C14-EE-**404**

4443

BOARD DIPLOMA EXAMINATION, (C-14)

MARCH / APRIL - 2019

DEEE - IV SEMESTER EXAMINATION

ELECTRICAL INSTALLATION AND ESTIMATION

Time : **3** Hours] [Total Marks : **80**

PART - A **3×10=30**

Instructions : *(1) Answer **ALL** questions.*

*(2) Each question carries **THREE** marks.*

(3) Answer should be brief and straight to the point and shall not exceed five simple sentences.

1 State the reasons for accidents in Electrical System.

2 Write any three advantages of Concealed conduit wiring.

3 Expand the full form of MCB, RCD, RCCB, MCCB, ELCB, and ICTP

4 Draw the figure of Energy meter with Distribution Board.

5 State the factor on how to decide the Number of Sub-circuits in a wiring system.

6 Calculate the Size of cable required for installing a 5 H.P, 3-phase motor,400v,motor with efficiency = 85% and p.f = 0.87 lag.

7 State the necessity of earthing.

8 List any three types of insulators used in overhead line systems.

9 State IE Rule No. and write about Declared voltage of supply to consumer.

10 Write short notes on determining Capacity of Transformer.

PART - B **10×5=50**

Instructions : *(1) Answer any **FIVE** questions.*

*(2) Each question carries **TEN** marks.*

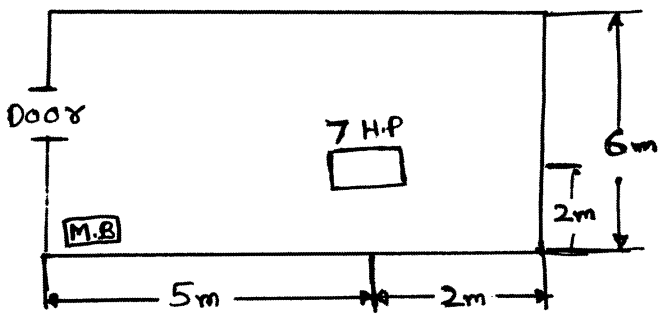
(3) Answer should be comprehensive and the criterion for valuation is the content but not the length of the answer.

11 Explain with neat figure about HRC fuse, its advantages and disadvantages?

12 Draw the wiring layout of Big Hotel (4-storey) with Lift arrangement and explain about it.

13 Estimate the quantity of materials required for wiring of agricultural pumpset motor 400v, 5 Kw, 50 Hz, 3-phase using star-delta starter, ICTP switch and indicating lamps. The supply to the pump is to be taken from an over head, LT 3-phase pole, 15 m away from pump shed (5m × 3m). Use conduit wiring for motor connection and show the layout of the connection. (Assume suitable data if required)

14 A 7 HP, 400V, 3-phase, 50 Hz squirrel cage induction motor is to be installed in a flour mill as shown in figure. Estimate the quantity of materials required and their approximate cost. Show the layout of wiring diagram and assume any missing data (MB: Main Board)



15 Prepare the quantity of material required for the installation of a 300KVA, 11/0.415 KV 3-Phase Plinth mounted sub-station with two pole structure and draw neat figure.

16 Estimate the quantity of materials required for Pipe earthing for 50KW load with a neat sketch.

17 An overhead 11kv 3-phase line is to tapped of from existing 11kv line pole at about 90° angle. The proposed line has to be erected on 10m long rail poles with ACSR conductor of size 6/1 × 2.11mm, make a list of materials required for the job and estimate for 1.8 Km long line. (Assume missing data if any)

18 Describe the Departmental procedure for obtaining a Service connection from a power distribution company (TSSPDCL)
