C09–EE–408

3479

BOARD DIPLOMA EXAMINATION, (C–09)

OCT/NOV—2015

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 dimensions.

1. Draw the sectional elevation and side view of the end cover with bearing (not to scale).

2. Draw the free-hand sketch of yoke and pole assembly of 4-pole DC machine with inter poles.

3. Draw the sketch of 132 kV double-circuit tower.

4. Draw the single-line diagram of 220 kV/33 kV substation.

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. *(a)* 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.

(b) Draw the simple lap winding for a 24-conductor 2-pole DC machine with ring diagram and winding table.

6. Draw the full sectional elevation and sectional plan of a 500 kVA, 6600/400 V, single-phase core-type power transformer with the following dimensions :

Core type	: Cruciform
Diameter of the circumcircle	: 330
Height of core	: 430
Center-to-center distance between cores	: 490
Yoke height	: 250
Yoke length	: 770
Total height of the transformer	: 990
Inside diameter of LT winding	: 337
Outside diameter of LT winding	: 383
Height of LT winding	: 362
Inside diameter of HT winding 1st layer	: 415

Outside diameter of LT winding 1st winding : 433

Inside diameter of HT winding 2nd layer : 450

Outside diameter of LT winding 2nd layer : 468

Height of HT winding : 362

All dimensions are in mm. Assume any missing data.

7. Draw the following views of a 3- , 440 V, 50 Hz squirrel cage induction motor :

(a) Half-sectional front elevation

(b) Half-sectional end view

The dimensions are as follows :

Outside diameter of stator stampings = 230

Inside diameter of stator stampings = 164

Stator core length = 120

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.

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