* **4467**

BOARD DIPLOMA EXAMINATION, (C-14)
MARCH/APRIL-2019
DEEE - FOURTH SEMESTER EXAMINATION

ELECTRICAL ENGINEERING DRAWING

Time: 3 Hours]   [Max.Marks: 60

PART-A

4x5=20M

Instructions: 1) Answer **all** questions.
2) Each question carries **five** marks.

1) Draw the graphical symbols for   5M

   (a) Earth

   (b) Power Factor Meter

   (c) Ceiling Fan

   (d) Buzzer

   (e) Fault

2) Draw the wiring diagram of Star/Delta Starter.   5M

3) Draw the sketch of Bulk Oil Circuit Breaker and label the parts.   5M

4) Draw the sketch of 132 KV Single Circuit Steel Tower.   5M

WWW.MANARE$ULTS.CO.IN   *[Contd...*

PART-B

2x20=40M

Instructions: 1) Answer any **two** quesions.

2) Each question carries **twenty** marks

5)   (a) Draw the Sectional End View of 4 pole DC Machine with the following dimensions

Shaft Diameter	=	30 mm at Bearing and 35 mm at Center
Outer Diameter of Armature	=	160 mm
Number of Armature Slots	=	32-Semi Closed Rectangle type
Size of Armature Slot	=	14 x 8 mm
Height of Pole including Pole Shoe	=	33 mm
Height of Pole Shoe	=	11 mm
Pole Pitch Ratio	=	0.6
Outer Diameter of Yoke	=	280 mm
Thickness of Yoke	=	25 mm
Height of Foot Rest	=	18 mm
Distance between Foot Rest Bolt Holes	=	185 mm
Total Distance at Foot Rest	= 220 mm	10M

(Assume any missing data in proportionate with the above dimensions)

(b) Draw the Winding diagram of 36 Slot 6 Ploe single Layer Lap Wound DC Machine   10M

6)   (a) Draw the Sectional End View and Elevation of Three Phase, Three Stepped Core type Transformer with the following dimensions.

Core Circle Diameter	=	240 mm
Spacing between Core Centers	=	420 mm
LT Winding Inner Diameter	=	250 mm
LT Winding Outer Diameter	=	300 mm
HT Winding Inner Diameter	=	340 mm
HT Winding Outer Diameter	=	410 mm
Height of Core	=	1000 mm
Height of Yoke	=	250 mm
Height of Bakelite Rings	= 50 mm	**1OM**

(Assume any missing data in proportionate with the above dimensions)

(b) Draw the Sectional End View of Three Phase Squirrrel cage Induction Motor with the following dimensions.

Shaft Diameter at Bearing	= 50 mm
Shaft Diameter at Center	= 55 mm
Outer Diameter of Rotor Stampings	= 180 mm
Number of Rotor Slots	= 31-Semi Closed Circle Type
Size of Rotor Slots	= 8 mm
Number of Air-Ducts in Rotor	= 4
Inner Diameter of Stator Stampings	= 184 mm
Outer Diameter of Stator Stampings	= 240 mm
Number of Stator Slots	= 36-Opened Rectangle Type
Size of Stator Slot	= 16 x 8 mm
Thickness of Stator Frame	= 30 mm
Number of Air-Ducts in Stator Fram	= 8
Height of Foot Rest	= 30 mm
Distance between Foot Rest Bolt Holes	= 200 mm
Total Distance at Foot Rest	= 260 mm

(Assume any missing data in prpportionate with the above dimensions)

10M

7. (a) Draw the sketch of 11 kV/400 V Pole Mounted Substation and label the parts. 10M

(b) Draw the sketch of Substation Earthing and label the parts 10M

* * *