change management.   | EO1.1, EO1.2, EO1.3, EO2.1, EO 2.2, EO3.1, EO3.2, EO3.3               |
|       | PO10.2. Awareness about entrepreneurship, innovation; knowledge about sustainable development.  | EO1.1, EO1.3, EO2.1, EO 2.2, EO3.1, EO3.2, EO3.3                      |
| PO11  | Knowledge about the effects of Civil Engineering applications on health, environment and safety in universal and social dimensions and the problems of the age reflected in the field of engineering; Awareness of the legal consequences of engineering solutions.   |   |
|       | PO11.1. Knowledge about the effects of Civil Engineering applications on health, environment and safety in universal and social dimensions and the problems of the age reflected in the field of engineering.   | EO1.1, EO1.2, EO1.3, EO2.1, EO 2.2, EO3.3, EO4.1, EO4.2               |
|       | PO11.2. Awareness of the legal consequences of engineering solutions.   | EO1.1, EO1.2, EO1.3, EO2.1, EO 2.2, EO3.1, EO3.2, EO3.3               |