C16-EE–406

6445

6445

BOARD DIPLOMA EXAMINATION, (C-16)

JUNE/JULY—2022

DEEE - FOURTH SEMESTER EXAMINATION

ELECTRICAL ENGINEERING DRAWING

Time : 3 hours]   [*Total Marks* : 60

PART—A   5×4=20

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

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

(3) Assume any other missing data.

1. Draw standard graphical symbols for the following objects.

   (a) Fluorescent light

   (b) Buzzer

   (c) DC series motor

   (d) Wattmeter

   (e) Fault

2. Draw four-point starter for a DC compound motor and label the pars.

3. Draw the cross-sectional view of HSL type cable and label the parts.

4. Draw a neat sketch of 220 kV steel tower for single circuit.

www.manaresults.co.in

PART—B   20×2=40

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

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

(3) Take suitable scale wherever required and assume any other missing data.

5. Draw the full sectional front elevation and plan of a single-phase 220/110 volts, 5 kVA transformer with the following data :

Core

Cross-section of the core	single step
Diameter of the circle	7·5 cm
Distance between core centers	15 cm

Yoke

Height of yoke	8 cm

LT winding

Outside diameter of LT coil	10 cm
Inside diameter of LT coil	8 cm
Height of LT coil	23 cm
Number of turns per limb	50

HT winding

Outside diameter of HT coil	14 cm
Inside diameter of HT coil	11 cm
Height of HT winding	23 cm
Number of turns per limb	100
Overall height of yoke and core	43 cm

Assume any other missing data.

6. *(a)* Draw a neat diagram of pipe earthing and label the parts.   10

(b) Draw a simple lap winding for a DC machine having 6 poles and 36 armature slots and with one conductor per slot.   10

7. Draw the half sectional elevation and end view of a 7 HP, 400 V, 50 Hz, 3-phase squirrel cage induction motor with the following data :

Outer diameter of stator	250 mm
Inside stator diameter	178 mm
Width of stator frame	40 mm
Stator core length	134 mm
Air gap width	2 mm
Number of stator slots	36
Type of stator slot	open
Size of stator slot	15 × 10 mm
Outer diameter of rotor stampings	174 mm
Number of rotor slots	30
Type of rotor slot	open
Size of rotor slots	10 × 6 mm
Inner diameter of rotor stampings	36 mm
Shaft diameter at center	36 mm
Shaft diameter at bearing	32 mm

Assume any other missing data.

★ ★ ★