C 18236

Name.....

Reg. No.....

SIXTH SEMESTER B.TECH. (ENGINEERING) DEGREE EXAMINATION, JUNE 2011

EE 04 606—ELECTRICAL ENGINEERING DRAWING

(2004 admissions)

Time : Three Hours Maximum : 100 Marks

Answer **all** *questions.*

I. (a) Draw the winding diagram in developed form for a somplex wave wound 25 slots, 4 pole and 25 coils. The commutator has 25 segments. Also draw the sequence diagram to show the position of the brushes.

Or

(b) Draw a winding diagram for a 4 pole, 24 slot, 3-phase mush connected armature.

(25 marks)

II. (a) Make a proportionate longitudinal cross-section of limb of a 3-phase, oil-cooled power transformer showing the H.T. & L.T. windings. Diameter of circumscribing iron core circle = 22.6 cm. ; dia. of secondary winding in two concentric layers, inside 25 cm., outside 28.1 cm.; height of secondary winding 41.2 cm.; dia. of primary winding, inside 32 cm., outside 36.8 cm. Total height of primary winding, including 10 spacers, 40 cm.

Or

(b) Draw the layout of a 220 kV sub-station.

(25 marks)

III. Draw the top half-sectional end and sectional elevation of a 5 H.P. squirrel cage induction motor rotor of directly mounted type. The end ring is shaped in such a way that it also serves the purpose of a fan. The shaft is supported between the two end shield bearings :

Stator inside dia. = 15 cm.
Air-gap length = 0.045 cm.
Stator total slots = 36
Length of stator = 9 cm.
Outside dia. of stator = 24 cm.
Size of slot, depth = 2.4 cm. (taper type)
Width of teeth = 0.6 cm. (parallel side)

Rotor has 30 slots of rectangular type with a parallel sides of size, 1.05 cm. × 0.575 cm. other missing data may be assumed.

(50 marks)