

# PROGRAMME EDUCATIONAL OBJECTIVES



# **TECHNICAL**

DEMONSTRATE MASTERY OF **KNOWLEDGE & COMPETENCY IN** MANIFESTING CUTTING EDGE **TECHNOLOGIES** 



# PROFESSIONALISM

DEMONSTRATE PROFESSIONALISM THROUGH INNOVATIVE. **ENTREPRENEURIAL & GLOBAL** OUALITIES



**DEVELOPMENT FOR THE BENEFITS OF SOCIETY** 

# PROGRAMME LEARNING OUTCOMES

Ability to apply knowledge of mathematics, natural sciences, engineering fundamentals, and an engineering specialisation to the solution of complex engineering problems

#### **ENGINEERING KNOWLEDGE (KW)**



Ability to create, select and apply appropriate techniques, resources, and modern engineering and IT tools, including prediction and modelling, to complex engineering problems, with an understanding of the limitations

# **MODERN TOOL USAGE (SCMT)**



Ability to 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

#### **COMMUNICATION (CS)**



Ability to identify, formulate, conduct research literature, and analyse complex engineering problems to reach substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences

# **PROBLEM ANALYSIS (THPA)**



Ability to design systems, components or processes and develop solutions for complex engineering problems that meet specified needs with appropriate consideration for public health and safety, cultural, societal, and environmental considerations

# **DESIGN/DEVELOPMENT (THDS)**



Ability to apply reasoning informed by contextual knowledge to assess societal, health, safety, legal and cultural issues, and the consequent responsibilities relevant to professional engineering practice and solutions to complex engineering problems

#### THE ENGINEER AND SOCIETY (AD)



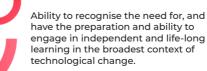
Ability to function effectively as an individual, and as a member or leader in diverse teams and in multi-disciplinary settings.

#### **INDIVIDUAL AND TEAM WORK (TW)**



Ability to understand and evaluate the sustainability and impact of professional engineering solutions of complex engineering problems in societal and environmental contexts

### **ENVIRONMENT AND** SUSTAINABILITY (GCS)



LIFE-LONG LEARNING (SC)

BACHELOR ELECTRONIC SYSTEMS ENGINEERING, CHEMICAL PROCESS ENGINEERING, OF MECHANICAL PRECISION ENGINEERING WITH HONOURS

#### SUSTAINABLE SOCIETY

**CONTRIBUTE TO SUSTAINABLE** 





Ability to conduct investigation of complex engineering problems using research-based knowledge and research methods, including design of experiments, analysis and interpretation of data, and synthesis of information to provide valid conclusions

# **INVESTIGATION (THI)**

Ability to apply ethical principles and commit to professional ethics, responsibilities and norms of engineering practice

#### **ETHICS (GSE)**

Ability to demonstrate knowledge and understanding of engineering management principles and economic decision-making and apply these to one's own work, as a member and leader in a team, to manage projects in multidisciplinary environments

**ENGINEERING PROJECT MANAGEMENT AND FINANCE (ES)**