



C09-EE-408

3479

BOARD DIPLOMA EXAMINATION, (C-09)
OCT/NOV—2013
DEEE—FOURTH SEMESTER EXAMINATION
ELECTRICAL ENGINEERING DRAWING

Time : 3 hours]

[Total Marks : 60

PART—A

Instructions : (1) Answer **all** questions.

(2) Each question carries **five** marks.

1. Draw half-sectional front elevation of an unprotected flange coupling (not to scale).

2. Draw a free-hand sketch of yoke with main pole and interpole used in DC machine.

3. Draw the sketch of 400 V PSCC pole with dimensions.

4. Draw the sketch of 11 kV/400 V plinth mounted substation.

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PART—B

Instructions : (1) Answer *any two* questions.

(2) Each question carries **twenty** marks.

- 5.** Draw the half-sectional elevation and end view of 3-phase, 440 volt squirrel cage-induction motor with the following dimensions : 20

Outer diameter of stator stamping	:	230
Inner diameter of stator stamping	:	164
Length of stator core	:	120
Thickness of stator frame	:	25
Type of slot	:	open
No. of stator slots	:	36
Size of stator slot	:	15 × 8
Width of air gap	:	2
Outer diameter of rotor stamping	:	160
Inner diameter of rotor stamping	:	35
Shaft diameter at bearing	:	30

All dimensions are in centimeters and assume missing data, if any.

- 6. (a)** Develop single-layer lap winding for a 3-phase, 4-pole, 24-slot AC machine. Show the winding table. 10

- (b)** Draw a rough sectional elevation of pole and field coil assembly showing the details with the following dimensions : 10

Length of pole	:	70 mm
Pole arc	:	290 mm
Height of pole including thickness of pole shoe	:	140 mm
Width of pole	:	110 mm
Outside dimensions of a coil	:	230 mm×200 mm
Height of coil	:	60 mm

Take a suitable scale and assume missing data, if any.

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7. Draw the following views of a single-phase 220/110 V, 5 kVA transformer : 20

- (a) Front elevation
- (b) Plan in full section

The detailed dimensions of the parts are as follows :

Cross section of the core = one-step core	
Diameter of the circumcircle	: 7.5
Distance between core centers	: 15
Yoke height	: 8
Outside diameter of LT coil	: 9
Inside diameter of LT coil	: 8
Height of LT winding	: 23
Number of turns per limb	: 50
Outside diameter of HT coil	: 13.5
Inside diameter of HT coil	: 11
Height of HT winding	: 23
Number of turns per limb	: 100
Total height of the transformer	: 40

All dimensions are in centimeters and assume missing data, if any.

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