



C09-M/CHST-304

3248

BOARD DIPLOMA EXAMINATION, (C-09)

OCT/NOV—2018

DME—THIRD SEMESTER EXAMINATION

ELECTRICAL ENGINEERING AND BASIC 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 the laws of Resistance.
2. Define permeability and reluctance.
3. Define capacitance and mention their units.
4. List the applications of D.C. Generator.
5. List out the different types of D.C. Motors.
6. Define RMS value and form factor.
7. List the applications of three-phase induction motors.
8. Write any three applications of Lead acid cell.
9. Write about the formation of PN junction diode.
10. State the procedure to be adopted in case of electric shocks.

PART-B

10×5=50

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

- 11.** (a) Explain Flemings right hand rule.
(b) Derive an expression for energy stored in a magnetic field.
- 12.** (a) Explain statistically and dynamically induced emf.
(b) Darw a neat circuit diagram of welding generator.
- 13.** Draw three-point starter diagram of a D.C. Motor and explain its necessity.
- 14.** A resistance of 50Ω , inductance of 100mH and capacitance of $100\ \mu\text{F}$ are connected in Series across 200 Volts, 50Hz supply. determine the following :
(a) Impedance, (b) Current through the circuit, (c) Power factor, (d) Voltage across Resistance, Inductance, and Capacitance. (e) Power in watts.
- 15.** Explain the construction and working principle of 3-Ø squirrel cage induction motor.
- 16.** (a) Draw the connection diagram of a welding Transformer and write working principle.
(b) Explain chemical reactions during charging and discharging of lead acid cell.
- 17.** Explain the operation of LCD with neat sketch and the materials used.
- 18.** Explain construction and working principle of dynamo meter type wattmeter.

m/s under a pressure of 4 bar at a height of 10m above the ground level. *

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