

CBGS SCHEME

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15EE553

Fifth Semester B.E. Degree Examination, Aug./Sept.2020 Electrical Estimation and Costing

Time: 3 hrs.

Max. Marks: 80

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

Module-1

- 1 a. Write the necessity of estimation and costing. (06 Marks)
b. Write a short note on:
(i) Purchase system
(ii) Catalogues
(iii) Electrical schedule (06 Marks)
c. Write any four rules of Indian Electricity. (04 Marks)

OR

- 2 a. State the important factors which an estimator should know for preparing an internal wiring estimation. (06 Marks)
b. Explain: (i) Comparative statement (ii) Overhead charges (iii) Profit (06 Marks)
c. Mention the different mode of tendering and explain them. (04 Marks)

Module-2

- 3 a. Mention the general rules for internal wiring system. (07 Marks)
b. What are the differences between a wire and a cable? (03 Marks)
c. Mention the different types of cables used in internal wiring. (06 Marks)

OR

- 4 a. What are the factors to be considered for the selection of cables for wiring installations? (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 3.6 m and one plug point (60 W) has to be provided in each room. All dimensions in meter.

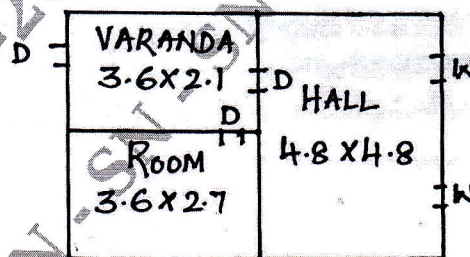


Fig.Q4(b)

(12 Marks)

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. Find the materials for 1- ϕ overhead service lines of house located 10 meter away from pole with following: lighting load = 300 Watts, heating load = 2500 Watts. Assume safety factor = 2. (08 Marks)

OR

- 6 a. What are the important considerations for wiring motor installation? (06 Marks)
 b. A 10 HP, 415 V, 3 ϕ , 50 Hz induction motor is to be installed in a workshop the plan of which is shown in Fig.Q6(b). Show the single line diagram and estimate the quantity of material required.

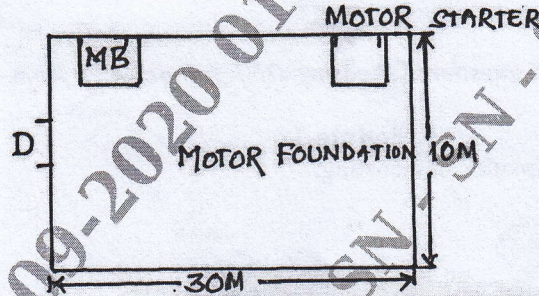


Fig.Q6(b)

(10 Marks)

Module-4

- 7 a. List the points to be considered at the time of erection of overhead lines. (06 Marks)
 b. A pole for an 11 KV, 3- ϕ , 50 Hz overhead line is situated on the bank of the road where there is no front and back for fixing the stay in the ground. This pole is to be earthed and a stay is to be provided. Prepare a list of material required. (10 Marks)

OR

- 8 a. What are the factors on which conductors spacing's and ground clearance depends on? (04 Marks)
 b. Mention the conductors configuration. What are anti-climbing devices and erection of supports? (06 Marks)
 c. Write a short note on conductor erection. (06 Marks)

Module-5

- 9 a. Describe briefly the equipment that must be available in a substation. (06 Marks)
 b. Estimate the quantity of material required for the augmentation of 33 KV grid substation of 500 KVA to 1000 KVA, 33/KV grid substations. (10 Marks)

OR

- 10 a. Write a short notes on substation auxiliary supply. (04 Marks)
 b. What is the purpose of providing the substation earthing system? (06 Marks)
 c. List the advantages and disadvantages of outdoor substation over indoor substation. (06 Marks)
