Question Bank(K-Scheme)

Unit Test I

Course: Electrical Estimating & Contracting

Code: (314325) **Abbreviation - EEC**

Semester: 4K **Program: EE**

UNIT I: ESTIMATES & CONTRACTS (10 M)

2 Marks Questions:

1) In NEC-2023, NEC means what?
2) State any four I.E rules for electrical installation.
3) Classify / list types of Electrical Installations.
4) State the standard voltages of L.V. , M.V. and H.V. Installations.
5) What is the difference between specifications & ratings?
6) List types of contracts.
7) What do you understand by the word estimation.
8) What do you mean by tender notice.
9) Give 2 benefits of GeM.

4 Marks Questions:

10) As per I.S. define: 1. Circuit 2. Wiring and 3. Installation
11) List 8 general principles followed/ general requirements in electrical Installations.
12) Write short notes on Permit to work.
13) Write a proforma asking permission for shutdown of a transmission line.
14) Explain the concept of electrical Contracts.
15) Make a sample of tender notice.
16) Make a quotation for getting wiring contract of a residential building.
17) Compare tender and quotation (at least 8 points)

UNIT II: DOMESTIC & COMMERCIAL INSTALLATIONS (16M)

2 Marks Questions:

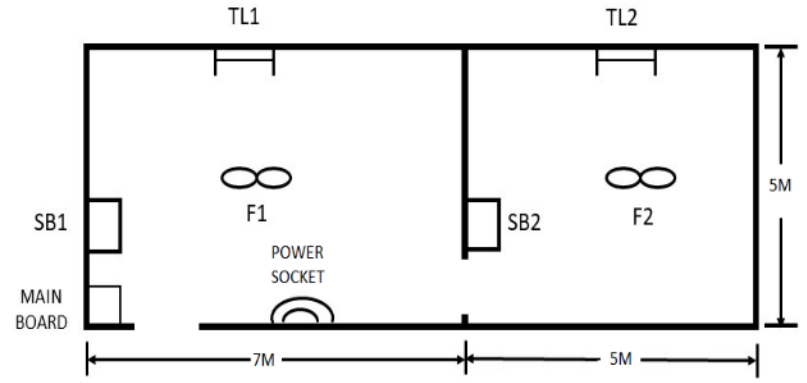
18) Give any four example of commercial installation.
19) Explain the use of civil engineering building drawing in electrical installation systems.
20) Define service connection. State different type of service connection.

4 Marks Questions:

21) A newly constructed residential unit is having following load. (i) 8 Lamps of 40W (ii) 4 ceiling fan of 65W (iii) 4 Sockets of 6 Amp having 100 watt. (iv) 2 Sockets of 16 Amp having 2 KW. Calculate: i. Total lighting load ii. Total power load iii. Size of distribution board iv. Number of sub-circuit.

22) Describe the procedure to prepare a design for commercial electrical installation.

23) Draw wiring diagram for the residential load shown in Fig. No. 1



Assume One Socket on each switchboard

Fig.No.1

24) An Auditorium whose dimensions are 15m × 8m is to be fitted with an electric installation. Estimate the quantity of material. Assume the height of ceiling to be 3m. The wiring is running at a height of 1.5m from the floor.
The load in the hall is 12 fluorescent lamps (36 W each), 6 fans (80 W each) and 8 (5 Amp) Sockets and 2 (15 Amp) Socket outlets.

25) Prepare schedule of material required for underground service connection.

26) State stepwise design procedure for commercial installation.

27) Describe design of number of lighting sub-circuits with example for residential installations.

28) State any four IE rules used in residential wiring installation.

29) With relevant diagrams, describe the method of polarity testing using test lamp.

UNIT III: INDUSTRIAL INSTALLATIONS (16M)

2 Marks Questions:

30) Compare industrial and residential electrical installation. (Any 2 points).

31) List any two differences between non-industrial and industrial load.

4 Marks Questions:

32) Explain how rating of main switch, motor switch, DB and cable is decided in Industrial Installation.

22) Draw wiring diagram and single line diagram of 3phase, 415V, 5HP Induction motor installation.

23) Prepare schedule of material for Industrial load as shown in Figure No. 2.

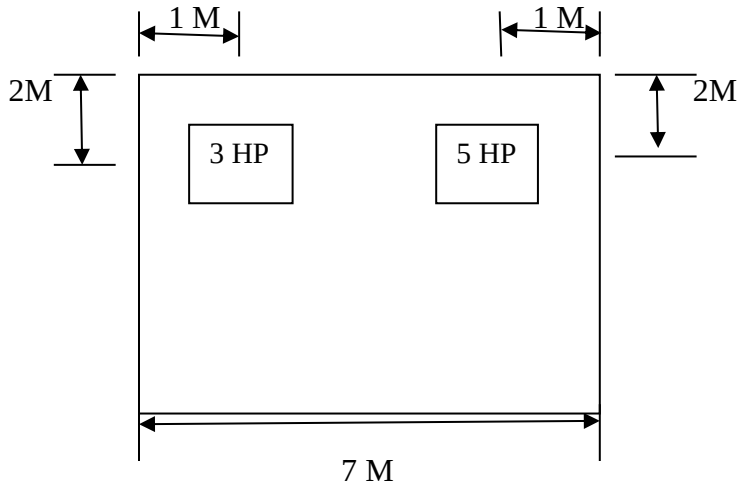
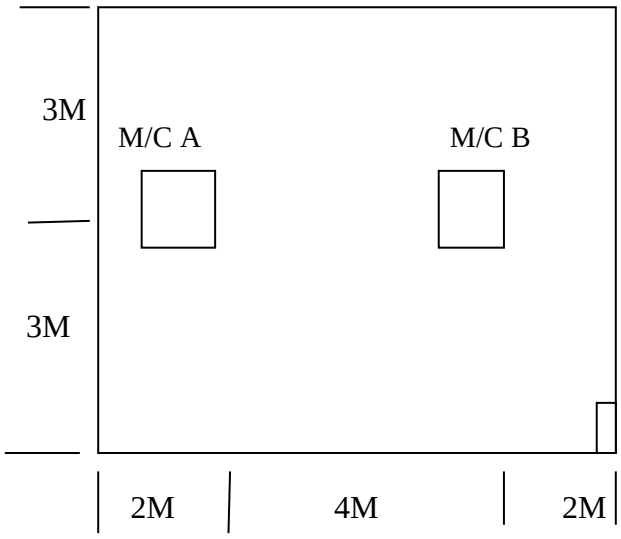


Figure 2

24) Design electrical installation scheme (layout and wiring diagram) of small industrial unit having 3 phase load of 30kW flour mill. Also, prepare the list of materials required.

25) A wiring is to be carried out in a small repair shop, having the plan as shown in figure. The power load comprises of two 3 phase, 400V, 7.5 H P cage induction motors connected with a star-delta starter.

1. Prepare a wiring plan and single line schematic diagram indicating different equipment used.
2. Estimate the quantity of material along with its detailed specification.



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