

CBCS Scheme

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15EE553

Fifth Semester B.E. Degree Examination, Dec.2017/Jan.2018

Electrical Estimation and Costing

Time: 3 hrs.

Max. Marks: 80

Note: Answer FIVE full questions, choosing one full question from each module.

Module-1

- 1 a. Write the necessity of Estimation and Costing. (05 Marks)
- b. Explain the following: i) Catalogues ii) Purchase system. (05 Marks)
- c. Mention the different mode of Tendering and explain them. (06 Marks)

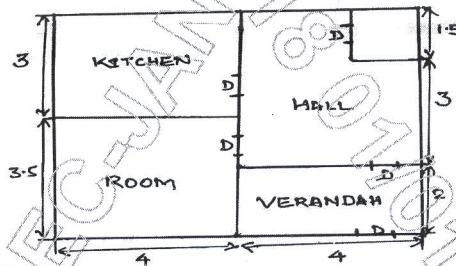
OR

- 2 a. State the important factors which an estimator should know for preparing an internal wiring estimation. (06 Marks)
- b. Explain i) Overhead charges ii) Profit. (04 Marks)
- c. Write any four rules of Indian Electricity. (06 Marks)

Module-2

- 3 a. List the general rules guide lines for residential installation. (05 Marks)
- b. Estimate the Quantity of material required for wiring a newly constructed building where plan is shown in fig.Q3(b). Assume the details of load. All dimensions are in meters. (11 Marks)

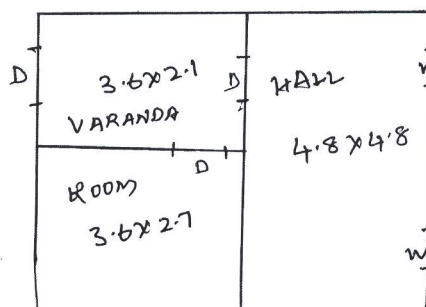
Fig.Q3(b)



OR

- 4 a. Describe the various types of cables or wires used in internal wiring of building. (04 Marks)
- b. Draw the Electrical installation plan and estimate the Quantity of material required for the wiring system. Chosen in a house plan shown in fig. Q4(b). The height of the ceiling as 3.6m and one plug point (60 W) has to be provided in each room. (12 Marks)
All dimensions in meter.

Fig.Q4(b)

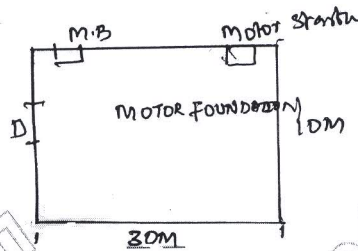


Important Note : 1. On completing your answers, compulsorily draw diagonal cross lines on the remaining blank pages.
2. Any revealing of identification, appeal to evaluator and /or equations written eg, 42+8 = 50, will be treated as malpractice.

Module-3

- 5 a. Write a short note on Service lines? (04 Marks)
 b. Write the reasons for excess recording of energy meter. (04 Marks)
 c. A 10HP, 415V, 3 ϕ , 50 Hz induction motor is to be installed in a workshop the plan of which is shown in fig.Q5(c). Show the single line diagram and estimate the quantity of material required. (08 Marks)

Fig.Q5(c)



OR

- 6 a. List any eight important consideration regarding motor installation. (04 Marks)
 b. Explain the determination of input power, size of conduit, distribution board, main switch and starter. (04 Marks)
 c. Find the materials for 1 ϕ overhead service lines of house located 10 meter away from pole with following :
 Load lighting = 300W ; Heating = 2500W. Assume safety factor = 2. (08 Marks)

Module-4

- 7 a. Explain the following : i) Cross Arms ii) Guys and Stays iii) Lighting Arrestor. (06 Marks)
 b. A pole for an overhead 11 kv, 3 phase 50Hz line is required to be earthed and a stay is to be provided. Make a neat sketch, how it should be done. Prepare a list of materials required. (10 Marks)

OR

- 8 a. Write note on Conductor erection. (08 Marks)
 b. Estimate the cost of adding 132 KV bay at 132 KV grid substations. (08 Marks)

Module-5

- 9 a. Describe briefly the equipment that must be available in a substation. (06 Marks)
 b. Prepare a list of material required for the installation of a 400 KVA indoor type 11/0.433 KV transformer. (10 Marks)

OR

- 10 a. Write short notes on Substation auxiliary supply. (06 Marks)
 b. Estimate the Quantity of material required for the augmentation of 33KV grid substations of 500 KVA to 1000 KVA 33/11 KV grid substations. (10 Marks)
