

# SRM VALLIAMMAI ENGINEERING COLLEGE

(An Autonomous Institution)

SRM Nagar, Kattankulathur - 603 203

## QUESTION BANK

### VII SEMESTER

#### 1915003– TOTAL QUALITY MANAGEMENT

(Common to AI&DS, IT & EIE)

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## UNIT – I – INTRODUCTION

### **SYLLABUS:**

Introduction - Definition of quality - Need for quality - Evolution of quality - Dimensions of product and service quality - Definition of TQM - Basic concepts of TQM – Principles of TQM - TQM Framework- Barriers to TQM – Benefits of TQM – Cost of Quality.

### PART- A

<b>S.NO</b>	<b>QUESTIONS</b>	<b>BT LEVEL</b>	<b>COMPETENCE</b>
1.	Define Quality.	Level 1	Remembering
2.	What is the need for Quality?	Level 2	Understanding
3.	List the dimensions of Quality.	Level 2	Understanding
4.	Define Quality Planning.	Level 1	Remembering
5.	What are the major dimensions of product quality?	Level 2	Understanding
6.	Mention the dimensions of the service quality.	Level 2	Understanding
7.	Define Total Quality Management.	Level 1	Remembering
8.	Give the Basic Concepts of TQM	Level 2	Understanding
9.	Mention the basic features of TQM.	Level 2	Understanding
10.	List the principles of TQM	Level 1	Remembering
11.	What are the objectives of TQM?	Level 2	Understanding
12.	How would you explain the TQM framework and its benefits?	Level 2	Understanding
13.	What are the elements of TQM?	Level 1	Remembering
14.	Mention some of the major obstacles to TQM implementation.	Level 2	Understanding
15.	List out the benefits of TQM.	Level 1	Remembering
16.	Summarize the basic concepts required for a successful TQM Programme.	Level 1	Remembering
17.	Define Cost of Quality.	Level 2	Understanding
18.	What are the Components of Cost of Quality?	Level 1	Remembering
19.	Mention the four types of Quality costs.	Level 1	Remembering
20.	Write a short note on Hidden Cost.	Level 2	Understanding
21.	What does the prevention cost mean?	Level 1	Remembering
22.	Distinguish between the costs of internal failure and external failure.	Level 1	Remembering
23.	Give the analysis Techniques for Quality cost.	Level 2	Understanding
24.	Define quality cost index.	Level 1	Remembering

<b>PART- B</b>			
<b>S.NO</b>	<b>QUESTIONS</b>	<b>BT LEVEL</b>	<b>COMPETENCE</b>
1.	What are the different definitions given for quality? Explain how it got evolved and what are its prime concerns.	Level 3	Applying
2.	Discuss the dimensions of Quality in detail.	Level 3	Applying
3.	Explain in detail the evolution of Quality.	Level 3	Applying
4.	What is service quality? Explain its various elements towards customer satisfaction.	Level 4	Analysing
5.	Describe the basic concepts of TQM in detail.	Level 5	Evaluating
6.	State and explain in detail about the principles of TQM.	Level 6	Creating
7.	Explain the characteristics of TQM derived from its definitions.	Level 3	Applying
8.	Elaborate on the TQM framework and the importance of each element.	Level 3	Applying
9.	Discuss the role of senior-level management in TQM implementation.	Level 3	Applying
10.	Explain in detail about the barriers while implementing TQM.	Level 4	Analysing
11.	Describe the potential benefits of implementing TQM in detail.	Level 3	Applying
12.	Explain the components of quality cost.	Level 3	Applying
13.	How are the quality costs categorized? Explain in detail.	Level 4	Analysing
14.	Discuss the analysis techniques for the quality cost.	Level 3	Applying
15.	Explain the process of establishing costs of quality.	Level 3	Applying
16.	Interpret the essential steps of quality planning in a manufacturing industry.	Level 3	Applying
17.	Briefly discuss about dimensions of product and service quality.	Level 3	Applying

<b>PART - C</b>			
<b>S.NO</b>	<b>QUESTIONS</b>	<b>BT LEVEL</b>	<b>COMPETENCE</b>
1.	Justify the following statement” Quality is a new competitive weapon” give examples.	Level 4	Analysing
2.	Explain projects in TQM and various supporting tools and techniques in TQM Projects.	Level 5	Evaluating

3.	Enumerate the quality statements and discuss them in detail with respect to the service-based industry.	Level 6	Creating
4.	Discuss how a fast-food restaurant could measure its quality effectiveness using each of the following definitions of quality: product-based, user-based, value-based, and manufacturing-based.	Level 4	Analysing
5.	“The applicability of TQM has limitations”. Do you agree with this statement? Can TQM be implemented for service sectors? Discuss with a suitable example.	Level 5	Evaluating

