



C16-EE-404

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**BOARD DIPLOMA EXAMINATION, (C-16)
OCTOBER—2020
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. Write any six accessories of CTS wiring system.
2. What are the different types of switch used in electrical wiring system?
3. What is a fuse? Mention types of fuse.
4. Write any four general IE rules related to domestic wiring system.
5. Write the steps involved in solving a problem on power load.
6. What are the IE rules considered to determine the number of sub-circuits for power loads in an industry.
7. Specify the value of earth resistance to be maintained for various electrical installations.
8. State the main components of overhead distribution line system.

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9. Explain briefly the need for load surveying in REC.
10. State any two IE rules related to industrial safety.

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 are the content but not the length of the answer.

11. Classify different types of wiring system and explain about internal conduit wiring system.

12. Estimate the quantity and cost of materials required for internal conduit wiring system in a newly constructed residential building as shown in Fig. 1. Assume building height and other missing data.

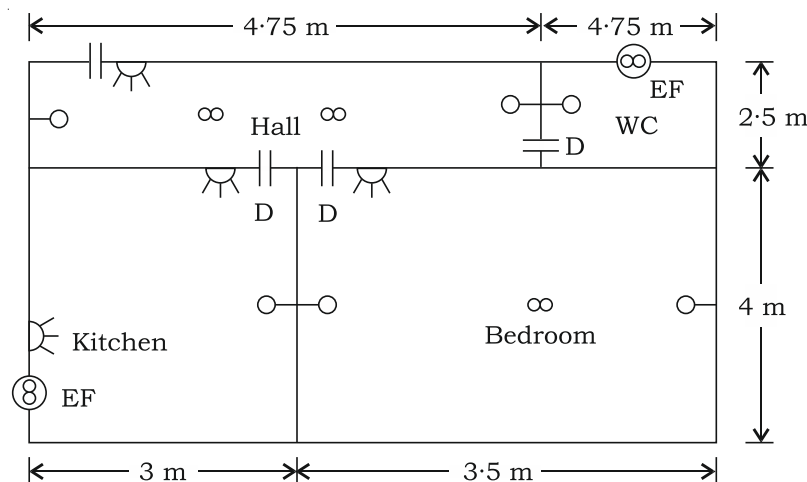


Fig. 1

13. Estimate the material required for the erection of irrigation pump set of 7.5 HP, 3-phase, and 400 V. Assume the distance from the existing LT pole to the pump set is 20 m and assume any missing data.

14. Estimate the quantity of material required to install a 5 HP, 3-phase, 400 V, 50 Hz induction motor as per the layout shown in Fig. 2 below for a floor mill. Draw the single line diagram of wiring. Assume any missing data.

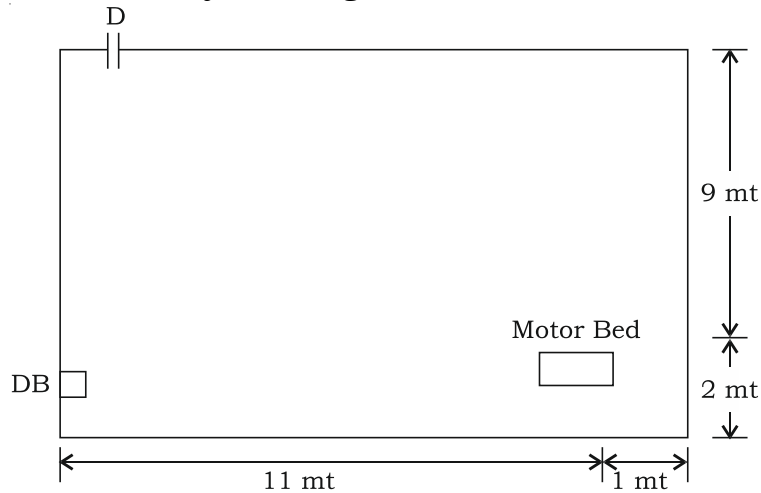


Fig. 2

15. Estimate the quantity of material required for the installation of 11 kV transmission line over a length of 3 km, assuming 2 cut points and 2 angle points in total length of the line. Assume the span as 70 m.
16. Estimate the quantity of material required for the installation of 150 kVA, 11 kV/400 V, 50 Hz plinth mounted substation with a neat diagram.
17. Draw a neat sketch of suitable earthing to be provided for a 15 kW industrial load and prepare the quantity estimate and label dimensions.
18. Calculate the regulation of a distribution line with 7/2.59 mm ACSR conductor with the following load particulars as shown in Fig. 3.

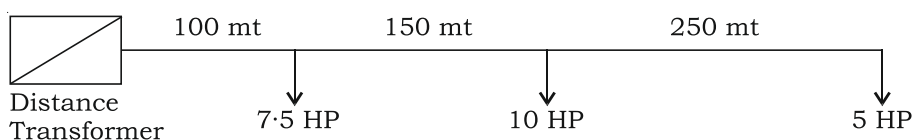


Fig. 1
