

22627

24225

3 Hours / 70 Marks

Seat No.

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- Instructions –*
- (1) All Questions are *Compulsory*.
 - (2) Answer each next main Question on a new page.
 - (3) Illustrate your answer with neat sketches wherever necessary.
 - (4) Figures to the right indicate full marks.
 - (5) Assume suitable data, if necessary.
 - (6) Use of Non-programmable Electronic Pocket Calculator is permissible.
 - (7) Mobile Phone, Pager and any other Electronic Communication devices are not permissible in Examination Hall.

Marks

- 1. Attempt any FIVE of the following: 10**
- a) Draw the symbol for –
 - i) Circuit Breaker
 - ii) Earthing Switch.
 - b) State any four safety rules while working on live mains.
 - c) Compare non-industrial and industrial installation. (Any two points)
 - d) List any two types of HT cables.
 - e) State the classification of outdoor installation.
 - f) State any four qualities of Good contractor.
 - g) Define service connection and state its types.

P.T.O.

2. Attempt any THREE of the following: 12

- a) Draw the wiring diagram and single line diagram for the control of two lamps, two ceiling fans and one 5A socket by individual switch.
- b) Compare overhead and underground service connection. (Any eight points)
- c) Calculate –
 - i) Total light load
 - ii) Total power load
 - iii) No. of lighting sub circuit
 - iv) No. of power sub circuit
for one BHK residential unit with following points.
 - 1) Six lamps with 40W
 - 2) Four ceiling fans with 60W
 - 3) Five sockets of 5A with 100W
 - 4) Two sockets of 16A with 1kW.
- d) State any four rules for motor wiring and draw single line diagram of 3-phase motor installation.

3. Attempt any THREE of the following: 12

- a) Explain two envelope method for tender.
- b) State any eight design consideration of electrical installation system in commercial premises.
- c) List out the four different types of wiring system with suitable example of each type.
- d) List any eight electrical equipment required in 11 kv (HT) substation.

4. Attempt any THREE of the following:

12

- Write any four rules for residential installation.
- Prepare the schedule of material for industrial load as per Figure No. 1.

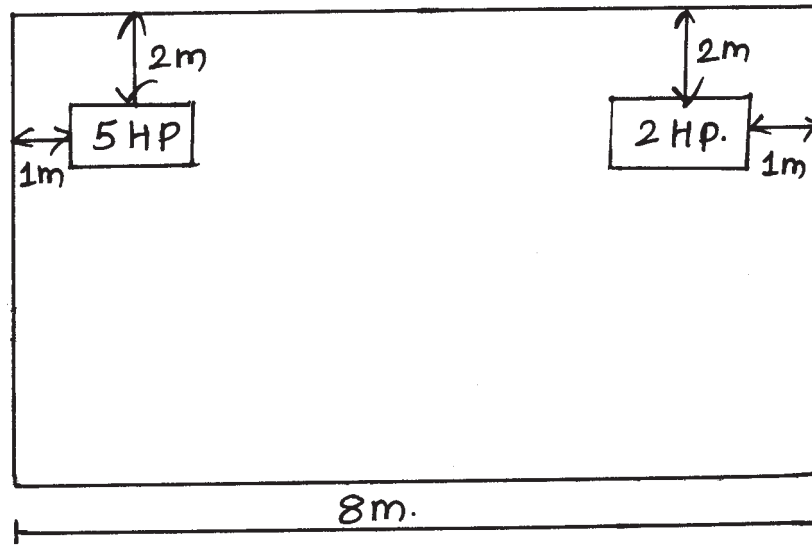


Fig. No. 1

- State any four desirable properties of underground cable.
- Draw the single line diagram of L.T. (415V) substation.
- Explain the ON/OFF control used for street light installation.

5. Attempt any TWO of the following:

12

- State any six design consideration in case of industrial installation.
- State the different methods of cable termination for L.T. (415V) line and explain any one method in detail.
- State the three types of estimates and explain any one.
 - State the six objectives of public lighting installation.

6. Attempt any TWO of the following:**12**

- a)
 - i) Compare Quotation and Tender on any three points.
 - ii) State the factors to be considered to design street light installation.
- b)
 - i) Explain street light pole structure with diagram.
 - ii) State any six names of sources used in street light installation.
- c) A $18\text{ m} \times 10\text{ m}$ class room having R.C.C. ceiling at a height of 4 m is to be provided with following electric fittings.

Fluorescent tube - 40 w → 9 Nos.

Ceiling fans 50 w → 4 Nos.

Plug points 100 w → 2 Nos.

Draw single line diagram showing the position of switches and fittings. Prepare the list of material required for class room wiring.