### Unit-II-TQM PRINCIPLES

#### **SYLLABUS:**

Leadership--The Deming Philosophy, Quality council, Quality statements and Strategic planning- Hoshin Planning - Customer Satisfaction -Customer Perception of Quality, Feedback, Customer complaints, Service Quality, Kano Model and Customer retention – Employee involvement – Motivation, Empowerment, Team and Teamwork, Recognition & Reward - Continuous process improvement -Juran Trilogy, PDSA cycle, 5S and Kaizen - Supplier partnership – Partnering, Sourcing, Supplier selection, Supplier Rating, and Relationship development

#### PART- A

S.NO	QUESTIONS	BT LEVEL	COMPETENCE
1.	List out the characteristics of a successful leader.	Level 1	Remembering
2.	Mention the important habits of the quality leader?	Level 2	Understanding
3.	What are the quality statements?	Level 1	Remembering
4.	Define Quality Council.	Level 1	Remembering
5.	What is meant by customer satisfaction?	Level 2	Understanding
6.	Who are the customers?	Level 2	Understanding
7.	What are the factors influencing customer perception of Quality?	Level 1	Remembering
8.	List the needs of the customer as per the kano model.	Level 2	Understanding
9.	What is a customer complaint?	Level 1	Remembering
10.	Why customer feedback is necessary?	Level 1	Remembering
11.	Define service quality or customer service.	Level 2	Understanding
12.	What is meant by customer retention?	Level 1	Remembering
13.	How employee involvement can be improved in an organization?	Level 1	Remembering
14.	Define Employee empowerment.	Level 2	Understanding

15.	What are the roles of a team facilitator?	Level 1	Remembering
16.	List the characteristics of a successful team.	Level 1	Remembering
17.	What is PDCA Cycle?	Level 2	Understanding
18.	Draw Juran's three- role models.	Level 2	Understanding
19.	What is 5S?	Level 1	Remembering
20.	Elucidate Kaizen.	Level 2	Understanding
21.	Define supplier partnering.	Level 2	Understanding
22.	List the key elements of supplier partnering.	Level 1	Remembering
23.	What do you understand by 'supplier rating'?	Level 2	Understanding
24.	Write the requirements of a reliable supplier rating.	Level 2	Understanding

**PART- B**

<b>S.NO</b>	<b>QUESTIONS</b>	<b>BT LEVEL</b>	<b>COMPETENCE</b>
1.	Discuss the Deming's fourteen points for the improvement of quality management.	Level 3	Applying
2.	Describe the various quality statements. Give examples.	Level 3	Applying
3.	Explain the step-by-step procedure in strategic quality planning.	Level 3	Applying
4.	What are the ways by which an organization, can make use of customer feedback?	Level 4	Analysing
5.	Explain the issues related to customer complaints and retention.	Level 5	Evaluating
6.	Briefly explain the Employee Motivation and Empowerment.	Level 6	Creating
7.	Write about the system of recognition and reward followed in an organization.	Level 3	Applying
8.	What is a team? List the characteristics of a successful team.	Level 3	Applying
9.	Explain the roles of a team leader and a facilitator.	Level 3	Applying
10.	Explain the different approaches towards continuous process improvement.	Level 4	Analysing
11.	Briefly explain the continuous process improvement.	Level 3	Applying
12.	Explain in detail about Juran Trilogy.	Level 3	Applying
13.	List and Explain the seven phases of the PDSA cycle problem-solving.	Level 4	Analysing

14.	What is 5S? How it will be useful in continuous improvement?	Level 3	Applying
15.	Discuss the roles to be played by the employees for the effective implementation of kaizen.	Level 3	Applying
16.	Describe the supplier partnership procedures.	Level 3	Applying
17.	Briefly discuss on customer satisfaction		

### PART - C

S.NO	QUESTIONS	BT LEVEL	COMPETENCE
1.	Suggest some guidelines/recommendations for a Quality Council being implemented successfully in an organization.	Level 4	Analysing
2.	is customer complaints necessarily for an organization? If yes, list the various tools used for collecting customer complaints.	Level 5	Evaluating
3.	Evaluate the duties of the quality council and explain McGregor's theory X and theory Y.	Level 6	Creating
4.	How would you show your understanding of framing 5S for a manufacturing company and classifying them?	Level 4	Analysing
5.	Illustrate the Ishikawa ten principles for customer/supplier relations.	Level 5	Evaluating

### UNIT-III-TQM TOOLS & TECHNIQUES I

#### **SYLLABUS:**

The seven traditional tools of quality – New management tools – Six-sigma Process Capability- Benchmarking - Reasons to benchmark, Bench marking process, Criticisms of Bench Marking - FMEA - FMEA Documentation, Stages.

