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| Enroll No |
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K.E.Society's
Rajarambapu Institute of Technology, Rajaramnagar
 (An Empowered Autonomous Institute, affiliated to SUK)
Mid-Sem Exam (MSE) (2025-26)

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| Q.P. Code |
| M 26 |

Final Year B.Tech. Electrical Engineering

Course Code: EE4074

Course Name: HVDC Transmission Systems

Day & Date: Thursday, 18/09/2025

Time: 03:15 PM to 05:15 PM

Max Marks- 50

- Instructions:**
- 1) All questions are compulsory.
 - 2) Figures in rounded () brackets within the question, indicate the scheme of marking for respective part of the question, whereas, figures in the first right column indicate total marks for that whole question.
 - 3) CO is the index number of the Course Outcome statement.
 - 4) The Bloom's taxonomy level (BL) for 1,2,3,4,5 and 6 is remember, understand, apply, analyze, evaluate and create respectively.
 - 5) Assume suitable data if necessary.
 - 6) Use of non-programmable calculators is allowed

| | | Marks | BT Level | COs |
|-----------|--|-------|----------|-----|
| Q.1 | A Compare the HVDC transmission system with the HVAC transmission system based on the following points i. Economics of power transmission (03) ii. Technical Performance (03) iii. Reliability (02) | 08 | 4 | CO1 |
| | B Explain different types (08) of Multi-terminal HVDC systems | 08 | 2 | CO1 |
| OR | | | | |
| | B With a neat sketch (02), explain different types (06) of HVDC System Configuration. | 08 | 2 | CO1 |
| Q.2 | A What are the types of converters (03)? explain the choice of converter configuration (06). | 09 | 2 | CO2 |
| | B Compare between the line commutated converter (LCC) (04) and the voltage source converter (VSC) (04). | 08 | 4 | CO2 |
| OR | | | | |
| | B What is Pulse Width Modulation (PWM) (04)? explain selective harmonics method of PWM technique (04). | 08 | 4 | CO2 |
| Q.3 | A Explain (04) converter control characteristics for different stations (04). | 08 | 2 | CO2 |
| OR | | | | |
| Q.3 | A Explain Current (04) and Extinction Angle Control (04). | 08 | 2 | CO3 |
| | B Explain the following firing angle control system i. Individual phase control (IPC) (04) ii. Equidistance pulse control (EPC) (05) | 09 | 2 | CO3 |

