

C 61458

(Pages : 2)

Name.....

Reg. No.....

**SIXTH SEMESTER B.TECH. (ENGINEERING) DEGREE EXAMINATION  
APRIL 2014**

(2009 Scheme)

**EE/PTEE 09 605—ELECTRICAL ENGINEERING DRAWING**

(Regular/Supplementary/Improvement)

Time : Three Hours

Maximum : 70 Marks

- I. (a) Draw the developed winding diagram for a wave wound dc machine with double layer winding for 20 slots, 6 pole operation? Also draw the sequence diagram to show the position of the brushes.

(15 marks)

*Or*

- (b) Draw the winding diagram for a 24 slots, 4 pole, 3-phase induction motor with double layer lap winding.

(15 marks)

- II. (a) Draw the sectional elevation and plan of a 15 kVA, 1 100/230 V, single-phase shell type transformer for the main dimensions given below :

Central core limb width = 15 cm.

Window size = 15 × 25 cm.

Core height = 40 cm.

Core length = 60 cm.

L.V : coil = 4

H.T. coil = 4

No. of turns in L.V per coil = 8

No. of turns in H.T. per coil = 40. Other data may be assumed.

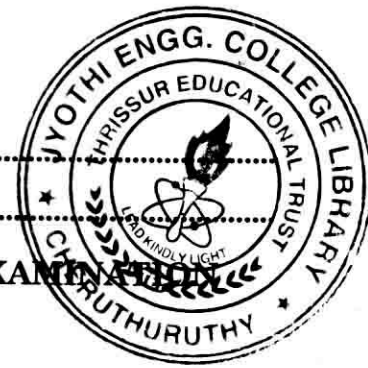
(20 marks)

*Or*

- (b) Draw the typical layout of a 11 kV/415 V outdoor distribution substation with pole mounted transformer. Show all the protective devices.

(20 marks)

**Turn over**



- III. (a) Draw the half-sectional elevation and half-sectional end view of a slip ring induction motor with following main dimensions.

Motor diameter = 100 cm.

Inside dia. of stator = 60 cm.

No. of stator slots = 64.

Length of Stator frame = 40 cm.

Total length of the motor at footstep = 75 cm.

Shaft dia. = 4 cm.

Other data may be assumed.

(35 marks)

*Or*

- (b) Draw to a suitable scale the half sectional front and elevation views of a 20kW, 4-pole, DC generator with interpoles. Main dimensions are given below.

Pole height 12cm ;

Pole width = 7cm ;

Yoke width = 3cm,

Armature dia = 25cm, 40 slots ;

Armature length = 20cm ;

Shaft diameter = 3cm ;

Commutator length = 10cm ;

Commutator diameter = 13cm,

Motor height = 58cm ;

Motor length = 55cm ; ball bearing.

Assume any additional data necessary.

(35 marks)