

Sample Question Paper

22627

Program Name : Electrical Engineering Program Group
Program Code : EE/EP/EU
Semester : Sixth
Course Title : Electrical Estimation & Contracting
Max. Marks : 70

Time: 3 Hrs.

Instructions:

- (1) All questions are compulsory.
- (2) Illustrate your answers with neat sketches wherever necessary.
- (3) Figures to the right indicate full marks.
- (4) Sub-questions in a main question carry equal marks.
- (5) Assume suitable data if necessary.
- (6) Preferably, write the answers in sequential order.

Q.1 Attempt any Five of the following.

(10 Marks)

- a) Draw the symbol for i. Isolator ii. Lightning Arrester.
- b) State any four I.E rules for electrical installation.
- c) Compare industrial and residential electrical installation. (Any 2 points)
- d) Write any two factors for selection of LT (415V) power cables.
- e) Write the recommended illumination level for i. Parking area ii. National Highway.
- f) Explain Supplementary estimate.
- g) Define tender and state its types.

Q.2 Attempt any Three of the following.

(12 Marks)

- a) Draw the wiring diagram and single line diagram for control of two lamps and one fan by individual switches.
- b) 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.
- c) Describe the procedure to prepare a design for commercial electrical installation.
- d) Explain how rating of main switch, motor switch, DB and cable is decided in Industrial Installation.

Q.3 Attempt any Three of the following.

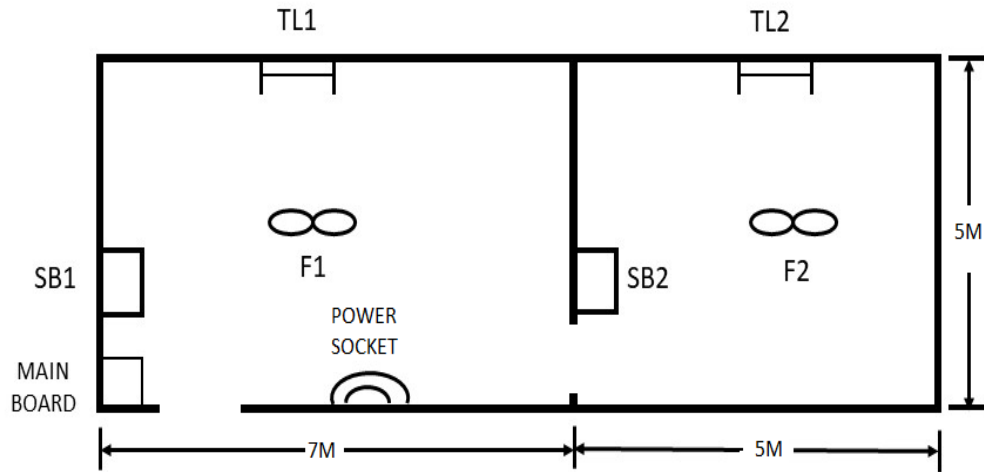
(12 Marks)

- a) State the methods of opening of tender and explain any one method.
- b) List the materials required for overhead service connection (Any Eight).
- c) Draw wiring diagram and single line diagram of 3phase, 415V, 5HP Induction motor installation.
- d) State any eight electrical equipment required in 11 kV HT substation.

Q.4) Attempt any Three of the following.

(12 Marks)

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



Assume One Socket on each switchboard

Figure No. 1

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

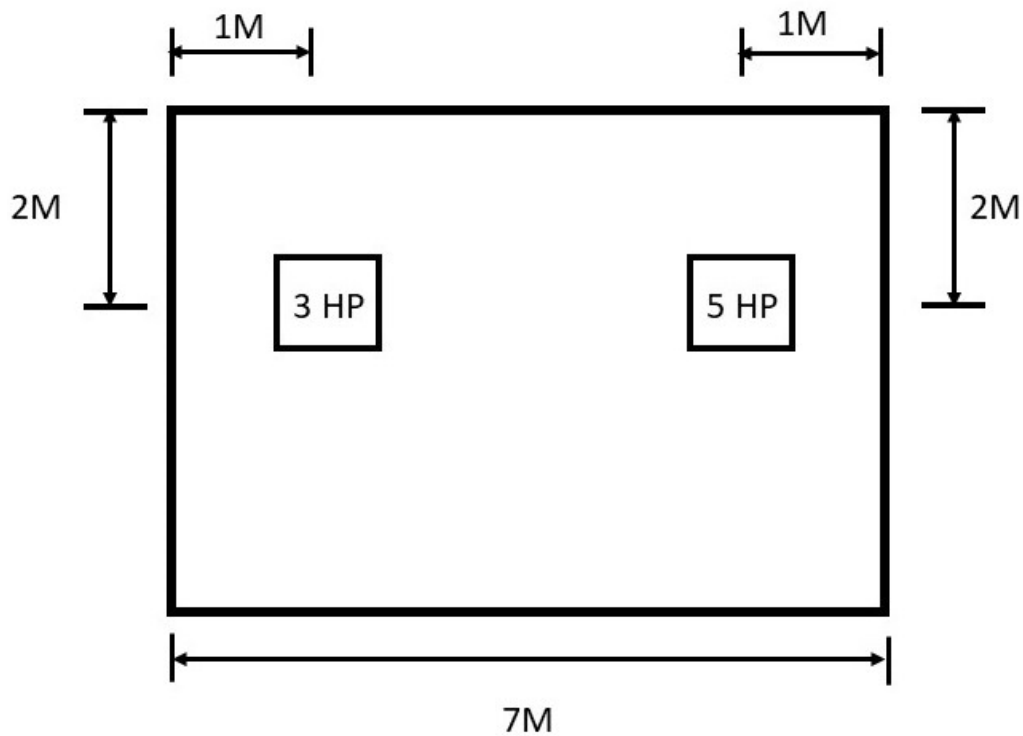


Figure No. 2

- State the different methods of cable termination for LT (415V) line and explain any one method.
- Draw the single line diagram of LT (415V) substation.
- State the factors to be consider to design street light installation.

