

PART-B

2X20=40

- Instructions* : *
1. Answer any **Two** questions.
2. Each question carries **Twenty** marks.
3. Diagrams must be legible

5. (a) Develop 3- ϕ lap winding for a A C machine having slots, one conductor per slot and 4 poles

(b) Draw the following views a 1- ϕ , 5 kVA 220/110 V transformer.

- i. Front Elevation full section
- ii. Plant full in section

The detailed dimensions of the parts are as follows:

Core	Cross section of the core	One step core
	Diameter of circum circle	7.5cm
	Distance between the adjacent centres of core	15cm
Yoke	Height of Yoke:	8cm
L T winding	Outside diameter of L.T Coil	9cm
	Inside diameter of L.T Coil	8cm
	Height of L T winding	23cm
	Number of turns per limb	50
H T winding	Outside diameter of H.T coil	13.5cm
	Inside diameter of H.T Coil	11cm
	Height of H. T coil	23cm
	Number of turns per limb:	100
	Total height of transformer	40cm

6. (a) Draw the sketch of steel wire guy and strut guy

(b) Draw the following views of a 7.55 HP, 400/440 V, 1440 r.p.m 3- ϕ slip ring induction motor

- i. Half sectional front elevation
- ii. Half sectional end view
 - 1 Outside diameter of the stator stampings 280mm
 - 2 Inside diameter of the stator stampings 216mm
 - 3 Stator core length 106mm
 - 4 Thickness of the stator frame 31mm
 - 5 Air gap 2mm
 - 6 Outside diameter of rotor stampings 212mm
 - 7 Inside diameter of rotor stampings 36mm
 - 8 Rotor core length 106mm
 - 9 Shaft diameter
 - a) At centre 36mm
 - b) At bearing 32mm

10	Slots in stator	
	a) type	Open
*	b) number	36
	c) size	18 x 2mm

The stator frame has eight and rotor stampings have four equally spaced ducts for ventilation

7. (a) Draw the schematic diagram of thermal power plant
- (b) Draw the dimensioned sketch of plate earthing

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