C 80777   (Pages : 2)   Name...................

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SIXTH SEMESTER B.TECH. (09 SCHEME) (ENGINEERING) DEGREE EXAMINATION, APRIL 2015

EE/PTEE 09 605—ELECTRICAL ENGINEERING DRAWING

Time : Three Hours   Maximum : 70 Marks

I. (a) Draw the developed winding diagram of a 6-pole simplex wave wound DC armature having 16 slots and 32 conductors.

Or

(b) Draw a developed winding diagram of a double layer lap winding for a three-phasae 6 pole, 18 slots machine. Assume the winding is full pitched.

(15 marks)

II. (a) Draw the full sectional elevation and sectional plan of a 3-phase transformer for the given below dimensions. Show clearly the method of fixing the core and yoke :

    Core = 3 step construction
    Core diameter = 22 cm.
    Height of core = 48 cm.
    Height of yoke = 25 cm.
    Centre to centre distance between the cores = 35 cm.

Or

(b) Draw the layout of a 110 MW/220 kV captive power plant.

(20 marks)

III. (a) Draw to a suitable scale the half-sectional front and elevation views of a 20 kVA, 4 pole, 3-phase salient pole alternator with following main dimensions :—

    Outer diameter of the machine   = 50 cm.
    Stator inner diameter   = 25 cm.
    Number of stator slots   = 48
    Yoke width   = 3 cm.
    Rotor diameter   = 24 cm.
    Rotor length   = 16 cm.
    Shaft : 3 cm. dia. with ball bearings.
    Rotor is provided with damper winding.
    Height of machine   = 52 cm.
    Length of machine   = 28 cm.

Assume any additioal data necessary.

Or

Turn over

(b) Draw the half-sectional elevation and quarter sectional end of a 3-phase, slip ring, induction motor with the followiong dimensions :

Inside dia. of stator	=	55 cm.
Stator length	=	20 cm.
Stator overhang in each side	=	10 cm.
Length of stator frame	=	38 cm.
Diameter of rotor	=	54.6 cm.
Total length of motor on footstep	=	73 cm.
Height of base up to eye bolt	=	93.04 cm.
Width at foot step	=	92.76 cm.
Foot thickness	=	5 cm.
Length	=	14 cm.

(35 marks)