KV INSTITUTE OF MANAGEMENT
AND INFORMATION STUDIES - COIMBATORE
Approved by AICTE - New Delhi, Affiliated to Anna University - Chennai
A Nationally Ranked B School for MBA
No. 545, Sathy Main Road, Kurumbapalayam Post, Coimbatore - 641 107

# BA5107 TOTAL QUALITY MANAGEMENT

## QUESTION BANK

### UNIT I

### PART-A

1. State the need of Customer focus.
2. Define Quality. Give an example.
3. What is mission statement?
4. Define quality cost.
5. What is Total Quality Management?
6. State the purpose of translating customer needs into product requirements.
7. List out the characteristics of quality.
8. List out the elements of customer service.
9. What are the four costs of Quality?
10. Define Return On Quality.
11. Mention any two benefits of TQM.
12. Define appraisal cost.
13. What do you understand by Mission and Vision statements?
14. Define Total Quality Management. Define manufacturing based view of quality.
15. What are the different types of Customer?
16. What do you mean by customer perceived quality?
17. What do you mean by Customer satisfaction & customer dissatisfaction?
18. What are Elements of TQM and 8 Pillars of TQM?
19. What are Quality Statements? List Responsibilities of QC Co-Ordinator.
20. What is Customer care & Customer retention?
21. Define Performance, Durability & Assurance.
22. What is Reliability & Conformance?
23. List the Dimensions of Service Quality.
24. What is Cost of Quality & its techniques?
25. What are Prevention costs and Appraisal costs?
26. What are internal failure costs and External failure costs?
27. What are Applications of Quality Cost?

28. Draw a Customer Satisfaction Model?
29. What are the popular awards for quality?

**PART –B**

1. (i) Write down the dimensions of service quality. Explain with an example.
   (ii)Why service quality is more difficult than product quality?
2. i) Write down the dimensions of product quality? Explain with an example.
   ii) Explain the 8 pillars of TQM
3. Explain the cost of quality in detail. What are the techniques to analyze quality costs? Give an example of a service based industry.
4. i) How will you improve customer focus in Indian industries?
   ii) In the context of TQM business strategy is synonymous to customer value strategy?
5. i) Explain Vision, mission and quality policy (quality statements) in detail.
   ii) Explain terminologies in cost of quality and explain the balance between VOC and COQ?
6. (i) Customer retention is very essential. Comment.
   (ii)Explain the definitions of quality: Product based, user based, Value based & manufacturing based – Give example of a fast food restaurant to measure the quality effectiveness.
7. Discuss information processing and consumer perception.
8. i) Explain the tools for collecting customer feedback. Why customer feedback is necessary?
   ii ) Differentiate between inspection and control? Illustrate the importance of Quality policy in a manufacturing organization?

**UNIT II**

**PART -A**

1. List out the contributions of Masaaki Imai.
2. List out the Japanese 5S.
3. What do you know about 8D methodology?
4. State Deming Philosophy.
5. What are the three components of Quality Trilogy of Juran?
6. What is quality planning & quality control?
7. What is Feigenbaum’s cycle time reduction methodology?
8. What is contribution of Ishikawa?
9. Explain Taguchi Loss Function.
10. What is S/N Ratio(Signal to Noise Ratio)?

11. What are System Design, Parameter Design and Tolerance Design?
12. List the benefits of cause of effect diagram.
13. What are the four absolutes of Quality?
14. Write about the Crosby "Vaccine" & “Hidden plant”?
15. What is Quality Circle (QC)? Explain its benefits.
16. Draw and explain PDCA/ PDSA Cycle? What is life cycle cost?

**PART –B**

1. i) Explain Deming’s 14 points for improving quality, productivity and competitiveness. ii) What are the seven deadly diseases in corporate as identified by Deming?
2. i) Explain Juran’s Trilogy for continuous process improvement.
   ii) Compare and contrast Deming’s, Juran and Crosby’s contributions to TQM.
3. Explain the 14 principles of Crosby? What is Crosby’s management grid and its relevance in the present context? Is Crosby’s teaching relevant?
4. Explain the structure of quality circle .List the benefits and limitations.
5. Discuss the quality circle in an automobile industry.
6. Explain Taguchi Loss Function. What according to Japanese Quality Guru Taguchi are the wider implications of quality assurance?
7. Describe in detail 5S housekeeping technique. How is it implemented in a manufacturing company?
8. Describe 8D methodology?
9. Discuss the contributions of A.F. Feigenbaum’s total quality control/Describe the contribution of Masaaki Imai.
10. Explain in detail the contribution of Ishikawa, Feigenbaum and Taguchi with example.
11. Draw a fish bone diagram with an example.

