



C23-EE-401

23435

BOARD DIPLOMA EXAMINATION, (C-23)

OCTOBER/NOVEMBER—2025

DEEE – FOURTH SEMESTER EXAMINATION

ELECTRICAL INSTALLATION AND ESTIMATION

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. List out conduit wiring accessories.
2. State the reason for not placing the fuse in neutral wire.
3. Draw single line wiring diagram for connecting a motor in a workshop.
4. List out the materials required for the installation of an electrical irrigation pump set.
5. State the purpose of stay wire used in electrical overhead lines.
6. State the purpose of earthing in an electrical installation. Also, list out different types of earthing.
7. Specify the values of insulation resistance desirable for low, medium and high voltage electrical installations.

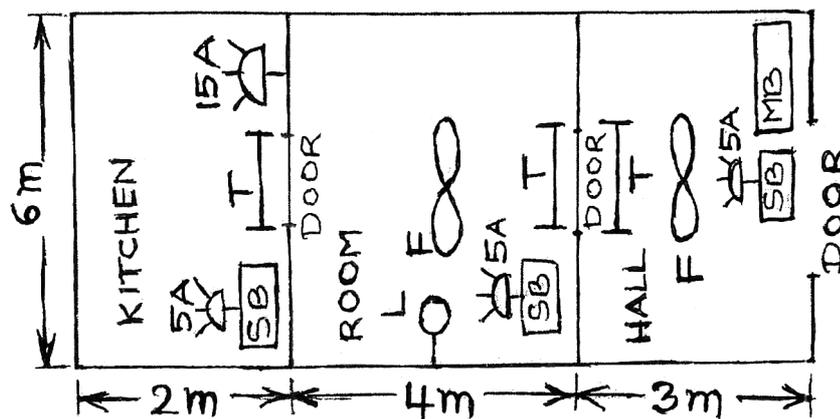
8. Draw the test diagram for the continuity of wiring in a domestic wiring installation.
9. State the safety precautions to be taken to avoid electric shock.
10. State the prevention techniques of fire accidents.

PART—B

10×5=50

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

11. Explain about concealed conduit wiring system. Also state its merits and demerits. 10
12. Estimate the quantity of materials required and their cost to provide PVC surface conduit wiring for a building, the plan of which is shown below. Assume any missing data. 10



13. Draw a neat wiring layout of workshop, clearly showing separate single line wire run for power load and lighting load. 10

- 14.** An agriculture pump set of 7.5 HP, 3-phase, 400 V, 50 Hz induction motor is to be installed in a pump shed of dimensions 5 m × 3 m × 3 m. The distance between nearest LT pole and pump shed is 9 m. Estimate the quantity of materials required and their cost. Assume the missing data. 10
- 15.** Draw a neat sketch of 250 kVA, 11 kV/400 V, 50 Hz 3-phase plinth mounted substation and estimate the quantity of materials required for its erection. 10
- 16.** Draw a neat sketch of pipe earthing with necessary dimensions suitable for a small scale industry and estimate the quantity of materials required for its installation. 10
- 17.** (a) State the factors to be considered to select the location for a distribution transformer. 4
- (b) Determine the capacity of distribution transformer required in a village with following load particulars : 6
- (i) 100 No's of domestic loads of 500 W each
- (ii) 2 industries with a 5 HP motor each
- (iii) 50 No's of agriculture pump sets with 2 HP motor each
- (iv) 2 hospitals with a load of 10 KW each
- Assume missing data.
- 18.** Describe the procedure of first aid for shock treatment to an electrocuted person. 10

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