### Programme Educational Objectives (PEOs), Mission and Vision of FOE for the degree B.Eng. (Hons) Electronics

#### Outcome Based Education (OBE) system

**Vision**

To be a leading engineering faculty with global recognition for creation and dissemination of knowledge.

**Mission**

To cultivate talents who embrace Inquiry, Inspiration and Innovation via excellent engineering programmes, impactful research and strong industry support.

**PO1** Fundamentals of Engineering Knowledge

- Graduates acquire knowledge of mathematics, science and engineering fundamentals to solve complex engineering problems.
- Graduates have good fundamental knowledge and therefore can easily adapt to advances in engineering.
- This will ensure graduates of high calibre who are equipped with scientific principles can support the development of engineering practices.
- Related to PEO 1.

**PO2** Specialised Engineering Knowledge

- Graduates acquire technical competencies in a specialised engineering discipline to solve complex engineering problems.
- Graduates have comprehensive knowledge in their specialised engineering field to solve complex problems.
- Graduates have design solutions for continuous self-improvement.
- Related to PEOs 1, 2, and 3.

**PO3** Problem Analysis

- Graduates identify and analyse complex engineering problems to reach substantiated conclusions using fundamental principles of mathematics, science and engineering.
- Related to PEO 1.

**PO4** Design/Development of Solutions

- Graduates design solutions for complex engineering problems that meet specified needs with appropriate considerations for public health and safety, society and the environment.
- Graduates design solutions that comply with social and environmental obligations.
- Related to PEOs 1, 2, and 3.

**PO5** Investigation

- Graduates conduct research-based investigations into complex engineering problems to reach valid conclusions.
- Graduates resolve complex problems by conducting research independently.
- Related to PEO 2.

**PO6** Modern Tool Usage

- Graduates create, select and apply appropriate techniques, resources, and modern engineering and IT tools to complex engineering activities.
- Related to PEOs 1 and 2.

**PO7** The Engineer and Society

- Graduates apply knowledge of sustainable solutions in their professional engineering practices.
- Graduates understand their roles as engineers for the betterment of the society, which include societal, health, safety, and cultural responsibilities.
- Related to PEO 3.

**PO8** Environment and Sustainability

- Graduates understand the importance of sustainability, society and the environment in the design and development of professional engineering solutions.
- Related to PEO 3.

**PO9** Ethics

- Graduates apply ethical and moral principles in their engineering practice.
- Related to PEO 3.

**PO10** Communication

- Graduates communicate effectively on complex engineering activities in both oral and written forms.
- Graduates are articulate when communicating while open to feedback and criticism.
- Related to PEOs 1, 2, and 3.

**PO11** Individual and Team Work

- Graduates function effectively as an individual, and as a member or leader of a team in multidisciplinary environments.
- Graduates are competent leaders and team members.
- Related to PEO 1.

**PO12** Life-long Learning

- Graduates are committed to professional ethics, sustainability, and appreciation of social values in their chosen fields.
- Related to PEO 2.

**PO13** Project Management and Finance

- Graduates demonstrate engineering and management principles, as a member and leader of a team, in managing projects in multidisciplinary environments.
- Related to PEO 1.