### PART- A

S.NO	QUESTIONS	BT LEVEL	COMPETENCE
1.	List the seven traditional tools of Quality	Level 1	Remembering
2.	Define flow chart.	Level 2	Understanding
3.	When do we use the flow chart?	Level 2	Understanding
4.	What is the purpose of the Pareto diagram?	Level 1	Remembering
5.	State the principle of Pareto analysis.	Level 2	Understanding
6.	What is a Scatter diagram?	Level 2	Understanding
7.	Define the check sheet.	Level 1	Remembering
8.	Name some new management tools.	Level 2	Understanding

9.	When do we use the affinity diagram?	Level 2	Understanding
10.	Why do we need six-sigma?	Level 1	Remembering
11.	Write the different concepts of six-sigma.	Level 2	Understanding
12.	What are the stages of six sigma?	Level 1	Remembering
13.	Brief the scope of Sig-sigma.	Level 1	Remembering
14.	Define Benchmarking.	Level 2	Understanding
15.	List the objectives of Benchmarking.	Level 1	Remembering
16.	Mention the levels of Benchmarking.	Level 1	Remembering
17.	How is Benchmarking used in the industry?	Level 2	Understanding
18.	What are the benefits of Benchmarking?	Level 1	Remembering
19.	What is meant by Failure Mode and Effect Analysis?	Level 1	Remembering
20.	List out limitations of Benchmarking.	Level 2	Understanding
21.	Define FMEA.	Level 1	Remembering
22.	What are the types of FMEA?	Level 1	Remembering
23.	List the stages of FMEA.	Level 2	Understanding
24.	Differentiate the terms 'failure mode' and failure effects'	Level 2	Understanding

<b>PART- B</b>			
<b>S.NO</b>	<b>QUESTIONS</b>	<b>BT LEVEL</b>	<b>COMPETENCE</b>
1.	How is a cause-and-effect diagram constructed? Discuss in detail with an example.	Level 3	Applying
2.	Describe the steps used to construct the scatter diagram.	Level 3	Applying
3.	List out the new seven management tools and explain any two in detail.	Level 3	Applying
4.	Outline the steps used to construct the tree diagram.	Level 4	Analysing
5.	Explain in detail the concept of six-sigma with an example.	Level 5	Evaluating
6.	Describe the relevance of the six-sigma concept in achieving quality output in a process.	Level 6	Creating
7.	Describe the stages of six-sigma in process improvement.	Level 3	Applying
8.	How six-sigma concept can be effective in a service organization? Discuss.	Level 3	Applying
9.	What is Benchmarking and why do the organizations adopt this technique?	Level 3	Applying

10.	Identify and explain the three main types of benchmarking. In what circumstances would each type be more appropriate?	Level 4	Analysing
11.	Write the step-by-step procedure for implementing a benchmarking process in an organization.	Level 3	Applying
12.	Explain how benchmarking improve product/process quality.	Level 3	Applying
13.	Discuss the objectives, process, outcome, and benefits of FMEA.	Level 4	Analysing
14.	How do you use FMEA in an organization to increase process reliability?	Level 3	Applying
15.	How failures of a product can be classified? Write the stages of FMEA.	Level 3	Applying
16.	Write the step-by-step procedure for implementing an FMEA of a product.	Level 3	Applying
17.	Illustrate the bench marking and its features.	Level 3	Applying

**PART - C**

<b>S.NO</b>	<b>QUESTIONS</b>	<b>BT LEVEL</b>	<b>COMPETENCE</b>
1.	Analyze the SIX BIG losses which are acting as stumbling blocks on the road to higher equipment effectiveness. Also, explain how those losses can be minimized or eliminated through TPM programme.	Level 4	Analysing
2.	Coffee shop owner gets sudden increases in complaints about the poor quality, apply a cause-and-effect diagram to this situation.	Level 5	Evaluating
3.	Describe the different benchmarking metrics that can be used in educational institutions.	Level 6	Creating
4.	The six-sigma concept can be applied to non – manufacturing processes. Do you agree with this statement? Justify your answer with a suitable example.	Level 4	Analysing
5.	Explain would you prepare an FMEA worksheet for an induction motor's shaft failure or a failure of your choice.	Level 5	Evaluating

## UNIT-IV-TQM TOOLS AND TECHNIQUES II

### **SYLLABUS:**

Quality Circles - Quality Function Development (QFD) -House of Quality -QFD Process, Benefits- Total Productive Maintenance - Concepts, Benefits -Business Process Reengineering -Concepts, Process and Applications-Business Process Improvement.

