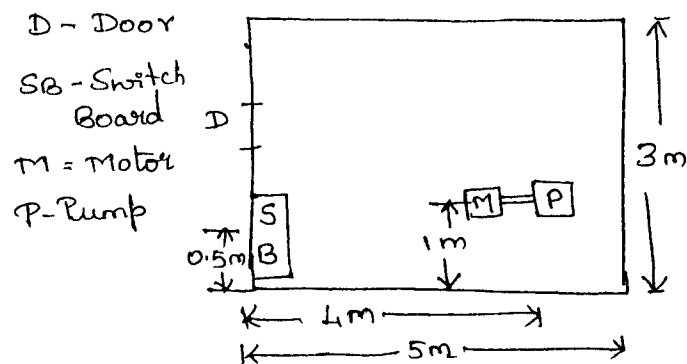




- 4 a. What are the factors to be checked while inspection of internal wiring installations? (06 Marks)
- b. Mention the reasons for excess recording of energy consumption by energy meter. (06 Marks)
- c. A farmer requires to connect a 3-phase, 37 kW, 415V, 50Hz motor to a 3-phase, 4-wire, 415V, 50Hz overhead line. The distance of the service line from the farmer structure having motor is 15m. (08 Marks)

**PART - B**

- 5 a. Mention any ten considerations regarding motor installation wiring. Also explain how rating of fuses are determined. (08 Marks)
- b. Estimate the quantity of materials required for an agricultural pump set of 5.0 kW, 3 phase, 415V motor. The layout of pump shed is as shown in Fig.Q.5(b). (12 Marks)



- 6 a. Explain with a block diagram how electrical energy is conveyed in a typical AC electrical power supply system. (08 Marks)
- b. A pole for an overhead 11kV, 3-phase, 50Hz line is required to be earthed and a stay is to be provided. Make a neat sketch showing how it should be done. Prepare a list of materials required. (12 Marks)
- 7 a. What are the various types of insulators used in construction of distribution overhead lines? (08 Marks)
- b. A 1km long overhead distribution line of 415 volts, 3-phase, 50Hz is to be erected along a straight route from 100kVA, 11/0.433 kV pole-mounting substation. The line is to be laid with  $6/1 \times 3.00\text{mm}$  ACSR conductor on RCC poles of a metre length. Make a list of material required for the line the span between adjacent poles is 50 metres. (12 Marks)
- 8 a. What are the advantages and disadvantages of outdoor substation over indoor substations? (08 Marks)
- b. Estimate the quantity of material for erection of a 250KVA pole-mounted substation. (12 Marks)

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