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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.

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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