Seat No.: _____ Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY

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

Subject code: 142502 **Date: 31/12/2012**

Subject Name: Fundamentals of Quality Management

Time: 02.30 pm - 05.00 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 "Total Quality Management". Explain how TQM can be ensured. Enumerate the quality documents and systems needed in TQM.	**07**
	(b)	Explain the need of training for Quality Management. Enlist the various quality education and training programs and describe In-house training for TQM.	**07**
Q.2	**(a)**	Explain the following terms as applied to Quality Control:- (i) Appraisal Costs (ii) Prevention Costs (iii) Failure Costs (iv) Optimum Costs.	**07**
	(b)	Discuss the linkage between Quality and Productivity with suitable examples.	**07**
		OR	
	(b)	Describe the need for proper harmonization between design department manufacturing department and inspection department to assure the quality of product.	**07**
Q.3	**(a)**	State the procedure of constructing OC curve and explain producer's risk, consumer's risk, AOQ and AOQL.	**07**
	(b)	Define following terms with example:- (i) Sample and population (ii) Defect and defectives (iii) Acceptance and rejection numbers (iv) Lot and sample size selection.	**07**
		OR	
Q.3	**(a)**	What are the characteristics a good sampling plan should have? Discuss double sampling plan and multiple sampling plan.	**07**
	(b)	Explain the difference between:- (i) Chance causes and assignable causes (ii) Control limits and tolerance limits (iii) Variables and attributes.	**07**
Q.4	**(a)**	What do you understand by "Statistical control of production processes?" Explain how a control charts helps to control the quality of a product?	**07**
	(b)	Discuss various patterns of variation in X and R chart. Also state the possible causes responsible for such pattern.	**07**
		OR	
Q.4	**(a)**	Explain the term "Quality Assurance Function". What do you mean by term "Field complaints"? State the significance of field complaints in quality assurance function.	**07**
	(b)	Write short note on "Quality Audit".	**07**
Q.5	**(a)**	State the outstanding features of ISO:9000 series of standards. Explain the benefits by becoming an ISO:9000 company.	**07**
	(b)	Write short note on "Benchmarking".	**07**
		OR	
Q.5	**(a)**	Explain seven tools of Quality control	**07**
	(b)	Explain the concept of QFD	**07**

****