



C23-EE-402

23436

**BOARD DIPLOMA EXAMINATION, (C-23)
MARCH/APRIL—2025
DEEE – FOURTH SEMESTER EXAMINATION
ELECTRICAL MACHINES—II**

Time : 3 hours]

[Total Marks : 80

PART—A

3×10=30

- Instructions :** (1) Answer **all** questions.
(2) Each question carries **three** marks.
(3) Answers should be brief and straight to the point and shall not exceed five simple sentences.

1. Write any three advantages of 3-phase induction motor.
2. Write different types of starters used to start an induction motor.
3. Draw the power flow diagram of 3-phase IM.
4. List out any six application of stepper motors.
5. State the advantages of stationary armature of an alternator.
6. Define pitch factor.
7. Define synchronous impedance of an alternator.
8. State any three advantages when two alternators connected in parallel.
9. Define synchronous condenser.
10. List out the applications of synchronous motor.

PART—B

10×5=50

- Instructions :** (1) Answer *any five* questions.
(2) Each question carries **ten** marks.
(3) Answers should be comprehensive and the criteria for valuation is the content but not the length of the answer.

11. Derive the torque equation of an induction motor at standstill and running condition.
12. Explain the operation of auto transformer starter with the help of neat a sketch.
13. Explain the working principle of split phase induction motor.
14. Explain the construction and working of 3-phase alternator with a neat sketch.
15. Derive the e.m.f. equation of an alternator.
16. Explain the procedure of synchronization of alternators by using synchroscope with neat a diagram.
17. Explain V and inverted V curves of synchronous motor with a neat sketch.
18. Distinguish between 3-phase induction motor and synchronous motor.

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