

## Course Outcomes:

### After completion of this course, students will be able to:

- C6EE4-21.1** Evaluate the various parameter of a power system network (min 3 bus) using different load flow techniques.
- C6EE4-21.2** Investigate the transient stability of power system network (min 3 bus).
- C6EE4-21.3** Find optimal power flow with the help of analytical and iterative methods.
- C6EE4-21.4** Design a power system network (min 3 bus) and analyze the severity of various types of faults.
- C6EE4-21.5** Analyze the necessity of limits of voltage and overload in power system and perform the voltage and overload security analysis of power system network

### Mapping Matrix of CO's and PO's

COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO 1	PSO 2
<b>C6EE4-02.1:</b>	<b>3</b>	<b>3</b>	<b>2</b>	<b>2</b>	-	-	-	-	-	-	-	-	<b>3</b>	<b>2</b>
<b>C6EE4-02.2:</b>	<b>3</b>	<b>3</b>	<b>2</b>	<b>2</b>	-	-	-	-	-	-	-	-	<b>3</b>	<b>2</b>
<b>C6EE4-02.3:</b>	<b>3</b>	<b>3</b>	<b>2</b>	<b>2</b>	-	-	-	-	-	-	-	-	<b>3</b>	<b>2</b>
<b>C6EE4-02.4:</b>	<b>3</b>	<b>3</b>	<b>2</b>	<b>2</b>	-	-	-	-	-	-	-	-	<b>3</b>	<b>2</b>
<b>C6EE4-02.5:</b>	<b>3</b>	<b>3</b>	<b>3</b>	<b>2</b>	-	<b>3</b>	<b>2</b>	-	-	-	<b>2</b>	<b>1</b>	<b>3</b>	<b>3</b>

## Programme Educational Objectives (PEOs) for UG Programme

- PEO1** To prepare students for professional career in Electrical Engineering.
- PEO2** To develop proficient Electrical Engineering graduates with firm foundation in engineering for making professional career in core & IT sector and to carry out research and higher studies.
- PEO3** To induct creativity, effective communication skills, team work spirit and ethical attitude with an inclination towards lifelong learning.

## Programme Outcomes (POs) for UG Programme

- 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 modelling 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 the 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.

#### **Programme Specific Outcomes (PSOs) for UG Programme**

- PSO1** Apply the concepts of Electrical & Electronics engineering, Power System Operation & Control and Power Electronics & Drives in design and implementation.
- PSO2** Demonstrate competitiveness and exhibit improved employability skills in area of Electrical Engineering.