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Reg. No. : .....

Name : .....

Seventh Semester B.Tech. Degree Examination, November 2015
(2008 Scheme)
08.705 : ELECTRICAL DRAWING (E)

Time : 3 Hours Max. Marks : 100

PART – A

Answer **any two** questions :

1. a) Sketch the yoke and pole assembly of a typical D.C. Machine. 15
   b) Draw the half sectional view of a pin insulator. 10

2. Draw the single line diagram of 220 KV substation with all equipments and specifications. 25

3. Draw the full sectional elevation and plan of a 3 phase transformer for the dimensions given below :
   Core dia – 22 cm
   Height of core – 48 cm
   Height of yoke – 25 cm
   Centre to centre distance between the cores – 35 cm 25

PART – B

Answer **any one** question :

4. Draw the longitudinal and end views (upper half in section) of a 60 HP, 4 pole DC shunt machine having the following dimensions. All dimensions are in cm.
   Armature :
   Outside diameter – 18.5, Length – 13.5, No. of slots – 24, Size of slot – 0.7 × 2
   Main pole :
   Length – 14, Width – 7, Pole arc – 10, Height – 11
   Inter pole :
   Size – 2 × 10.8, Length – 11, Air gap – 0.5
   Commutator :
   Diameter – 13, Length – 10
   Brushes :
   No. of spindles – 4
   Winding thickness :
   Main pole – 2, Inter pole – 1
   Armature is directly mounted on the shaft and is held between two end plates.
   Missing data, if any may be appropriately assumed. 50

P.T.O.

5. Draw the following views of a 25 KVA, 400V, 1500 rpm, 50 Hz. Three phase salient pole alternator.

   a) Half sectional elevation (top half in section)

   b) End view.

   Stator : Outside diameter – 400 mm
   Inside diameter – 290 mm
   Thickness of frame – 36 mm
   Core length – 135 mm
   Slots open type 48 nos. – (32 × 12 mm) size
   Air gap length – 2 mm
   Rotor pole length – 135 mm
   Width – 70 mm
   Height with pole shoe – 75 mm
   Shaft diameter – 70 mm
   Assume reasonable values for other missing data. **50**
