



C-16-C-16S-EE-407

**5660**

**BOARD DIPLOMA EXAMINATION, (C-16-C-16S)**

MARCH / APRIL - 2019

**DEEE - IV 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 **FIVE** marks.
  - (3) Assume any missing data suitably.
  - (4) All dimensions are in mm.

- 1 Draw the cross sectional elevation of HRC fuses (not to scale).
- 2 Draw the sectional elevation and side view of roller bearing.
- 3 Draw the 220 kV steel tower for double circuit with standard dimensions.
- 4 Draw the plate earthing with full specifications as per Indian standard.

**PART - B**

2×20=40

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

- 5 Draw the sectional assembled view of the armature core, hub and shaft whose dimensions are as follows :  
Diameter of the shaft = 163 mm  
Diameter of the core = 528 mm  
Diameter of the hub = 465 mm

No. of slots = 56

Radius of the bolt circle = 170 mm

Width of the hub below the bolt = 32 mm

Width of the hub above the bolt = 10 mm

Flange thickness = 10 mm

Length of the core gap equally spaced = 250 mm with 14 mm spacer.

Distance between two hubs = 376 mm

Assume the missing data.

6 Draw the following views of a single phase 220/110 5 KVA transformer : <http://www.sbtetonline.com>

(a) Front elevation

(b) Plan in full section

The detailed dimensions of the parts are as follows :

Core : (1) cross section of the core = one step core

(2) Diameter of the circum circle = 7.5 cm

(3) Distance between core centers = 15 cm

Yoke : yoke height = 8 cm

L.T winding : (1) outside diameter of L.T coil = 9 cm

(2) Inside diameter of L.T coil = 8 cm

(3) Height of L.T winding = 23 cm

(4) Number of turns per limb = 50

H.T winding : (1) outside diameter of H.T coil = 13.5 cm

(2) Inside diameter of H.T coil = 11 cm

(3) Height of H.T winding = 23 cm

(4) Number of turns per limb = 100

Total height of the transformer = 40 cm

Other missing data may be assumed

7 Draw the following views of a 7.5 HP, 400 V, 50 HZ, 1440 rpm. three phase slip ring induction motor

(a) Half sectional front elevation

(b) Half sectional end view

The main dimensions have been given as :

Outside diameter of stator stampings .

Inside diameter of stator stampings -

Stator core length - 106

Thickness of the stator frame -

Slots :

(a) Type - open type

(b) Number - 36

(c) Size -  $18 \times 12$

Air gap - 2

Outside diameter of rotor stamping

Inside diameter of rotor stamping -

Rotor core length - 106

Slots :

(a) Type - open type

(b) Number - 36

(c) Size -  $12 \times 8$

Shaft diameter

(a) At centre - 36

(b) At bearing - 32

The stator frame has eight and rotor stampings have four equally spaced ducts for ventilation. Other missing data may be assumed.

(all dimensions are in mm)

8 Develop three phase wave winding for an ac machine having 24 slots, one conductor per slot and 4 poles.