

2002 SCHEME

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EE81

Eighth Semester B.E. Degree Examination, June-July 2009 Industrial Management, Electrical Estimation & Economics

Time: 3 hrs.

Max. Marks: 100

Note: Answer any FIVE full questions.

- 1 a. Bring out the comparison between Traditional management and scientific management. (08 Marks)
 b. Explain the works of Gilberth. (04 Marks)
 c. Explain the following Fayol's Principles of management :
 i) Division of work ; ii) Authority and Responsibility
 iii) Unity of Command ; iv) Unity of Direction (08 Marks)

- 2 a. What are the functions of management? Briefly explain each of them. (10 Marks)
 b. Explain Line-staff-committee type of organization. Enumerate the advantages, disadvantages and applications of each. (06 Marks)
 c. Discuss the theory of X and Y. (04 Marks)

- 3 a. Explain scientific recruitment. What are its advantages and disadvantages? (10 Marks)
 b. Explain briefly the methods of settlement of industrial disputes. (10 Marks)

- 4 a. Discuss the various factors to be considered for plant location. (04 Marks)
 b. What do you mean by 'Automation'? What are its characteristics? What are its advantages and disadvantages? (12 Marks)
 c. Write a note on 'Line Balancing'. (04 Marks)

- 5 a. Explain the following types of wiring :
 i) Surface conduit wiring ; ii) Concealed conduit wiring (04 Marks)
 b. The plan of residential house is shown in Fig.Q5(b). Assume the height of ceiling as 3.6 m and one plug point is to be provided in room and hall. The wiring is to be PVC casing-capping. Assume suitable voltage.
 i) Decide the number of sub-circuits ; iv) Calculate the length of PVC casing-capping.
 ii) Decide the size of PVC cable to be used ; v) Calculate the length of conduit of 19 mm size.
 iii) What are the assumptions to be made?
 Draw the wiring plan.

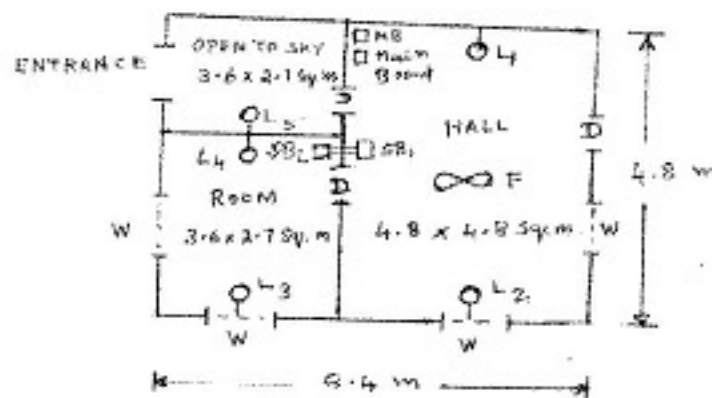


Fig Q5(b)

(16 Marks)

- 6 a. Calculate the input current to the following motors.
- 10 HP (metric), 500 v DC motor at 80% efficiency
 - 2 HP (metric), 240 v single phase AC motor at 70% efficiency and 0.8 power factor (lagging).
 - 10HP (metric), 145 v, 3-phase AC motor at 80% efficiency and 0.85 power factor (lagging). (03 Marks)
- b. In the workshop shown in Fig.Q6(b), one 15 HP, 400 V, 3-phase, 50 Hz motor is to be installed. Estimate the quantity of materials required. The wiring is to be surface conduit. Assume the efficiency as 80% and 0.85 power factor lagging.

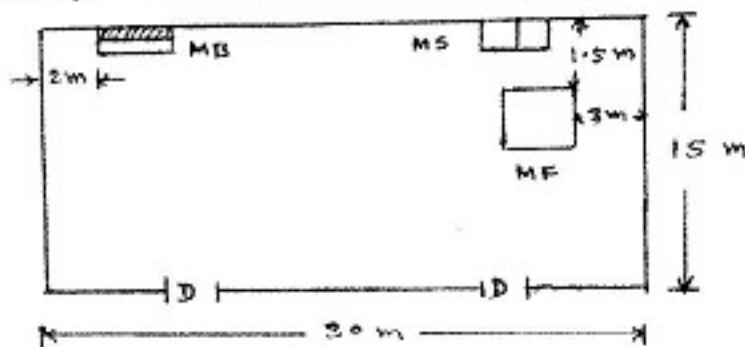


Fig Q6(b)

Note : [MB → Main Board
MS → Motor switch and starter
MF → Motor Foundation]

(17 Marks)

- 7 a. With usual notations, show that for Reducing Balance method, the rate of depreciation is given by

$$r = 1 - \sqrt[5]{\frac{V}{C}}$$

(08 Marks)

- b. The original cost of a machine is Rs.1,00,000, salvage value is Rs.10,000. The expected economical life of the machine is 5 years. Calculate the depreciation charges for 1st to 5th year by 'Sum of the Digits method'. (08 Marks)
- c. Draw a typical 'Break-Even Chart' and explain Break-Even analysis. (04 Marks)
- 8 Write short notes on any four of the following :
- Works of Taylor
 - Maslow's hierarchy of needs and satisfactory needs
 - PERT and CPM
 - Causes of depreciation
 - Direct inventory and Indirect inventory.

(20 Marks)