**UNIT III**

**PART A**

1. Define Statistical Process Control (SPC).
2. What is Process Capability (Natural Tolerance)?
3. What is type II error? What is replication?
4. What is Statistical Thinking?
5. What is a Control Chart? State the objectives of Control chart?
6. What are the Types of Control Chart?
7. List steps in Six Sigma Process

8. What is Purpose of Process Capability? How the upper and lower capability indices are is fixed?
9. What is TPM? What are Objectives of TPM?
10. What are Six Big Losses?
11. What is Overall Equipment Efficiency?
12. What are the Types of Maintenance?
13. What is Tero-technology?
14. What is Reliability? Explain the Reliability in Series and Reliability in Parallel.
15. Draw a PLC Curve/ Bath Tub. What is infant mortality period?
16. What is MTTR & MTBF?
17. Where can a C chart are used?
18. What is business process improvement and Business process reengineering?
19. What are benefits of BPR and Limitations of BPR?

**PART B**

1. Describe Six Sigma. Six sigma are merely repackaged versions of old quality improvement programs – Comment.
2. Write short about SPC. Outline the steps for setting up a control chart to monitor a process. Use a neat diagram for selecting the appropriate control chart.
3. Describe the control charts for variable and attributes. Describe the control charts for defects or non-conformities. Explain control chart patterns. Explain the various methods that are used for graphical representation of a frequency distribution.
4. Explain steps in DMAIC Six Sigma Process and the concept of six – sigma.
5. Explain the Bathtub curve/ PLC curve.
6. What are the six major loss areas need to be measured for implementing TPM?
7. Explain TPM in TQM environment? Explain the seven step plan to establish the TPM in an organization in detail.
8. Explain in detail BPI. Explain the steps and principles of BPR.
9. What are the controversies against BPR in the Indian Scenario? Explain its applications.
10. Explain Purpose of Process Capability. Problems in process capability.
11. i) Explain in detail series and parallel reliability models and the implications for product design.
    ii) Problems in reliability and MTTF.
12. What are benefits of BPR and Limitations of BPR?

## UNIT IV

### PART - A

1. What is QFD? What are the Objectives of QFD?
2. What are the types of Benchmarking? List the uses of Benchmarking.
3. What is POKA YOKE? Differentiate Benchmarking and Poka Yoke .
4. What is HOQ (House of Quality)? Draw the Structure of HOQ.
5. What is FMEA? What are the Types and benefits of FEMA.
6. What is Risk Priority Number (RPN)? How is the express failure mode critical number obtained?
7. List New QC Tools.
8. What is a Check Sheet/Tally Sheet?
9. What is the voice of a customer?
10. Draw a Cause & Effect diagram with an example.
11. What is a Pareto Diagram and Affinity diagram?
12. What is a Stratification Analysis?
13. What is a Scatter Diagram?
14. What is a Relationship Diagram and Tree Diagram?
15. What is a Matrix Diagram and Process Decision Programme Chart?
16. What is a Arrow Diagram?

### PART B

1. Explain QFD with a suitable example. What are its advantages and Limitations?
2. Discuss the QFD process with new chart and flow diagram.
3. Explain HOQ with suitable example.
4. Explain FMEA Form in detail with suitable example.
5. Describe POKA YOKE with suitable examples.
6. Describe the Stages in FMEA. Highlight the scales used in FMEA.
7. What are the types of Benchmarking? Explain the advantages and limitations.
8. Describe the old management Tools.
9. Describe Stages in QFD. List key requirements and key technical requirements for an automobile windshield/ Call Center/your choice. Create a matrix using QFD.
10. Describe the new Management Tools.
11. Describe Stages in QFD. List key requirements and key technical requirements for an automobile windshield/ Call Center/your choice. Create a matrix using QFD.
12. Explain in detail about the old Management Tools.

