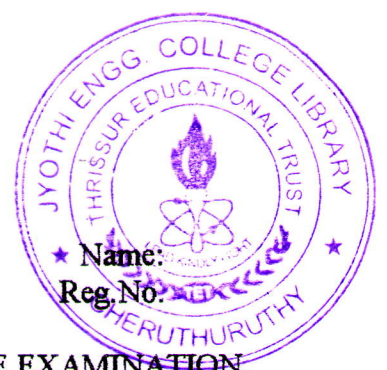6271

SIXTH SEMESTER B.TECH (ENGINEERING) DEGREE EXAMINATION,
JUNE 2005
EE2K 605. ELECTRICAL ENGINEERING DRAWING

Time: Three Hours   Maximum 100 Marks

(Answer either a or b in each of the three questions. Assume missing data, if any,
suitably)

I   (a) Draw the sectional elevation, sectional plan of the core and yoke assembly of a
three-phase transformer having the following main dimensions:
Core: three stepped
Core diameter: 26 cm   Height of core: 55 cm
Height of yoke: 28 cm   Length of yoke: 110 cm   ·   (25 marks)
                                        OR
      (b) Sketch the half sectional elevation of an oil filled bushing used in   HV
      transformers. Show clearly the porcelain insulator portion and the arcing horns.
                                                                          (25 marks)

2.   (a)Sketch the single line diagram of a 11 KV/400 V indoor substation having a
            750 KVA, 11 KV/400 V Three phase distribution transformer. Show
            clearly the position of the metering units and various protective devices
            used.   (25 marks)
                                        OR
      b) Sketch the single line diagram of a 33 KV/11 KV substation having one 33 KV
          incoming feeder and four numbers of 11 KV outgoing feeders. The transformer
          used is 33/11 KV, IMVA, 3-phase. Show clearly the bus bars and the protective
          gears used.

                                                                          (25 marks)
3. (a) Draw the end view and upper half sectional elevation of the armature of a D.C.
        machine with the following main dimensions:-
outside diameter - 100 cm   inside diameter – 58 cm
length of the armature core: 110 cm   diameter of shaft 5 cm

      The armature stampings are mounted in a spider, keyed to the shaft and clamped
between end plates

                                                                          (50 marks)

                                        OR
      (b) Draw to suitable scale the top half sectional end elevation of a salient pole
alternator having 4 poles and with the following main dimensions:-

Outer diameter of rotor : 25 cm   Inner diameter of stator: 25.4 cm
Outer diameter of stator stampings : 38 cm   Overall diameter of the frame : 46 cm
Length of the frame:20 cm   Length of pedestal: 30 cm

                                                                          (50 marks)

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