



C14-EE-404

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BOARD DIPLOMA EXAMINATION, (C-14)

MARCH/APRIL—2016

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. Explain why fuse must be used in phase only and not in neutral wire.
2. Compare CTS/TRS wiring with surface conduit wiring in any three aspects.
3. Classify the cables according to voltage grading.
4. Write any three general IE rules while preparing internal wiring estimation.
5. Calculate the size of cable for the given 3- , 7.5 HP, 400 V induction motor.
6. List the types of service mains.
7. Draw the single line diagram of 11 kV/400 V distribution transformer substation.
8. State the factors on which earth resistance depends.

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9. State IE rule 31 related to placement of cutout on customer premises.
10. Explain the need for load survey in REC scheme.

PART—B

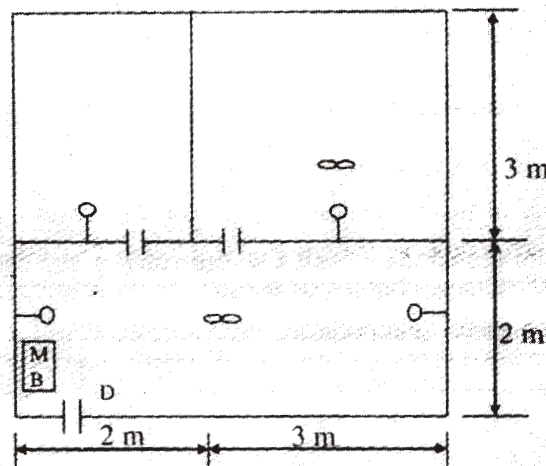
10×5=50

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

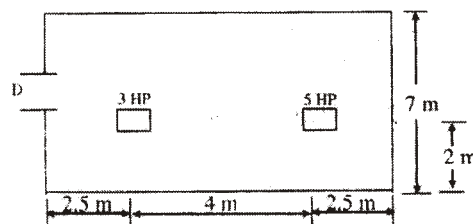
(2) Each question carries **ten** marks.

(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 electrocution person.
12. Draw the wiring and estimate the quantity of material for surface conduit wiring system in a house shown below. Assume missing data, if any :



13. Two 3- , 400 V induction motors are installed in a workshop (plan is shown below). Prepare the list of materials required for the power wiring installation. Assume missing data, if any :



14. Draw wiring layout of a big hotel with four-storied building and with lift arrangement.
15. Estimate the quantity of material required for an 11 kV, 3- OH line with 7/2·59 mm ACSR conductors for 1 km long on 8 m PSCC poles. The span between two poles is 75 m.
16. Draw the neat sketch of a 100 kVA, 11 kV/400 V, 3- pole-mounted substation and estimate the materials required for erection of the substation.
17. Estimate the materials required for pipe earthing.
18. The load particulars of the village are given below. Find the rating of the transformer to be installed in the load center :
- (a) Agricultural load—20 HP
 - (b) Domestic load each 100 W—60 nos.
 - (c) Small-scale industries load each 4 kW—3 nos.
 - (d) Commercial load—6 kW

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