

Enroll No

Q.P. Code

UT2929

- Instructions:**
- 1) All questions are compulsory.
 - 2) Figures in rounded () brackets within the question, indicate the scheme of marking for respective part of the question, whereas, figures in the first right column indicate total marks for that whole question.
 - 3) CO is the index number of the Course Outcome statement.
 - 4) The Bloom's taxonomy level (BL) for 1,2,3,4,5 and 6 is remember, understand, apply, analyze, evaluate and create respectively.
 - 5) Assume suitable data if necessary.
 - 6) Use of non-programmable calculators is allowed

		Marks	BT Level	COs
Q.1	A With neat sketch (2) explain (3) transformer on load with its phasor diagram (2) by considering inductive load on it.	07	2	CO1
	B A 5000/500 V, one-phase transformer has primary and secondary resistance of 0.2 ohm and 0.025 ohm and corresponding reactance of 4 ohm and 0.04 ohm, respectively. Evaluate:	06	5	CO1
	(i) Equivalent resistance and reactance of primary referred to secondary (1.5)			
	(ii) Total resistance and reactance referred to secondary (1.5)			
	(iii) Equivalent resistance and reactance of secondary referred to primary (1.5)			
	(iv) Total resistance and reactance referred to primary (1.5)			
	OR			
	B In a 25 kVA, 1100/400 V, single phase transformer, the iron and copper loss at full load are 350 and 400 watts, respectively. Calculate the efficiency on unity power factor at half load (4). Determine the load on maximum efficiency (2).	06	5	CO1
Q.2	A Illustrate Delta – Star, Dy1 (1) and Dy11 (1) winding connection of Three Phase Transformer with its phasor diagram (2) advantages and disadvantages (2).	06	2	CO2
	B A three-phase 50 Hz transformer core has a cross-section of 400 cm ² (gross). If the flux density be limited to 1.2 Wb/m ² , evaluate the number of turns per phase on HV (3) and LV (3) side winding. The voltage ratio is 2200/220 V, the HV side being connected in star and LV side in delta. Consider stacking factor as 0.9.	06	2	CO2

