



C23-M-MRAC-302

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**BOARD DIPLOMA EXAMINATION, (C-23)
OCTOBER/NOVEMBER—2024
DME – THIRD SEMESTER EXAMINATION
APPLIED ELECTRICAL AND ELECTRONICS**

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. State Faraday's laws of electromagnetic induction.
2. State (a) Active power and (b) Reactive power.
3. List the speed control methods of DC motors.
4. State the working principle of transformer.
5. List any three applications of AC servo motor.
6. List any six types of sensors.
7. State the need of earthing.
8. What are the effects of electric shock?
9. Define the terms (a) conductor and (b) Semiconductor.
10. List any three applications of transistor.

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1

[Contd...

PART—B

10×5=50

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

11. Explain single phase A.C. series circuit consisting of RLC elements.
12. Explain the construction details of a DC generator.
13. Explain the working of a three-phase induction motor with neat sketch.
14. Explain the working principle of permanent magnet stepper motor.
15. Classify the types of transducers and list their applications.
16. Explain the first aid methods to be followed after electrocuted.
17. Distinguish between intrinsic and extrinsic semiconductors.
18. Explain the working of PN junction diode with forward bias and reverse bias.

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