



C14-EE-404

4443

BOARD DIPLOMA EXAMINATION, (C-14)

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 reason for not using fuse in a neutral wire. 3
- * 2. Mention the uses of SWG. 3
3. Classify the main switches. 3
4. List the merits of wooden casing and capping wiring. 3
5. Mention the components used in CTS wiring. 3
6. Find size of the cable for the load given below : 3
Number of 60 W lights : 5
Number of 80 W fan points : 2
Number of 100 W light sockets : 2
7. What is the purpose of earthing? 3

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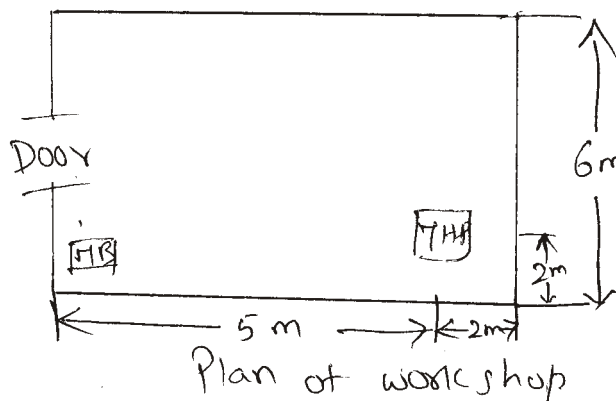
8. State the factors on which earth resistance depends. 3
9. Specify the insulation resistance desirable for a given electrical installation. 3
10. State any two IE rules for earthing metal supports of overhead distribution line. 3

PART—B

10×5=50

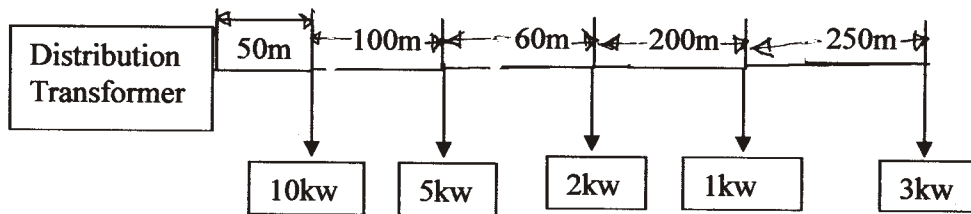
Instructions : (1) Answer *any five* questions.
 (2) Each question carries **ten** marks.
 (3) Answers should be comprehensive and the criterion for valuation is the content but not the length of the answer.

11. Explain the procedure to be adopted for shock treatment to an electrocuted person. 10
12. Draw a wiring layout of a big hotel with life arrangement. 10
13. A 7 HP, 400 V, 3-phase, 50 Hz induction motor is to be installed in a workshop as shown in the figure below :



Estimate the quantity of material required and their cost. Show the wiring diagram and assume the missing data. 10

14. Estimate the quantity of material for wiring of agricultural pumpset motor 400 V, 5.5 kW, 50 Hz, 3-phase using star-delta starter, ICTP switch. The supply to the pump is to be taken from an overhead LT 3-phase pole, 10 m away from pump shed (5 m×3 m×3 m). Use conduit wiring for motor connection and show the layout and wiring diagram of the connection. Assume missing data if any. 10
15. Prepare the estimate for pipe earthing with neat sketch. 10
16. Estimate the quantity of materials and accessories required per km length of a 11 kV line with 7/2.59 ACSR conductors over psc poles of 8 metre height at 80 metre span. 10
17. Estimate the quantity of material required for pole mounted substation with neat sketch. 10
18. (a) Calculate the regulation of a distribution line with 7/2.11 mm ACSR conductor with the following load particulars as shown in the figure below : 5



- (b) Describe the test procedure for continuity of wiring in an electrical installation with neat sketch. 5
