



C20-CHST-402

7430

BOARD DIPLOMA EXAMINATION, (C-20)

OCTOBER/NOVEMBER—2023

DCHST – FOURTH SEMESTER EXAMINATION

ELECTRICAL TECHNOLOGY

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 the terms (a) resistance and (b) conductance.
2. Calculate the value of current through a resistance of 10 ohms, if it is connected across a battery of 25 volts.
3. State Fleming's left hand rule.
4. List out the parts of DC machine.
5. State the torque equation of DC motor.
6. Classify the types of transformers based on construction.
7. State the uses of multimeter in electrical circuits.
8. What is a thermocouple instrument?
9. List the applications of electric heating.
10. Classify the methods of electric welding.

PART—B

8×5=40

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

11. (a) Explain about the star connection in three-phase circuits. 8

(OR)

(b) State and explain Kirchhoff's laws. 8

12. (a) Express the field strength (i) due to straight current carrying conductor and (ii) on the axis of the solenoid. 4+4

(OR)

(b) State and explain (i) statically induced emf and (ii) dynamically induced emf. 4+4

13. (a) Explain 3-point starter with a neat diagram. 8

(OR)

(b) Explain the working principle of transformer. 8

14. (a) Explain the construction and working of moving iron instruments. 8

(OR)

(b) Explain the construction and working of moving coil instruments. 8

15. (a) Explain the working of DC welding generator with a neat diagram. 8

(OR)

(b) State the procedures for first aid to a person come into contact with electric shock. 8

PART—C

10×1=10

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

- 16.** Explain the field control method of speed control of a DC shunt motor with a neat diagram and mention observation.

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