Q.5) Attempt any Two of the following. (12 Marks)

- a) 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.
- b) Draw the layout and estimate LT (415V) underground service connection for 10 hp flour mill.
- c) Prepare the list of materials and devices required for public lighting installation.

Q.6) Attempt any Two of the following. 12 Marks

- a) Prepare tender notice and quotation for electrical installation of four 2 BHK residential units.
- b)
 - i. Enlist different on-off control equipment used in street light installation.
 - ii. Write the aim of public lighting installation.
- c) 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.

**'T' Scheme
Progressive Test– I Sample Question Paper**

Program Name : Electrical Engineering Program Group
Program Code : EE/EP/EU
Semester : Sixth
Course Title : *Electrical Estimation & Contracting*
Max. Marks : 20

22627

Time: 1 Hour

Instructions:

- (1) All questions are compulsory.
- (2) Illustrate your answers with neat sketches wherever necessary.
- (3) Figures to the right indicate full marks.
- (4) Sub-questions in a main question carry equal marks.
- (5) Assume suitable data if necessary.
- (6) Preferably, write the answers in sequential order.

Q.1 Attempt any FOUR.

(08 Marks)

- a. State IE rule 90.
- b. State the different methods of representation of wiring diagram.
- c. Give any four example of commercial installation.
- d. Explain the use of civil engineering building drawing in electrical installation systems.
- e. Define service connection. State different type of service connection.
- f. List any two difference between non-industrial and industrial load.

Q.2 Attempt any THREE.

(12 Marks)

- a. Draw the following wiring diagrams:
 - (i) One Lamp controlled by one switch.
 - (ii) One Lamp controlled by two switches.
- b. Prepare schedule of material required for underground service connection.
- c. State stepwise design procedure for commercial installation.
- d. Describe design of number of lighting sub-circuits with example for residential installations.
- e. Estimate the cost of electrical installation for workshop as shown in Figure No. 1

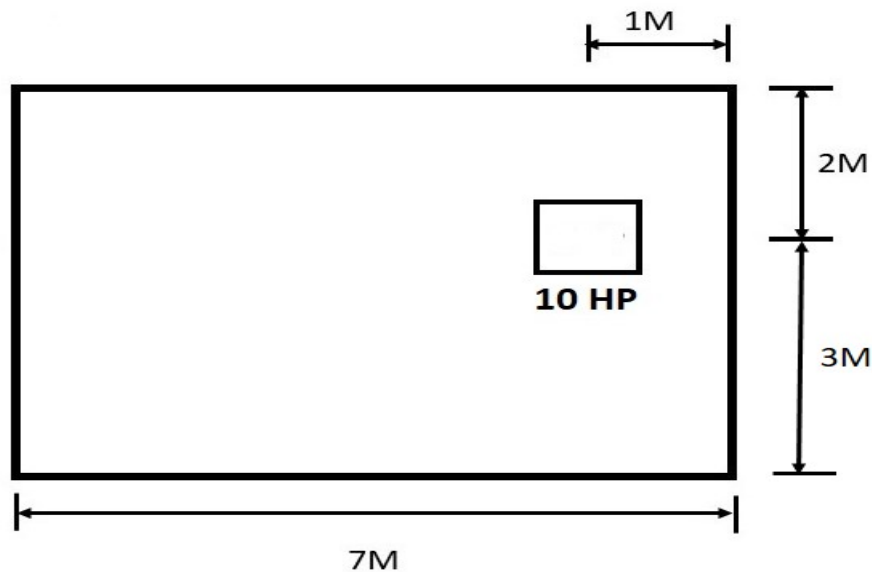


Figure No. 1

'I' Scheme
Progressive Test– II Sample Question Paper

Program Name : Electrical Engineering Program Group
Program Code : EE/EP/EU
Semester : Fifth
Course Title : Electrical Estimation & Contracting
Max. Marks : 20

22627

Time: 1 Hour

Instructions:

- (1) All questions are compulsory.
- (2) Illustrate your answers with neat sketches wherever necessary.
- (3) Figures to the right indicate full marks.
- (4) Sub-questions in a main question carry equal marks.
- (5) Assume suitable data if necessary.
- (6) Preferably, write the answers in sequential order.

Q.1 Attempt any FOUR.

(08 Marks)

- a. Draw single diagram for 3 phase induction motor with star delta starter.
- b. List the different types of pole structures used in distribution lines.
- c. List the different type of cables used for distribution line.
- d. Classify the outdoor lighting installation.
- e. Draw single line diagram of garden lighting installation.
- f. List the qualities of good estimator (Any 4).

Q.2 Attempt any THREE.

(12 Marks)

- a. State the factors determining selection of HT power cables.
 - b. Draw neat labelled diagrams of overhead and underground service connections.
 - c. State the classification of street lighting installation on the basis of street lamp height and light source.
 - d. Distinguish between tender and quotation. (Any 4 points)
 - e. Explain the steps in submission and opening of a tenders.
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