Seat No.:	Enrolment No.

GUJARAT TECHNOLOGICAL UNIVERSITY BE - SEMESTER-VII(NEW) • EXAMINATION – WINTER 2016

	•	Code:2170910 Date:18/11/201	
Subject Name:Power Quality and Management(Departmental Elective - II) Time:10.30 AM to 1.00 PM Instructions: Total Marks: 70			
IIIS	1.	Attempt all questions. Make suitable assumptions wherever necessary.	
Q.1	(a)	Discuss significance of power factor correction with power quality point of view.	07
	(b)	What do you understand about power quality issues? Discuss all the power quality issues in brief.	07
Q.2	(a)	Define and technically describe following terms with suitable example: (1) Non Linear loads (2) Inrush current (3) Power factor (displacement) (4) Voltage sag (5) Transient.	07
	(b)	Explain causes of voltage and current harmonics. OR	07
	(b)	What are the power quality standards? Discuss responsibilities of supplier and user of electrical power with respect to power quality.	07
Q.3	(a) (b)	Explain power factor improvement using static VAR compensators. Explain different challenges against distributed generation. OR	07 07
Q.3	(a) (b)	Discuss the effect of harmonics on different loads. Explain power quality measurement devices.	07 07
Q.4	(a) (b)	What is EMI? Explain the EMI mitigation techniques. Explain the types and causes of transients. OR	07 07
Q.4	(a) (b)	Explain the different EMI terminology. Explain the essentials of grounding system.	07 07
Q.5	(a) (b)	What is grounding? Explain the electric code grounding requirements. Explain the different power frequency disturbances. OR	07 07
Q.5	(a) (b)	Explain the signal reference ground methods. Explain the synchronous condensers for power factor improvement.	07 07
