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C09–EE–408

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BOARD DIPLOMA EXAMINATION, (C–09)

MARCH/APRIL—2018

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.

1. Draw a sectional end view of protected flange coupling of any desired dia.

2. Draw 3-point starter and label the parts.

3. Draw 220 kV single-circuit steel tower.

4. Draw the dimensioned sketch of plate earthing.

PART—B

20×2=40

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

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

5. *(a)* Draw half-sectional end view of a 100 kW DC generator with the following dimensions :

Thickness of yoke	:	6·8 cm
No. of main pole	:	4
Total height of main pole	:	16 cm
Width of main pole	:	12 cm
No. of inter pole	:	4
Size of inter pole	:	4·5 cm ×15 cm
Air gap at main pole	:	0·5 cm
Air gap at inter pole	:	0·7 cm
External dia of armature	:	42 cm
Internal dia of armature	:	20 cm
Size of slot	:	4 cm × 1·2 cm

Assume any missing data. 10

(b) Develop a 3-phase wave winding of an a.c. motor having 24 slots, 4-pole single layer. 10

6. A 100 kVA, 3-phase, 3300/400 V transformer has the following dimensions. Draw *(a)* sectional front elevation and *(b)* sectional plan :

3-stepped core

Dia of circumcircle	=	8 cm
Distance between core centers	=	18 cm
Yoke height	=	10 cm
Outside dia of LT coil	=	11 cm
Inside dia of LT coil	=	9 cm
Height of LT winding	=	24 cm
Outside dia of HT coil	=	17·5 cm
Inside dia of HT coil	=	14·5 cm
Height of HT winding	=	24 cm
Total height of core	=	52 cm

Assume any missing data. 20

7. Draw the following views of a 5 h.p., 400 V, 3-phase squirrel cage induction motor :

(a) Half-sectional front elevation

(b) Half-sectional end view

Outside dia of the stator stampings	:	240
Inside dia of the stator stampings	:	174
Stator core length	:	120
Thickness of the stator frame	:	30
Slot type	:	Open
Size of slot	:	15 × 8
Air gap	:	2
Outside dia of the rotor stampings	:	170
Inside dia of the rotor stampings	:	35
Shaft dia at center	:	35
Shaft dia at bearing	:	30

All dimensions are in mm. Assume any missing data. 20

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