## UNIT V

## PART A

1. Write down the poor motivational level among employees.
2. Define Quality Audit. Give an example.
3. State any four duties of Quality Council.
4. Write down the importance of Employee Involvement.
5. What are two party audit systems?
6. Give the Basic Concepts of TQM. List the Barriers of TQM Implementation.
7. What are Benefits of TQM? Give the Principles of TQM.
8. Give the Obstacles associated with TQM Implementation?
9. What is QMS and ISO?
10. What is Quality System? What is Quality System Audit?
11. What are the Types of Audits based on coverage? Write the Stages of An Audit?
12. Give the ISO 9000 Series of Standards? List the need for implementing ISO 9000.
13. What are the four elements for the planning of ISO 14001?
14. What is Empowerment in quality aspects? What are Conditions to Create Empowered Environment?
15. What is quality culture?
16. What is Recognition and reward?
17. What is Motivation? State two motivation theories.
18. What are the three conditions necessary to create the empowered environment?
19. Describe the Characteristics Of TQM?
20. Write a note on self actualization.
21. List the stages in TQM.

## PART B

1. Explain about TQM Framework.
2. Explain the steps to be followed in implementing quality system ISO 9001:2000. What are the steps to obtain certification? What are the advantages and disadvantages of obtaining certification?
3. What are the requirements of ISO 14000? Explain them briefly. Explain ISO 14000 with an Industrial application.
4. Explain in detail about the quality auditing with its different types.
5. Discuss in briefly about the documentation of quality system. Explain the benefits of EMS. Discuss the constitution and activities of quality council.

6. Write short note on:
   i) TQM Culture
   ii) Leadership
   iii) Employee involvement and motivation
   iv) Empowerment
7. Briefly discuss the phases involved in Quality Audit.
8. Discuss about Maslow's need hierarchy and two factor theory for employee motivation.
9. What are the characteristics of good leader also explain essential habits of quality leader.

## PART C

1. A building contractor subcontracts a job involving hanging wallpaper to a local merchant. To have an idea of the quality level of the Merchant's work, the contractor randomly selects 300 ft and counts the number of blemishes. The total number of blemishes for 30 samples is 80. Construct the center line and control limits for an appropriate chart. Is it reasonable for the contractor to set a goal of an average of 0.5 blemishes per 100 ft?

2. A Coffee Shop owner gets sudden increase in complaints about poor quality. Apply cause and effect diagram to this situation.

3. Define SPC. Outline the steps for setting-up a control chart to monitor a process and determine its process capability.

4. Develop a House of Quality for designing a Mobile Phone.

5. In a casting process, the results of the inspection of 10 lots of 125 items each are given in the following table:

| No. | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
|---|---|---|---|---|---|---|---|---|---|---|
| No. of defectives | 3 | 8 | 9 | 10 | 4 | 6 | 9 | 5 | 6 | 8 |

   Compute trial control limits, plot appropriate chart and draw the conclusion.

6. In a textile, it is important that the acidity of the solution used to dye fabric be within certain acceptable values. Data values are gathered for a control chart by randomly taking four observations from the solyution and determining the average pH value and range. After 25 such samples the following summary information is obtained.

$$\sum_{i=1}^{25} \bar{x} = 195, \quad \sum_{i=1}^{25} Ri = 10$$

The specifications for the pH value are 7.5 ± 0.5.

7. Carry out FMEA analysis for the design of unmanned aerial vehicle.

8. In a capability study of a machine used for grinding a shaft to a diameter of 23.75±0.1 mm of five consecutive pieces has been taken for seven days.

   The diameters of these shafts are as given below:

| **I** | **II** | **III** | **IV** | **V** | **VI** | **VII** |
|---|---|---|---|---|---|---|
| 23.80 | 23.78 | 23.78 | 23.78 | 23.76 | 23.76 | 23.78 |
| 23.76 | 23.81 | 23.80 | 23.76 | 23.82 | 23.74 | 23.81 |
| 23.77 | 23.76 | 23.77 | 23.75 | 23.79 | 23.78 | 23.80 |
| 23.73 | 23.76 | 23.77 | 23.77 | 23.74 | 23.76 | 23.70 |
| 23.78 | 23.75 | 23.77 | 23.78 | 23.79 | 23.73 | 23.76 |

   Construct the X bar and R Chart and comment the process.

9. In an Injection moulding process, the results of the inspection of 10 lots of 100 items are given in the following table:

| No. | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
|---|---|---|---|---|---|---|---|---|---|---|
| No. of defectives | 13 | 3 | 9 | 4 | 10 | 6 | 7 | 15 | 4 | 2 |

   Compute trial control limits, plot appropriate chart and draw the conclusion.