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C09-EE-**408**

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BOARD DIPLOMA EXAMINATION, (C-09)
OCTOBER/NOVEMBER-2018
DEEE – FOURTH SEMESTER EXAMINATION

ELECTRICAL ENGINEERING DRAWING

Time : 3 Hours] [Total Marks: 60

PART-A

5X4=20

Instructions : 1. Answer **All** questions.
2. Each question carries **five** marks.
3. Assume missing data, if any

1. Draw the sectional elevation of the unprotected flange coupling and take the diameter of the shaft as 50mm.
2. Draw the end view of a DC machine showing the parts

   (a) Yoke (b) Main holes (c) Interpoles
3. Draw the sketch of a 132KV double circuit tower.
4. Draw the sketch of a 11kv/400V plinth mounted substation.

PART-B

20x2=40Marks

Instructions : 1. Answer **ANY TWO** questions.
2. Each question carries **Twenty** marks

5. (a) Draw the half sectional end view looking from the shaft end of 100KW DC generators with following data:

   100KW DC generators with following data:

   External diameter of armature stampings 42cm

Internal diameter of armature stampings 20cm

Number of slots	39
Size of slot	4x 1.2cm
Height of pole	16cm
Width of pole	12cm
Interpole size	4.5 x 15cm
Air gap at main hole	0.5cm
Air gap at inter pole	0.7cm
Thickness of yoke	6.0cm

Assume any data missing data.

(b) Develop a 3-phase wave winding for an AC machine having

4 poles and 24 slots and one conductor per slot

6. Draw the following views of a 3-phase 250KVA, 11KV/400C transformer

(a) Front elevation full in section

(b) Plan full in section

The detailed dimensions of the parts are as follows:

Core: 1. Cross section of the core: 3 step core

2. Diameter of the circum circle: 24cm

3. Distance between the adjacent centers of the core: 42.5cm

Yoke: Yoke height 25cm

LT winding: 1. Outer diameter of LT coil: 28.3cm

2. Inside diameter of LT Coil: 25cm

3. Height of LT winding: 43.5cm

4. Number of turns per phase : 12

HT winding: 1. Outside diameter of HT coil: 41.5cm

2. Inside diameter of HT coil: 34.3cm

3. Height of HT winding: 43.5cm

4. Number of turns per phase: 12

Total height of the transformer: 100cm

Assume any other missing data.

7. Draw the following vies of a 5 HP, 400/440V, 50Hz, 1440rpm, 3-phase squirrel cage induction motor

(a) Half-sectional front elevation

(b) Half-sectional end view

The main dimensions are given below:

i. Outside diameter of stator stamping: 230

ii. Inside diameter of stator stamping: 164

iii. Stator core length: 120

iv. Thickness of stator frame: 25

v. Slots:

(a) Type: open type

(b) Number: 36

(c) Size: 15 x 8

vi. Air gap: 2

vii. Outside diameter of rotor stamping: 160

viii. Inside diameter of rotor stamping: 35

ix. Shaft diameter:

At center: 35

At bearing: 30

All dimensions are in mm, assume any other missing data.