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3479

BOARD DIPLOMA EXAMINATION, (C-09)
MARCH/APRIL-2019
DEEE - FOURTH SEMESTER EXAMINATION
ELECTRICAL ENGINEERING DRAWING

Time: 3Hours]

[Max.Marks: 60

PART-A

5x4=20M

Instructions: 1) Answer all questions and each question carries Five marks.
2) Drawing should be neat with necessary dimensions

- 1) Draw the elevation and side view of ball bearing.
- 2) Draw the half sectional elevation of commutator assembly.(Not to scale)
- 3) Draw the Sketch of 11kv/ 440v PSCC pole for double circuit and mark its dimensions
- 4) Draw the schematic diagram of 33 kv/11 kv substation earthing system and label the parts.

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PART-B

20x2=40M

Instructions: 1) Answer any two questions. Each question carries twenty marks.

2) Drawing should be neat with necessary dimensions

11) a) Draw the assembled sectionalized view of the armature core, hub and shaft whose dimensions are as follows.

1. Diameter of the shaft : 60mm
2. Diameter of the core : 440mm
3. Diameter of the hub : 380mm
4. Radius from the center of the axle to the bolt circle : 125mm
5. Dimensions of the bolt head : 40x17 mm
6. Diameter of the ventilating duct : 100mm
7. Distance of the duct from the axle centre : 60mm
8. Flange thickness : 7.5mm
9. Length of the core gap equally spaced : 155mm with 5mm
10. Distance between the two hubs : 275mm

Assume the missing dimensions if any.

b) Develop three phase wave winding for an A.C machine having 24 slots, one conductor per slot and 4 poles.

6) Draw the following views of a single phase 220/110 v, 5 kVA transformer

a) Front elevation b) Plan in full section

The detailed dimensions are as follows.

Core:

1. Cross section of the core : One stepped core
2. Diameter of the circum-circle : 7.5 cm
3. Distance between core centers : 15 cm

L.T Winding:

1. Outer diameter of the LT COIL : 9cm
2. Inside diameter of the LT COIL : 8cm
3. Height of Lt winding : 23cm
4. No. of turns per limb : 50

H.T Winding:

1. Outer diameter of the HT COIL : 13.5cm
2. Inside diameter of the HT COIL : 11cm
3. Height of Lt winding : 23cm
4. No. of turns per limb : 100

Yoke height : 8cm
Total height of the transformer : 40cm

7) Draw the sectional front elevation and view of a 7.5 HP, 400 V, 50 Hz., 3 phase, 1440 rpm, Slip-ring induction motor with the following data.

All the dimensions are given in mm

1. Outside diameter of the stator stampings : 288
2. Inside diameter of the stator stampings : 216
3. Stator core length : 106
4. Thickness of the stator frame : 31

Slots

- a) Type : Open type
 - b) Number : 36
 - c) Size : 18x12
5. Air gap : 2
 6. Outer diameter of the rotor stamping : 212
 7. Inside diameter of the rotor stamping : 36
 8. Rotor core length : 106

9. Slots

- a) Type : open type
- b) Number : 36
- c) Size : 12x8

10. Shaft diameter

- a) At center : 36
- b) At bearing : 32

11. Ducts

- a) Stator frame : 8
- b) Rotor : 4
- c) Spacing between ducts : equally other missing data may be assumed if any.

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