Seat No.: _____ Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY

B. E. - SEMESTER – VII • EXAMINATION – WINTER 2012

Subject code: 172504 **Date: 27/12/2012**

Subject Name: Quality Management and Reliability Engineering

Time: 10.30 am - 01.00 pm **Total Marks: 70**

Instructions:

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

Q.1	**(a)**	Define Quality. What are the functions of Quality Management?	**07**
	(b)	What do you understand by the benchmarking? What is its importance? How it is carried out?	**07**
Q.2	**(a)**	Why standardization is carried out? What is the importance of Bureau of Indian Standard? What are its duties?	**07**
	(b)	What do you understand by ISO? State its levels. Mention its importance in the field of quality. How it can be achieved?	**07**
		OR	
	(b)	What is the meaning of Quality Assurance? How it is carried out?	**07**
Q.3	**(a)**	Classify the services. How quality of service is measured? What do you understand by cost of quality?	**07**
	(b)	Describe prevention cost, appraisal cost, internal failure cost and external failure cost in detail.	**07**
		OR	
Q.3	**(a)**	Explain the term six sigma. What is the requirement for achieving six sigma? How it can be achieved? Give examples.	**07**
	(b)	What is QFD? Where it is applicable? State the elements of quality house. How the quality house is prepared?	**07**
Q.4	**(a)**	Give the status of quality levels in Indian industries with suitable examples. How it can be improved?	**07**
	(b)	Explain the term Reliability. How it is important in manufacturing? How it is related with quality? How it can be improved?	**07**
		OR	
Q.4	**(a)**	What is robust design? How the Taguchi Method is applicable for robust design? Explain with suitable example.	**07**
	(b)	Describe the terms MTBF, MTTR and FMECA with their respective applications.	**07**
Q.5	**(a)**	What do you understand by POKA YOKE? How this concept is utilized?	**07**
	(b)	Describe seven magnificent quality tools.	**07**
		OR	
Q.5	**(a)**	What is the difference between General Maintenance and Total Productive Maintenance? Where TPM is applicable? Explain with example.	**07**
	(b)	Describe Juran's contribution in Total Quality Management. Give the names of other contributors in TQM.	**07**

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