

**SIXTH SEMESTER B.TECH. (ENGINEERING) DEGREE
EXAMINATION, JUNE 2009**

EE 04 606—ELECTRICAL ENGINEERING DRAWING

(2004 admissions)

Time : Three Hours

Maximum : 100 Marks

- I. (a) Develop simple lap winding for DC machine having 36 armature conductors and 6 poles. Also show connections to equalizer ring.

Or

- (b) Develop three-phase spiral or concentric winding for an AC machine having 24 slots one conductor per slot and 4 poles.

- II. (a) (i) Draw the line diagram for the outdoor type distribution substation from double pole structure to L.T.

(12.5 marks)

- (ii) Draw the complete layout for 220 kV substation.

(12.5 marks)

Or

- (b) Draw the full sectional elevation, sectional plan, sectional side view elevation of a 3 ϕ transformer for the given below dimensions. Show clearly the method of fixing the core and yoke :

Core 3 step construction :

Core dia. = 22 cm.

Height of core = 48 cm.

Height of yoke = 25 cm.

Centre to centre distance between the cores = 35 cm.

- III. Draw the following views of the DC machine commutator assembly :

- (i) The front elevation to be half in section.

- (ii) The end elevation half in section for the given below dimensions.

Use any suitable scale :

Diameter of commutator = 13 cm.

Length of the commutator = 11.8 cm.

Diameter of the shaft = 4 cm.

Segment pitch with mica = 0.6 cm.

Mica thickness = 0.1 cm.

Clearly indicate the dimensions.