



C09-EE-408

3479

BOARD DIPLOMA EXAMINATION, (C-09)
OCT/NOV—2014
DEEE—FOURTH 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) Drawing should be neat with necessary dimension.

1. Draw an HRC fuse and label its parts. 5
2. Draw a four-point starter and label its parts. 5
3. Draw a 132-kV single-circuit steel tower. 5
4. Draw a neat sketch of plinth-mounted substation. 5

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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 dimension.

5. (a) Develop a simple lap winding for a DC machine having 4 poles and 24 armature slots and single-turn coil. 10
(b) The isometric view of the field coil of a DC machine is shown in the figure (Page 4). Draw the assembled sectional elevation and plan. 10
6. Draw the front elevation and plan of a single-phase 220 kV/110 kV transformer : 20

Core :

1. Cross section of the core : single stepped core
2. Diameter of the circum circle : 7.5 cm
3. Distance between the core centres : 15 cm

Yoke :

Height of Yoke : 8 cm

L.T. Winding :

1. Outside diameter of LT coil : 9 cm
2. Inside diameter of LT coil : 8 cm
3. Height of LT winding : 23 cm

H.T. Winding :

1. Outside diameter of HT coil : 13.5 cm
2. Inside diameter of HT coil : 11 cm
3. Height of HT winding : 23 cm

Overall height of yoke and core : 40 cm

Note : Assume any missing data.

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7. Draw the half-sectional front elevation and end view of a 10-HP, 400-Volt, 3-phase, 1440-r.p.m. squirrel-cage induction motor with the following dimensions in mm : 20

1. Outside diameter of stator stamping : 230
2. Inside diameter of stator stamping : 164
3. Stator core length : 120
4. Thickness of stator core frame : 25

Slots :

1. Type : Open type
2. Number : 36
3. Size : 15×8

Air Gap : 2

1. Outside diameter of rotor stamping : 160
2. Inside diameter of rotor stamping : 35
3. Shaft diameter : 35
 - (a) At centre : 35
 - (b) At bearing : 30

The rotor has totally closed-type slots and contains bare conductors which are short-circuited at both sides.

Note : Assume any missing data.

