

GUJARAT TECHNOLOGICAL UNIVERSITY
MBA-SEMESTER-IV-EXAMINATION-SUMMER-2025

Subject Code: 4549272**Date: 31/05/2025****Subject Name: Quality Management****Time: 10:30 AM TO 01:30 PM****Total Marks: 70****Instructions:**

1. Attempt all questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.
4. Use of simple calculators and non-programmable scientific calculators are permitted.

Q. No.	Question Text and Description	Marks
Q.1	Define the following terms: (a) Cost of quality (b) Benchmarking (c) Total productive maintenance (d) Quality circle (e) Business Process reengineering (f) Taguchi loss function (g) Kano model	14
Q.2	(a) Explain the different perspectives of defining quality	07
	(b) Discuss the concept of customer-driven quality	07
	OR	
	(b) Compare and contrast the quality philosophies of W. Edward Deming, Philip B. Crosby, and Joseph M. Juran.	07
Q.3	(a) Discuss the concept of Quality function deployment. Also, discuss four phases of QFD implementation.	07
	(b) Evaluate the Failure Mode and Effect Analysis (FMEA) methodology.	07
	OR	
Q.3	(a) Analyze the concept of Total Productive Maintenance (TPM) and Overall Equipment Effectiveness (OEE).	07
	(b) Discuss the concepts of Kaizen and Gemba Kaizen	07
Q.4	(a) Evaluate the principles and methodology of Six Sigma.	07
	(b) Compare and contrast various international quality excellence programs	07
	OR	
Q.4	(a) What is statistical Quality control? Discuss different control charts for variables and attributes.	07
	(b) What is the use of ISO certificates? Discuss different types of ISO standards.	07

**Case Study: Implementing Total Quality Management at XYZ
Manufacturing**

Background: XYZ Manufacturing, a mid-sized company specializing in automotive parts, has been facing challenges with product defects, customer complaints, and declining market share. To address these issues, the company decided to implement Total Quality Management (TQM) to improve overall quality and customer satisfaction.

Implementation: The company began by educating its employees on the history, concept, and benefits of TQM. They adopted the eight principles of TQM, focusing on customer focus, leadership, involvement of people, process approach, system approach to management, continual improvement, factual approach to decision-making, and mutually beneficial supplier relationships.

XYZ Manufacturing also invested in quality training and education for all employees, emphasizing quality engineering and quality control. They fostered a quality culture by integrating quality into design, procurement, service, manufacturing, marketing, and after-sales service. Special attention was given to safety aspects, particularly in the petroleum industry, where the company had significant operations.

To implement TQM effectively, XYZ Manufacturing followed a generic strategy model and adopted various TQM strategies, including the TQM element approach, Guru approach, organization model approach, Japanese total quality approach, award criteria approach, and Business Process Reengineering (BPR).

Results: After a year of implementing TQM, XYZ Manufacturing saw a significant reduction in product defects, improved customer satisfaction, and regained market share. The company's commitment to quality and continuous improvement became a benchmark in the industry.

- (a) Discuss the history, concept, and benefits of Total Quality Management (TQM) as implemented by XYZ Manufacturing. **07**
- (b) Explain the eight principles of TQM and how XYZ Manufacturing applied these principles to improve its operations. **07**

OR

- (a) Evaluate the role of quality culture in XYZ Manufacturing's TQM implementation **07**
- (b) Analyze the importance of quality training and education in the successful implementation of TQM at XYZ Manufacturing. **07**
