

314325

25226

3 Hours / 70 Marks

Seat No.

--	--	--	--	--	--	--	--

- Instructions :**
- (1) All Questions are *compulsory*.
 - (2) Assume suitable data, if necessary.
 - (3) Use of Non-programmable Electronic Pocket Calculator is permissible.
 - (4) 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) State classification of cable on voltage level.
- (b) Define service connection and list two types of connection.
- (c) Explain various point to be considered for electric street light design.
- (d) List four examples of commercial installation.
- (e) Draw symbol of
 - (i) Intermediate switch
 - (ii) Bell
- (f) List types of contract.
- (g) List any two methods of cable terminations.

2. Attempt any THREE of the following :

12

- (a) Compare industrial electrical installation and residential electrical installation.
- (b) Explain the procedure for submission of tender.



- (c) State advantages of ON-OFF control for street lighting.
- (d) State four essential requirements of valid contract.
- (e) State stepwise design procedure for commercial installation.

3. Attempt any THREE of the following :

12

- (a) Differentiate between underground and overhead service connection on the basis of safety, appearance, maintenance cost and area of application.
- (b) With help of single line diagram explain motor wiring circuit in factory unit installation.
- (c) State any eight objectives of road lighting.
- (d) Explain the procedure of obtaining permit to electrical work in electrical systems.

4. Attempt any THREE of the following :

12

- (a) Explain Direct cable laying method with diagram.
- (b) State any four general rules of Electrical installation.
- (c) Draw wiring and schematic diagram for two lamps, two fans and one 5 Amp socket connected to single phase supply.
- (d) Explain the criteria for selection of starters for three phase induction motors.
- (e) In industry having 25 HP induction motor 3 phase. Prepare electrical installation LT design scheme and list of quantity of material required.

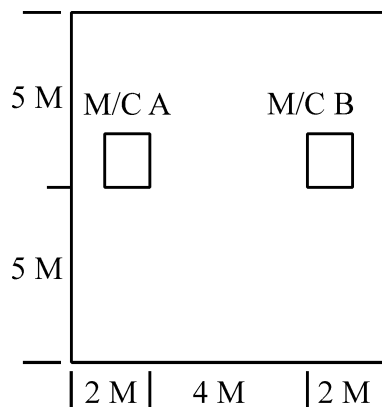
5. Attempt any TWO of the following :

12

- (a) Explain the construction and working of high-mast pole structure with a detailed list of its components.
- (b) Explain factors determining the selection of cables.
- (c) State and explain design consideration in industrial installation.

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

- (a) Explain following terms related to highway :
- (i) Visual Performance
 - (ii) Visual Comfort
 - (iii) Contrast
 - (iv) Glare
 - (v) Field of vision
 - (vi) Overall uniformity ratio
- (b) A classroom has 15×10 m, provided with 07 fluorescent lamps, one 5 Amp plug socket and 02 fans. Design and draw electrical installation scheme and estimate quantity of material for casing capping wiring system.
- (c) Wiring is to be carried out in a small workshop having the plan as shown in Fig. No. 1. The power load comprises of 2 three phase induction motors of 5 HP each squirrel cage induction motors connected with DOL starter.
- (i) Prepare a wiring plan with the help of a single line diagram
 - (ii) Estimate the quantity of material along with ratings.

**Fig. No. 1**

