MAR ATHANASIUS COLLEGE OF ENGINEERING, KOTHAMANGALAM

(GOVERNMENT AIDED AUTONOMOUS ENGINEERING COLLEGE)

DEPARTMENT OF ELECTRICAL & ELECTRONICS ENGINEERING

First Sessional Examination October 2026

B24MC2T05 ENERGY CONSERVATION AND ENVIRONMENTAL SUSTAINABILITY

(S3_EA & EB)

Max. Marks 40 Time: 1 Hours 30 Minutes

Answer all questions from Part A and Part B

PART A (3 X 4=12 Marks)

1. Explain the concept of energy efficient smart cities. (CO1)
2. Differentiate between wave energy and ocean thermal energy system. (CO2)
3. Describe the different kinds of solar collectors. (CO2)

PART B

4. Explain the commonly adopted performance indicators for measuring energy consumption and efficiency in an energy audit. (10 Marks) (CO1)
5. Explain in detail the process of electricity generation in a rooftop solar system and discuss the on grid and Off grid systems. (9 Marks) (CO2)
6. Define the term Pollution. What is air pollution? Explain the causes of air pollution and its effects. (9 Marks) (CO3)

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Students will be able to

CO1: Classify various energy resources and describe the importance of energy conservation.
CO2: Explain the principles of renewable energy systems and their applications.
CO3: Recognize major environmental impacts due to energy consumption and explain basic pollution control measures.

VISION

Endeavour to Ensure Excellence

MISSION

Mould technically competent and morally strong Engineers
Achieve dynamic leadership through quality Education
Cater the needs of industry and community through Emulation
Empower the students to serve the nation with Dedication