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17EE553

Fifth Semester B.E. Degree Examination, Feb./Mar. 2022 Estimating and Costing

Time: 3 hrs.

Max. Marks: 100

- Note:** 1. Answer any FIVE full questions, choosing ONE full question from each module.
2. Use of wire table is permitted.

Module-1

- Illustrate the necessity of estimation and costing. (05 Marks)
 - Explain the following : i) Catalogues ii) Contingencies (06 Marks)
 - List the factors to be considered for estimate. (09 Marks)

OR

- Illustrate the Indian Electricity ACT. (05 Marks)
 - Explain the following : i) Overhead charges ii) Purchase system. (06 Marks)
 - List the guidelines for inviting tenders. (09 Marks)

Module-2

- Illustrate the guidelines for wiring of residential wiring and positioning of equipments. (08 Marks)
 - The Fig.Q3(b) shows the plan of a dwelling house which is to be wired in open conduit system for providing lighting outlets only.
 - List the lighting load
 - Draw the wiring plan
 - Prepare an estimate of cost for the electrifications of the lighting outlets.

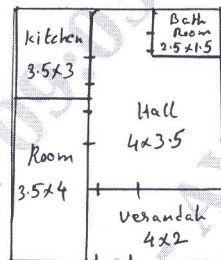


Fig.Q3(b)

(12 Marks)

OR

- Illustrate different types of wiring and selection of type of wiring. (08 Marks)
 - Company's meter will be located in the front verandah. Draw the single line diagram for lighting and heating circuits on the sketch. Calculate : i) Total load current, length of casing and cable and size of the cable ii) determine the quantity of materials for lighting and do the estimation. Assume : i) Heating load 2500W ii) Height of ceiling as 3.6 meter.(Refer Fig.Q4(b).

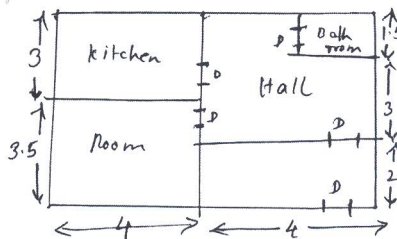


Fig.Q4(b)

(12 Marks)

Module-3

- 5 a. Illustrate types of service connections and their features. (08 Marks)
 b. Prepare a UG service connection to feed power supply to an A.E.H installation having a lighting load of 1020W and a power load of 3KW for a distance of 10 meters. (12 Marks)

OR

- 6 a. Illustrate the important considerations regarding motor installation wiring. (08 Marks)
 b. In a workshop, one 15hp, 400V, 3 - ϕ , 50Hz motor is to be installed. Prepare the estimate of the cost required with layout of the wiring. Then plan of the workshop is show in Fig.Q6(b). The distribution board is placed vertically at the height of 1.5m from ground level.

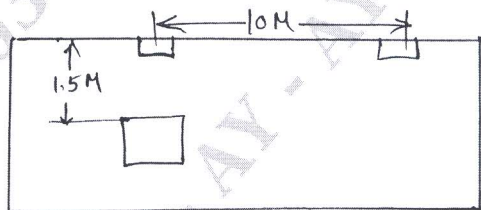


Fig.Q6(b)

(12 Marks)

Module-4

- 7 a. Illustrate the main components of the overhead lines. (10 Marks)
 b. Estimate the material for 11KV line for the distance of 2km the line crosses a highway and telephone line enroute. (10 Marks)

OR

- 8 a. Illustrate various 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. What are the factors considered for selection of the site for a substation and illustrate. (10 Marks)
 b. Draw the key diagram of typical 33 KV substation. (10 Marks)

OR

- 10 a. Illustrate different types of substation. (10 Marks)
 b. Prepare on estimate of cost for erection of 100KVA, 11KV/440V, 50Hz, 3-phase distribution transformer including all accessories on HL and LT sides using market rates. (10 Marks)
