

# CBCS SCHEME

17EE553

## Fifth Semester B.E. Degree Examination, July/August 2021 Electrical Estimation and Costing

Time: 3 hrs.

Max. Marks: 100

Note: Answer any FIVE full questions.

1. a. State important factors which estimator should know for preparing an internal wiring estimation. (06 Marks)  
b. Define overhead charges, contingency, catalogue. (06 Marks)  
c. What are the modes of Tendering? Explain. (08 Marks)
2. a. Explain purchase system. (07 Marks)  
b. Brief the guidelines for inviting Tender. (07 Marks)  
c. Write any 4 rules of Indian Electricity Act. (06 Marks)
3. a. Describe the points on which the choice of wiring system can be made. (06 Marks)  
b. Estimate the quantity of material required for wiring system, the plan is shown in Fig Q3(b). Assume the detail of load. All dimensions are in meters.

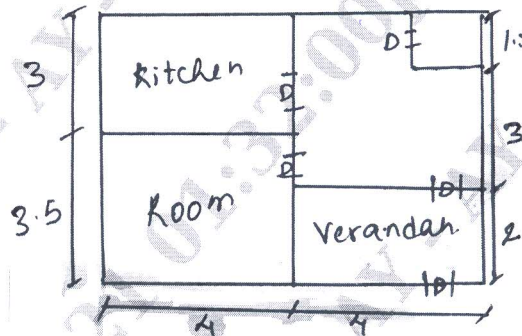


Fig Q3(b)

(14 Marks)

4. a. List the General rules of residential installation. (06 Marks)  
b. Draw the electrical installation plan, estimate quantity of materials required for wiring system, chosen in house plan shown in Fig Q4(b). Assume all details of load. All dimensions are in meter.

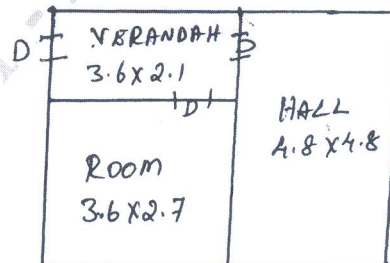


Fig Q4(b)

(14 Marks)

- 5 a. What is service line? What are the various types? Explain any two. (06 Marks)  
 b. 2 ac, 3 $\phi$ , 415,50Hz squirrel cage motor as to be installed in a workshop. Make a neat sketch of wiring scheme. With single line diagram, prepare also a list of material required for wiring.

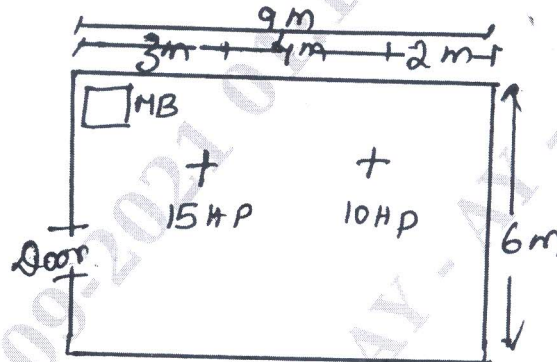


Fig Q5(b)

(14 Marks)

- 6 a. List the important consideration regarding motor installation wiring. (07 Marks)  
 b. What are the reasons for excess recoding of energy meter? (04 Marks)  
 c. Estimate the quantity of material for providing connection to a double storeyed building 12 meters away from pole. Load = 4000W. Assume diversity factor = 1.6. (09 Marks)
- 7 a. Brief the components of overhead lines. (04 Marks)  
 b. Write a note on erection of conductor. (06 Marks)  
 c. A pole of 11KV, 3 $\phi$ , 50 Hz, overhead line is required to be earthed and stay is to be provided, make a sketch a prepare list of materials required. (10 Marks)
- 8 a. Explain the necessity of 'Earthing of transmission line' with a neat sketch. (06 Marks)  
 b. Write a note on Guarding of overhead line. (06 Marks)  
 c. Estimate the cost of adding 132KV bay at 132KV grid substation. (08 Marks)
- 9 a. Describe briefly the equipment that must be available in a substation. (06 Marks)  
 b. Explain substation earthing. (04 Marks)  
 c. Prepare a list of material required for the installation of a 400KVA indoor type 11/0.433KV transformer. (10 Marks)
- 10 a. Write a note on substation auxiliary supply. (04 Marks)  
 b. Explain the functions of:  
 i) lighting arresters ii) isolations iii) Earthing switch (06 Marks)  
 c. Estimate of quantity of material required for augmentation of 33KV grid substation of 500KVA to 1000KVA, 33/11KV grid substations. (10 Marks)

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