



C16-M-305

6246

BOARD DIPLOMA EXAMINATION, (C-16)

OCT/NOV—2017

DME—THIRD SEMESTER EXAMINATION

BASIC ELECTRICAL ENGINEERING 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. Define (a) reluctance and (b) retentivity.
2. State Fleming's right hand rule.
3. Classify the DC generators on basis of excitation.
4. State the working of DC motor.
5. Define (a) frequency and (b) time period.
6. Draw the neat sketch of a welding transformer.
7. List applications of single phase induction motors.
8. Define P-type and N-type semiconductors with an example.

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9. Classify the different types of electrical measuring instruments.
10. State the procedure to be adopted in case of electric shock.

PART—B

10×5=50

Instructions : (1) Answer *any five* questions.

(2) Each question carries **ten** marks.

(3) Answers should be comprehensive and the criterion for valuation is the content but not the length of the answer.

11. (a) Explain magnetic flux and magnetic field. 5
(b) State Faraday's laws of electro magnetic induction. 5
12. State and explain Kirchhoff's laws with examples. 10
13. Draw the schematic diagrams of each type of DC motor and also write the voltage and current equations. 10
14. (a) Explain the working of a DC generator. 5
(b) Define power and power factor in a AC circuits. 5
15. A coil of 0.03 H is connected in series with a resistance of 10 and is connected across single phase 230 V, 50 Hz AC supply. Calculate (a) impedance, (b) current, (c) active power, (d) power factor and (e) voltage drop across inductance and reactance. 10
16. Explain the constructional features of three phase induction motor. 10
17. Explain the working of a P-N junction diode with forward and reverse bias. 10
18. Explain the working principle of PMMC instrument. 10
