Seat No.: _____ Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY

PDDC - SEMESTER–VIII • EXAMINATION – WINTER • 2014

Subject Code: X80905 **Date: 03-12-2014**

Subject Name: Advanced Power Electronics-II

Time:02:30 pm - 05:00 pm **Total Marks: 70**

Instructions:

1. **Attempt all questions.**
2. **Make suitable assumptions wherever necessary.**
3. **Figures to the right indicate full marks.**

Q.1	**(a)**	State and explain advantages and limitations of FACTs.	**07**
	(b)	Write a short note on automatic generation control with necessary diagrams.	**07**
Q.2	**(a)**	Write a short note on phase shifting transformer with necessary diagrams.	**07**
	(b)	Compare series and shunt compensation for transmission lines.	**07**
		OR	
	(b)	Write a short note on effect of compensation on power transfer capacity.	**07**
Q.3	**(a)**	Write a short note on working of TCT with suitable diagrams.	**07**
	(b)	Explain working principles of TCR with necessary diagrams.	**07**
		OR	
Q.3	**(a)**	Write a short note on FC-TCR with necessary diagrams.	**07**
	(b)	Explain working principles of TSCTCR with suitable digrams.	**07**
Q.4	**(a)**	Write a short note on HVDC-VSC Principles and Operation with suitable diagrams.	**07**
	(b)	Explain three phase six pulse converter using SCRs with necessary sketches.	**07**
		OR	
Q.4	**(a)**	Discuss following in relation to HVDC link: 1.Power flow in HVDC link. 2. Conduction sequence in Six Pulse Converter.	**07**
	(b)	Write a short not on twelve pulse bridge converters.	**07**
Q.5	**(a)**	Discuss Inverter Extinction Angle Control (EAG) in details.	**07**
	(b)	Draw and explain each block diagram of HVDC substation.	**07**
		OR	
Q.5	**(a)**	Compare HVDC transmission line to HVAC transmission lines.	**07**
	(b)	Explain power reversal in DC link in HVDC transmission lines.	**07**

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