MAR ATHANASIUS COLLEGE OF ENGINEERING, KOTHAMANGALAM

DEPARTMENT OF ELECTRICAL & ELECTRONICS ENGINEERING

First Sessional Examination August 2026

EET473-Digital Protection of Power System

(S7_EA & EB)

Time:1.30Hours Max. Marks 40

Answer all questions from Part A and Part B

PART A (4X3=12Marks)

1. For an IDMT relay the plug setting is 50% and CT ratio is 400/5A. If the fault current is 3000A, find the plug setting multiplier. [CO1]
2. Illustrate knee point voltage of a current transformer. [CO1]
3. What is a Line Current Differential Relay ? [CO2]
4. Explain the internal and external faults of a transformer [CO2]

PART B (2 X14=28 Marks)

5 a. With a neat schematic diagram explain the working of capacitive voltage transformers. [CO1](8 Marks)

b. With the help of time current characteristics compare (i) Instantaneous over current relay (ii) Definite Time over current relay (iii) Inverse Time over current relay [CO1](6 Marks)

6 a. Discuss about three zone distance protection of transmission line. [CO2](7 Marks)

b. Write a note about restricted earth faults protection of transformer. [CO2](7Marks)

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Students will be able to

CO1: Identify the relay protection scheme suitable for over current, differential and distance protection.
CO 2: Develop the protection scheme for bus bars, transformers, generators, motors and distribution systems using appropriate protective relays.

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