



C16-EE-404

5657

BOARD DIPLOMA EXAMINATION, (C-16)

MARCH/APRIL—2018

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. State the factors to be considered for the selection of wiring system.
2. State the requirements for a fuse material.
3. State the general IE rules while preparing internal wiring estimation.
4. Write the materials used in irrigation pump set installation.
5. State the main components of overhead transmission lines.
6. What is the necessity of earthing?
7. State the various tests to be conducted before giving electrical supply to domestic installation.

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8. What is the main function of rural electrification scheme?
9. State the reason for not using fuse in neutral wire.
10. List the equipments used for electrical and general safety purpose.

PART—B

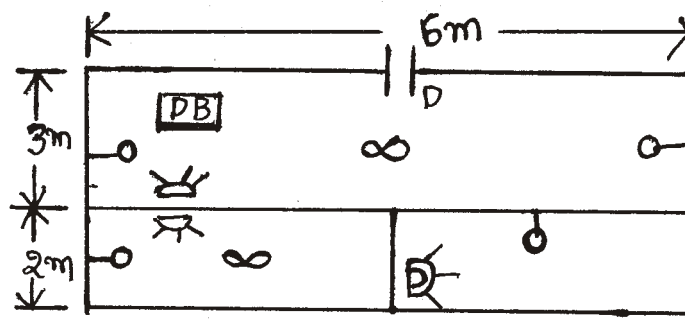
10×5=50

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. (a) Compare CTS/TRS wiring system with conduit wiring system in any five aspects. 5
- (b) Explain the procedure of first aid in case of electric shock. 5
12. Estimate the quantity of materials required for a newly constructed residential building whose plan is shown in figure below. It is to be provided concealed conduit wiring system. Wattage of lamp = 60 W, fan = 80 W, 5A socket = 100 W 15 A socket = 1000 W. Assume any missing data :



13. (a) Calculate the size of the cable for the given 3 7.5 HP, 400 V induction motor. 3
- (b) Draw the wiring layout of electrical laboratory. 7

- 14.** Estimate the quantity of materials required for the electrification of irrigation pump set having a 3 , 440 V, 5 kW squirrel-cage induction motor. The pump set shed is (5m 3m 3m). The distance between the LT pole and pump set shed is 10 m. Assume any missing data.
- 15.** An 11 kV line is to be erected to give supply to a village 1 km from existing 11 kV line. Prepare a schedule of materials required for the line. Assume an average span of 50 m and 2 cut points, one 90-degree angle point.
- 16.** Estimate the quantity of materials required for the installation of a 400 kVA, 11 kV/400 V three-phase mounted substation with neat sketch.
- 17.** Estimate the quantity of materials required for suitable earthing 15 HP motor with neat sketch.
- 18.** Describe the procedure for the following tests with relevant sketches :
- (a) Insulation resistance between conductors 5
- (b) Polarity of a single-pole switch by using Megger 5

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