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C09-EE–304

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BOARD DIPLOMA EXAMINATION, (C-09)

MARCH/APRIL—2021

DEEE - THIRD SEMESTER EXAMINATION

DC MACHINES AND BATTERIES

Time : 3 hours] [*Total Marks* : 80

PART—A 4×5=20

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

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

(3) Answers should be brief and straight to the point and shall not exceed five simple sentences.

1. State Fleming's right-hand rule.

2. Classify DC generators based on excitation.

3. Define armature reaction.

4. Define commutation.

5. State the different losses in DC motor.

6. List any four applications of DC motor.

7. State the need of speed control of DC motors.

8. State the advantages of DC motor speed control by armature control method.

9. Name the types of storage cell.

10. State the applications of lead acid cell.

PART—B

15×4=60

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

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

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

11. Explain the working of DC generator.

12. Explain the power stages in DC generators.

13. Explain armature reaction.

14. Explain the necessity of parallel operation of DC generators.

15. Draw the circuit of DC shunt motor and write its voltage and current equation.

16. Explain 3-point starter.

17. Explain brake test on DC shunt motor.

18. Explain the indications of full charging of batteries.

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