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Reg. No. : .....

Name : .....

Fourth Semester B.Tech. Degree Examination, April 2010
(2003 Scheme)
03-407 : ELECTRICAL DRAWING (E)

Time : 3 Hours Max. Marks : 100

PART – A

Answer **any two** questions :

1. Draw the ISI symbols of the following :

   1) dc generator

   2) Squirrel cage induction motor (3-phase)

   3) 3-phase, star connected auto transformer

   4) Socket outlet (15 A)

   5) Time delay relay contact. **20**

2. a) Draw the elevation and plan of a eye bolt (Dimensions may be suitably chosen). **10**

   b) Draw the sectional elevation and end view for a cast iron flange coupling with suitable dimensions. **10**

3. a) Draw the wiring diagram of an automobile ignition system. **10**

   b) Draw a double circuit 110 kV transmission tower. **10**

P.T.O.

PART – B

Answer **any two** questions. Assume suitable data **whenever** necessary.

4. a) Sketch the method of fixing the armature over the shaft. 10

   b) Draw the half sectional longitudinal view of a 60 H.P., 4 pole dc shunt motor for the following dimensions

   Armature :

Outside diameter	= 18.5 cm
Length	= 13.5 cm
No. of slots	= 24
Size of slot	= 0.7 cm ×2 cm

   Main pole :

Total height	= 11 cm
Width	= 7 cm
Pole arc	= 10 cm
Length of pole	= 14 cm
Air gap	= 0.5 cm

   Commutator

Diameter	= 13 cm
Length	= 10 cm

   The armature is directly mounted on the shaft. The shaft is supported by means of bearings in the end cover. 20

5. Draw the full sectional plan, elevation and side elevation of a 3 phase transformer for the dimensions given below.

   Core diameter = 22 cm (3-step construction)

   Height of core = 48 cm

   Height of yoke = 25 cm

   Centre to centre distance between the cores are 35 cm other datas may be assumed. 30

6. a) Draw the half sectional end view and elevation of a 3-phase 4 pole 50 Hz salient pole type alternator rotor. **10**

b) Draw the half sectional elevation and end view of a 10 HP, squirrel cage induction motor having the following dimensions.

Stator :

Outside diameter	= 320 mm
Inside diameter	= 180 mm
No. of slots	= 36
Length	= 135 mm
Slot size	= 9.5 × 29 mm

Rotor :

Slot diameter	= 10 mm
No. of slots	= 31
Shaft diameter	= 24 mm
Airgap length	= 0.6 mm

Radial cooling ducts are in stator and rotor have width of 10 mm. **20**