



C14-EE-407

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BOARD DIPLOMA EXAMINATION, (C-14)
MARCH/APRIL—2021
DEEE - FOURTH SEMESTER EXAMINATION
ELECTRICAL ENGINEERING DRAWING

Time : 3 hours]

[Total Marks : 60

PART—A

10×2=20

- Instructions :**
- (1) Answer *any two* questions.
 - (2) Each question carries **ten** marks.
 - (3) Drawing should be neat with necessary dimensions.
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1. Draw the cross-sectional view of HRC fuse and label the parts.
 2. Draw neatly the wiring diagram of autotransformer starter used for 3-phase induction motor (not to scale).
 3. Draw the sectional end view of single core cable and label the parts.
 4. Draw the sketch of 220 kV single circuit steel tower.

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PART—B

20×2=40

- Instructions :** (1) Answer *any two* questions.
(2) Each question carries **twenty** marks.
(3) Drawing should be neat with necessary dimensions.

5. Draw the half-sectional side view of commutator assembly with the following data :

Diameter of the shaft	= 46 mm
Diameter of the commutator	= 111 mm
Height of the riser	= 9.9 mm
Length of the V-notch	= 50.8 mm
Length of the commutator	= 88.9 mm
Thickness of the mica sheet	= 0.8 mm
Distance between the two mica sheets	= 3.5 mm

Assume the missing data if any.

6. Draw the plan in full section of a single phase 220/110 V, 5 kVA transformer. The detailed dimensions are as follows :

Core :

Cross-section of the core : One-stepped core

Diameter of the circum-circle : 7.5 cm

Distance between core centers : 15 cm

L.T Winding :

Outer diameter of the LT COIL : 9 cm

Inside diameter of the LT COIL : 8 cm

H.T Winding :

Outer diameter of the HT COIL : 13.5 cm

Inside diameter of the HT COIL : 11 cm

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7. Draw the half-sectional end view of a 3-phase, 440 V, 50 Hz squirrel cage induction motor :

The dimensions are as follows :

Outside diameter of stator stampings = 230

Inside diameter of stator stampings = 164

Thickness of stator frame = 25

Stator slots :

Type = open type

Number = 36

Size = 15 × 8

Air gap = 2

Outside diameter of rotor stampings = 160

Inside diameter of rotor stampings = 35

Shaft diameter :

At centre = 35

At bearing = 30

Total distance of footrest = 220

All dimensions are in mm.

Assume any missing data if any.

8. (a) Draw the winding diagram of 24 slot 4-pole single layer lap wound single phase AC machine. 10
- (b) Draw the sketch of pipe earthing and label the parts. 10

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