Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY PDDC - SEMESTER-II EXAMINATION – WINTER 2015

Su Su	bject	t Code: X20903 Date:30/12/20	ate:30/12/2015	
Su Tii Inst	02:30pm to 05:00pm Total Marks:	otal Marks: 70		
	1. 2. 3.	 Attempt all questions. Make suitable assumptions wherever necessary. Figures to the right indicate full marks. 		
Q.1	(a)	Explain the working principle of D.C. Generator & derive the equation for induce E.M.F. for Lap & Wave Windings	07	
Q.2	(b) (a) (b)	Explain comparison of single phase transformer on no load with vector diagram. Explain Three point starter for D.C. shunt motor.	07 07 07	
	(b)	OR List out the various methods of speed control for 3-phase induction motor & explain any one of them with circuit diagram	07	
Q.3	(a)	Why synchronous motor is not self starting? Explain any one method for starting it	07	
	(b)	Write a short note on different types of losses occur in the transformer.	07	
Q.3	(a) (b)	Explain the mmf method to find out voltage regulation in synchronous machine. Explain with phasor diagram working of synchronous machine on constant excitation.	07 07	
Q.4	(a) (b)	Explain the internal and external characteristics of D.C. shunt generator Explains open circuit and short circuit tests of a 1-phase transformer. Discuss their importance.	07 07	
Q.4	(a) (b)	OR Explain different speed control methods for dc shunt motor. A 250/125 V, 5 KVA single phase transformer has primary resistance of 0.2 Ω and reactance of 0.75 Ω . The secondary resistance is 0.05 Ω and reactance of 0.2 Ω . Determine its regulation while supplying full load on 0.8 leading power	07 07	
Q.5	(a)	Explain the working principle & construction of Induction motor, also derive	07	
	(b)	Explain the various methods to measure the slip in induction motor OR	07	
Q.5	(a) (b)	Explain applications of Different types of D.C. motor Explain ward Leonard system of speed control of a D.C. machine. What are its disadvantages?	07 07	
