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C09–M/CHST–304

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BOARD DIPLOMA EXAMINATION, (C–09)

SEPTEMBER/OCTOBER - 2020

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. Define work, power and energy.

2. Define reluctance and state its unit.

3. State Lenz's law.

4. Draw power flow diagram of a DC generator.

5. List the types of DC motors.

6. Define *(a)* frequency, *(b)* time period and *(c)* form factor.

7. List the types of single-phase induction motors.

8. State the types of storage cells.

9. Draw the CB and CE transistor configurations.

10. What are the various procedures to be adopted in case of electrical 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. Derive the expression for energy stored in a magnetic field.

12. *(a)* State and explain Kirchhoff's laws.

(b) Draw the connection diagram of welding generator.

13. *(a)* List out the types of DC generators and draw the schematic diagram for each type.

(b) Write the formula for EMF equation of a DC generator.

14. Define *(a)* RMS value, *(b)* average value, *(c)* amplitude, *(d)* instantaneous value and *(e)* peak value.

15. Draw the neat sketch of DOL starter.

16. *(a)* State the applications of three-phase induction motors.

(b) State the types of storage batteries.

17. Explain the operation of Zener diode.

18. Explain the construction and working of dynamometer-type wattmeter.

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