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C16-EE-404

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**BOARD DIPLOMA EXAMINATION, (C-16)
OCTOBER/NOVEMBER-2018
DEEE - FOURTH SEMESTER EXAMINATION**

ELECTRICAL INSTALLATION AND ESTIMATION

Time : 3 Hours]

[Total Marks: 80

PART-A

3X10=30

- Instructions* :
1. Answer **All** questions.
 2. Each question carries **Three** marks.
 3. Answer should be brief and straight to the point and shall not exceed five simple sentences.

1. List the systems of wiring.
2. What is a fuse and state fuse materials?
3. List the factors considered for selections of type of wiring.
4. Estimate the number of sub circuits in a wiring installations as per IEE rules for the following data:

70 Watt fans	7No
60 Watt lamps	12 no.
100 Watt plug points	6 No.
Refrigerator	1 No
1-phase, ½ HP pump motor	1 no.

5. What is necessity of earthing?
6. Calculate the number of insulators, poles and length of ACSR wire required for 490m, 3-phase, 11KV, OH line.
7. What are the important tests to be conducted before energizing a domestic installation?
8. Define voltage regulation of a line.
9. State the importance of plant maintenance.
10. List the industrial hazards.

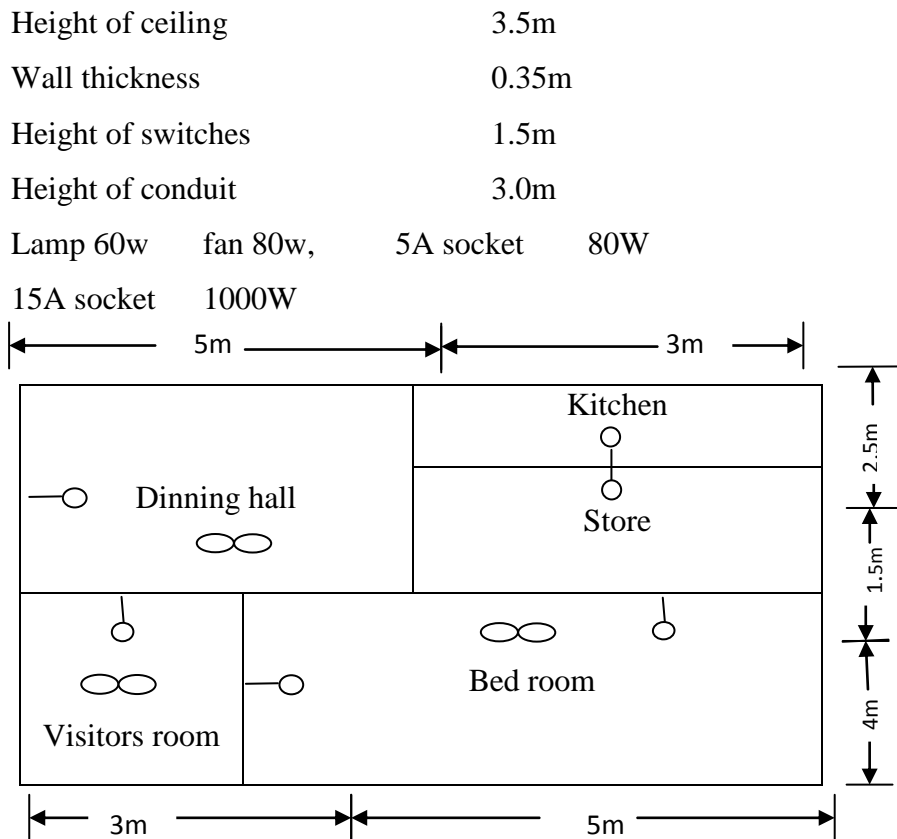
PART-B

10X5=50

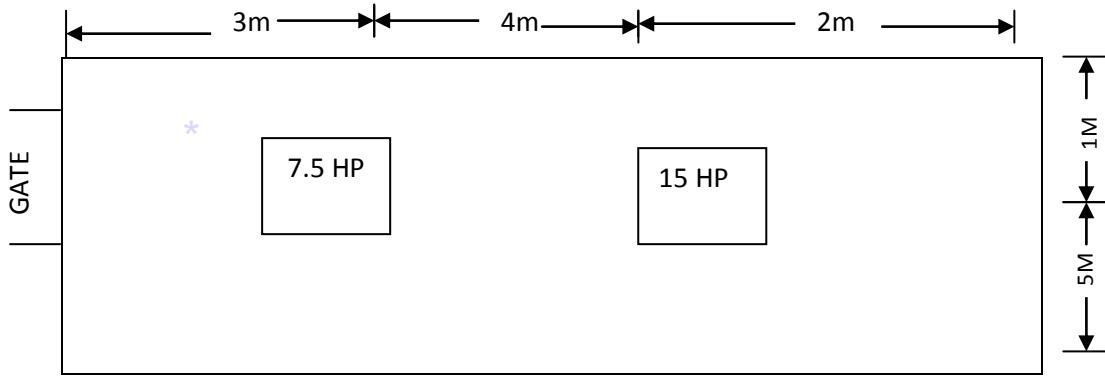
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Instructions :

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

11. (a) Explain the surface conduit wiring.
(b) State the causes of industrial electrical accidents and remedies.
12. Estimate the quantity of material required and the approximate cost of material for a newly constructed residential building plan shown in fig. Assume



13. Two 7.5 HP and 15HP 3 phase, 400V 50Hz squirrel cage induction motors are installed in a work shop as shown in fig. Make a neat sketch of the wiring scheme with the help of a single line diagram, also prepare a list of material required and estimate the approximate cost of the scheme. Assume missing data:



14. Estimate the quantity of material required for wiring of agricultural pump set motor. The 400v, 50kW, 50Hz, 3-phase using star delta starter, ICTP switch and indicating lamps. The supply to the pump is to be taken from an overhead, L.T. 3 phase pole, 15m away from pump shed (5m x 5m x 3m) use conduit wiring for motor connection and show layout of the connection. Assume missing data.
15. Prepare the quantity estimate of material and electrical accessories required for erection of 63KVA, 11KV/400V Pole mounted distribution transformer with neat diagram. Clearly mention the specifications wherever necessary.
16. Draw the neat sketch of a dimensional pipe earthing and estimate quantity of material required for the same.
17. An overhead 11KV, 3 phase line is to be tapped of from existing 11kv line pole at about 90^0 angle, the proposed line has to be erected on 10m long rail poles with ACSR conductors of size 6/1 x 2.11mm. Make the list of material required for the job and estimate for 1.8km long line.
18. Calculate the regulation of one of the phases of a distribution line, with the load particulars given in fig