### PART- A

<b>S.NO</b>	<b>QUESTIONS</b>	<b>BT LEVEL</b>	<b>COMPETENCE</b>
1.	What is a QFD?	Level 1	Remembering
2.	List the objectives of TPM.	Level 2	Understanding
3.	What do you mean by Business Process Improvement?	Level 2	Understanding
4.	Define quality cost.	Level 1	Remembering
5.	What are the goals of TPM?	Level 2	Understanding
6.	List the key elements of TPM.	Level 2	Understanding
7.	Define TPM	Level 1	Remembering
8.	What are the six sections of a basic house of quality matrix?	Level 2	Understanding
9.	How would you apply what you learned to develop QFD?	Level 2	Understanding
10.	Define BPI	Level 1	Remembering
11.	List the objectives of QFD.	Level 2	Understanding
12.	What are the four components of productive maintenance?	Level 1	Remembering
13.	List the 7 phases of business process re-engineering?	Level 1	Remembering
14.	Define Quality Circles.	Level 2	Understanding
15.	How would you show your understanding of Tero technology?	Level 3	Applying
16.	Can you make a distinction between preventive maintenance and predictive maintenance?	Level 1	Remembering
17.	Define Maintenance.	Level 2	Understanding
18.	What is the main idea of corrective maintenance?	Level 1	Remembering
19.	List out the benefits of Total Productive Maintenance.	Level 1	Remembering
20.	Can you list the types of Maintenance?	Level 2	Understanding
21.	What is meant by cost of internal failures?	Level 1	Remembering
22.	List the components cost of internal failures.	Level 1	Remembering
23.	What are various types of cost bases?	Level 2	Understanding
24.	List the categories of quality costs.	Level 1	Remembering

**PART- B**

<b>S.NO</b>	<b>QUESTIONS</b>	<b>BT LEVEL</b>	<b>COMPETENCE</b>
1.	Explain in detail 7 phases of business process re-engineering.	Level 3	Applying
2.	What are the five steps in business process improvement?	Level 3	Applying
3.	Discuss Quality Function Deployment with suitable application.	Level 3	Applying
4.	Devise a QFD Methodology for design and development of cups used in vending machine for dispersing hot and cold beverages.	Level 4	Analysing
5.	Write down the objectives of implementing TPM. Discuss about the core elements of TPM program.	Level 5	Evaluating
6.	Discuss in detail about Pillars of TPM and implementation of TPM.	Level 6	Creating
7.	What are the major differences between TQM and TPM?	Level 3	Applying
8.	Examine in detail how the house of quality constructed with an example.	Level 3	Applying
9.	What are the six major loss areas need to be measured for implementing TPM?	Level 3	Applying
10.	Explain the stages involved in developing TPM and various types of maintenance techniques.	Level 4	Analysing
11.	What are the five key principles of business process reengineering?	Level 3	Applying
12.	Explain the various steps in quality circle.	Level 3	Applying
13.	Briefly explain the steps involved in Quality function Deployment.	Level 4	Analysing
14.	Explain the Objectives, Features, and Structures of quality circle.	Level 3	Applying
15.	Explain in detail about the steps in BPR implementation?	Level 3	Applying
16.	Which are the important things you need to do to assess a process improvement opportunity?	Level 3	Applying
17.	What is meant by QFD process. Describe the phases of QFD?	Level 3	Applying

<b>PART - C</b>			
<b>S.NO</b>	<b>QUESTIONS</b>	<b>BT LEVEL</b>	<b>COMPETENCE</b>
1.	Develop house of quality for designing a Laptop.	Level 4	Analysing
2.	Demonstrate the construction of HOQ in order to convert customer voices to the company requirements for a service industry.	Level 5	Evaluating
3.	Explain the steps by steps process used for implemented Business Process Reengineering in the manufacturing organizations.	Level 6	Creating
4.	Write the step by step procedure to develop a TPM programme in an organization.	Level 4	Analysing
5.	Explain in details about Toyota Production System maintenance.	Level 5	Evaluating

