CBCS SCHEME

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18EE822

Eighth Semester B.E. Degree Examination, June/July 2024
Electrical Estimation and Costing

Time: 3 hrs. Max. Marks: 100

Note:* 1. *Answer any FIVE full questions, choosing ONE full question from each module.
2. *Assume missing data suitably.*

Module-1

1 a. Define estimating and explain the purpose of estimating and costing. **(06 Marks)**

b. Explain the following:
(i) Payment of bills (ii) Contingencies (iii) Purchase order (iv) Catalogues **(08 Marks)**

c. Write any four rules of Indian Electricity. **(06 Marks)**

OR

2 a. Explain Guidelines for inviting tenders. **(06 Marks)**

b. Explain the following:
(i) Overhead charges (ii) Profit (iii) Electrical schedules (iv) Tender form **(08 Marks)**

c. Explain the factors to be considered for estimate of wiring. **(06 Marks)**

Module-2

3 a. Explain the general rules for wiring of residential wiring and positioning of equipment. **(10 Marks)**

b. Draw the electrical circuit and estimate the quantity of materials required for the wiring system choosen in a house, the plan of which is shown in Fig.Q3(b). Assume the height of ceiling as 3.6 m and one plug point (60 W) is to be provided in each room.

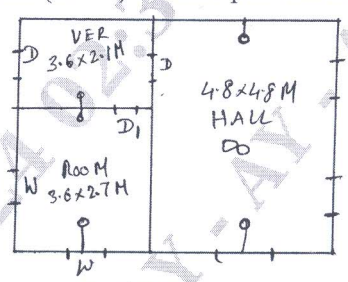
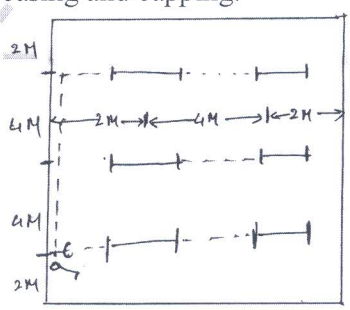


Fig.Q3(b) **(10 Marks)**

OR

4 a. Explain selection of type of wiring and rating of wires and cables. **(10 Marks)**

b. Prepare an estimate with cost for providing electrification to a class room of dimension of 12×8 m^2 for lighting in a PVC casing and capping.



Wiring of class room **(10 Marks)**

Module-3

5 a. What are the different types of service connections and list the advantages and disadvantages? **(10 Marks)**

b. Prepare a UG service connection to feed power supply to an AEH, installation having lighting load of 1020 W and a power load of 3 KW for a distance of 10 m. **(10 Marks)**

OR

6 a. Explain the important considerations regarding motor installation wiring. **(10 Marks)**

b. In a workshop, one 15 HP, 400 Volts, 3-phase, 50 Hz motor is to be installed. Prepare the estimate of the cost required with a layout of the wiring. The plan of the workshop is shown in Fig.Q6(a). The distribution board is placed vertically at height of 1.5 m from ground level.

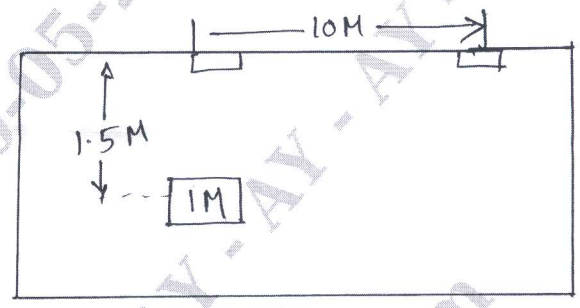


Fig.Q6(a) **(10 Marks)**

Module-4

7 a. Explain the main components of overhead lines. **(10 Marks)**

b. Estimate the material for 11 KV line for a distance of 7 km. **(10 Marks)**

OR

8 a. Explain the points to be considered at the time of erection of overhead lines. **(10 Marks)**

b. Explain the testing and commissioning of overhead distribution line. **(10 Marks)**

Module-5

9 a. Write different types of substation and explain the advantages and disadvantages. **(10 Marks)**

b. Draw the single diagram for a 100 MVA, 33/11 KV substation and prepare an estimation of materials required. **(10 Marks)**

OR

10 a. What are the factors considered for selection of the site for a substation and explain. **(10 Marks)**

b. Draw the single line diagram for 132/33 KV substation with main and transfer bus having 2×40 MVA transformers. Prepare an estimation of materials required. **(10 Marks)**

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