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C16-EE-406**6445**

BOARD DIPLOMA EXAMINATION, (C-16)
OCTOBER/NOVEMBER—2023
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 **three** marks.
(3) All dimensions are in mm.

1. Draw the following graphical symbols : 1+1+1+1+1
- (a) Lightning arrester
 - (b) Push button
 - (c) Bell
 - (d) Fan regulator
 - (e) DC generator
2. Draw a sketch of valve type lightning arrester and label the parts. 4+1
3. Draw 220 kV steel tower for single circuit and show clearances. 4+1
4. Draw a neat sketch of 3 point starter for a DC shunt motor. 5

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PART—B

20×2=40

- Instructions :** (1) Answer *any two* questions.
(2) Each question carries **twenty** marks.
(3) All dimensions are in mm.

5. (a) Develop a three-phase AC wave winding for an AC machine having 24 stator slots with one conductor per slot and four poles. 10
(b) Draw a neat sketch of pipe earthing with standard dimensions. 8+2
6. (a) Draw different (two step and three step) core sections of a transformer. Show clearly the dimensions in terms of diameter of circumcircle. Take circumcircle diameter = 60 mm. 4+4
(b) Draw the sectional plan of a 3-phase 3300/440 V transformer with the following data : 12

Cross-section of the core	3 stepped core
Diameter of the circumcircle	240 mm
Distance between core centers	425 mm
Outer diameter of LT winding	280 mm
Inner diameter of LT winding	250 mm
No. of turns per limb	12
Outer diameter of HT winding	415 mm
Inner diameter of HT winding	343 mm
No. of terms per limb	512

Note : Assume any other missing data and draw to a suitable scale.

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7. Draw the half sectional elevation and end view of a three-phase 440 V induction motor with the following dimensions. 10+10

Outer diameter of stator stampings	230
Inner diameter of stator stampings	164
Length of stator core	120
Thickness of stator frame	25
Type of slot	open
No. of stator slots	36
Size of stator slots	15 × 8
Width of air gap	2
Outer diameter of rotor stampings	160
Inner diameter of rotor stampings	35
Shaft diameter at centre	35
Shaft diameter at bearing	30
Distance between bolt hole to bolt hole	185
Total distance at foot rest	220

Assume all missing dimensions and label the parts. All dimensions are in mm.

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