<b>UNIT-V- QUALITY SYSTEMS</b>			
<b>SYLLABUS:</b>			
Introduction -Benefits of ISO-Registration - ISO 9000 Series of standards-Sector Specific Standards-AS 9100,TS 16949 and TL 9000-ISO 9001 Requirements- Implementation -Documentation-Internal Audits - Registration -Environmental Management System: Introduction -ISO 14000 Series standards -Concepts of ISO 14001-Requirements of ISO 14001- Benefits of EMS-National and International Awards .			
<b>PART- A</b>			
<b>S.NO</b>	<b>QUESTIONS</b>	<b>BT LEVEL</b>	<b>COMPETENCE</b>
1.	Define ISO.	Level 1	Remembering
2.	Give the ISO 9000 Series of Standards?	Level 2	Understanding
3.	What is the need for ISO 9000?	Level 1	Remembering
4.	Enumerate the steps necessary to implement the Quality Management System?	Level 1	Remembering
5.	Can you list the three sections of QS-9000?	Level 2	Understanding
6.	What is quality audit?	Level 1	Remembering
7.	What are the requirements of ISO 14001?	Level 1	Remembering
8.	Can you explain the benefits of ISO 14000?	Level 2	Understanding
9.	Identify the four elements for the checking and corrective action of ISO14001?	Level 2	Understanding
10.	List the seven elements for the implementation and operations of ISO14001?	Level 1	Remembering
11.	Name the four elements for the planning of ISO 14001?	Level 2	Understanding
12.	Give the types of Organizational Evaluation Standards?	Level 2	Understanding
13.	Define documentation	Level 1	Remembering

14.	Explain the use of Quality Auditing?	Level 2	Understanding
15.	Give the usage of an effective recognition and reward system?	Level 2	Understanding
16.	What do you mean by National Awards and International Awards?	Level 1	Remembering
17.	Specify the objectives of "Quality Policy".	Level 2	Understanding
18.	Compare QS 9000 with TS 16949 quality system.	Level 2	Understanding
19.	What are the important requirements of QS9000?	Level 1	Remembering
20.	Explain briefly the environmental management system.	Level 2	Understanding
21.	What are the methods of actual audit?	Level 1	Remembering
22.	Give the ISO 9001 requirements?	Level 1	Remembering
23.	Explain the ISO/QS 9000 elements.	Level 2	Understanding
24.	What are the benefits of ISO?	Level 2	Understanding

**PART- B**

<b>S.NO</b>	<b>QUESTIONS</b>	<b>BT LEVEL</b>	<b>COMPETENCE</b>
1.	Explain the elements of ISO 9000 standards.	Level 3	Applying
2.	Discuss about implementation of ISO 9000.	Level 3	Applying
3.	Explain Quality Audits in an organization.	Level 3	Applying
4.	What are the steps to be followed in implementing quality system ISO 9001:2000	Level 4	Analysing
5.	Formulate the steps followed to get ISO 9000 certification for an educational institute.	Level 5	Evaluating
6.	Explain briefly the concept and requirements of ISO 14000?	Level 6	Creating
7.	Can you elaborate on quality auditing and explain its types?	Level 3	Applying
8.	Illustrate the detailed procedure for quality auditing. Brief the attributes of a good auditor.	Level 3	Applying
9.	Discuss about the four important documents to be prepared for ISO 9000 certification and the benefits of implementing ISO14000 standard.	Level 3	Applying
10.	Analyze the role of audit checklist for quality management system.	Level 4	Analysing
11.	Outline the major clauses and explain QS 9000 standards.	Level 3	Applying

12.	Explain the various steps on ISO registration process and audit.	Level 3	Applying
13.	Discuss any four requirements of Environmental Policy and three categories of Organizational Evaluation Standards in detail.	Level 4	Analysing
14.	How can “Quality audit” be classified on the basis of the area taken into account for the audit?	Level 3	Applying
15.	Explain ISO 14000 environmental standards and benefits of EMS.	Level 3	Applying
16.	Enumerate the various aspects of ISO 14000 environmental management system. Brief the various principles of ISO 14000 series.	Level 3	Applying
17.	Explain the requirements of Environmental management system	Level 3	Applying

**PART - C**

<b>S.NO</b>	<b>QUESTIONS</b>	<b>BT LEVEL</b>	<b>COMPETENCE</b>
1.	Explain the steps followed to get ISO 9000 certification for an IT industry.	Level 4	Analysing
2.	Explain the implementation of quality audit in a Juice industry.	Level 5	Evaluating
3.	Top management commitment (leadership)“ drives all other key success factors of TQM. Do you agree with the statement? Justify your answer quoting examples from Indian industry.	Level 6	Creating
4.	Efficiency has been defined as “doing things better” and effectiveness as “doing better things”. Describe how benchmarking can be used to improve both efficiency and effectiveness in TQM implementation.	Level 4	Analysing
5.	Explain ISO 9001 requirements with an example.	Level 5	Evaluating