Seat No.: Enrolment	No.
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GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER- III (NEW) EXAMINATION – SUMMER 2015

Subject Code: 2131005			Date: 04/06/2015	
Tin	•	Name: ELECTRICAL MACHINES 2.30pm-05.00pm Total Marks:	70	
	1. 2.	Attempt all questions. Make suitable assumptions wherever necessary. Figures to the right indicate full marks.		
Q.1	(a)	Explain working of single phase transformer under no load condition with the help of vector diagram.	07	
	(b)	What is the constructional difference between core type and shell type transformer? What are the merits and demerits of each?	07	
Q.2	(a)	How can you perform open circuit test on transformer? Which parameter you can obtain from this test?	07	
	(b)	Why are we connecting two transformers in parallel? What are the different conditions for parallel operation of transformer? OR	07	
	(b)	What is autotransformer? Derive its equation for saving in copper.	07	
Q.3	(a)	Explain Sumpner's test performed on transformer.	07	
	(b)	How can we convert three phase to two phase in transformer?	07	
Q.3	(a)	OR Explain torque-slip curve of induction motor.	07	
	(b)	What is difference between squirrel cage and slip ring induction motor?	07	
Q.4	(a)	What do you mean by distribution factor and pitch factor in synchronous machine?	07	
	(b)	Explain ZPF method to find out regulation of alternator.	07	
		OR		
Q.4	(a)	What is the basic principle and construction of synchronous motor?	07	
	(b)	Derive the e.m.f equitation of D.C.Generator.	07	
Q.5	(a)	Explain different type of D.C.Generator with diagram.	07	
	(b)	Explain different method of speed control of D.C Motor.	07	
Q.5	(a)	OR What do you mean by power factor? How can we improve power factor?	07	
	(b)	What is Ferranti effect? How is it effect voltage of transmission line?	07	