



VALLIAMMAI ENGINEERING COLLEGE
DEPARTMENT OF MECHANICAL ENGINEERING
QUESTION BANK



Year and Semester	FOURTH YEAR – VIII SEMESTER (ODD)	
Subject Code and Name	GE 6757 –TOTAL QUALITY MANAGEMENT	
Faculty Name	1)	J.ANAND .AP(O.G)
	2)	V.SELVALAKSHMI ,AP(O.G)
	3)	M.GANESAN @ KANAGARAJ,AP(O.G)

Q.No	Unit - I - INTRODUCTION - Part - A - Question	Level
1	Define Quality.	BTL 1
2	Compare Dimensions of product and service quality.	BTL 2
3	Identify the equation that would quantify quality?	BTL 3
4	Classify the dimensions of quality.	BTL 4
5	Discuss the duties of quality council.	BTL 5
6	Interpret the essential steps of quality planning?	BTL 6
7	Define Hidden cost.	BTL 1
8	Compare appraisal and failure costs.	BTL 2
9	How would you show your understanding on the Juan's quality planning?	BTL 3
10	What conclusion can you draw on the objectives of quality cost evaluation?	BTL 4
11	How is Customer retention focused in TQM?	BTL 5
12	Interpret the barriers to TQM implementation.	BTL 6
13	Define prevention costs.	BTL 1
14	Compare TQM & TQM frame.	BTL 2
15	How would you show your understanding of the term Customer satisfaction & the term Customer complaints?	BTL 3
16	Classify the basic concepts of TQM.	BTL 4
17	Define Costs of quality.	BTL 1
18	Classify any four principles of TQM.	BTL 2
19	Define quality statement? Give example for each.	BTL 1
20	What is quality council?	BTL 1

Q.No	Unit - I - Part - B - Question	Level
1	i) How would you explain the various Deming's 14 points in details? (8marks) ii) How would you explain Deming's 14 points for improving quality, productivity and competitiveness? (8marks)	BTL 1
2	i) How would you summarize customer complaints in details? (8marks) ii) Explain customer satisfaction & retention in details?(8marks)	BTL 2
3	i) How would you show your understanding on the basic concepts in details? (8marks) ii) Construct the principles of TQM?(8marks)	BTL 3
4	i) How would you classify Different key elements and dimensions of TQM.(8marks) ii) Examine evolution, pillars and potential benefits of TQM?(8marks)	BTL 4
5	i) Categorize the different TQM Framework with diagram.(8marks) ii) Can you predict the outcome of barriers for TQM implementations?(8marks)	BTL 5
6	i) Evaluate Quality statements of manufacturing company with a example.(8marks) ii) Do you agree with the actions of Quality statements.(8marks)	BTL 6
7	i) Define TQM and explain Juran's ten steps to quality improvement?(8marks) ii) How would you describe TQM Concepts in detail?(8marks)	BTL 1
8	i) Compare the dimensions of product quality and service quality with example.(8marks) ii) Explain in detail the various principles of quality management.(8marks)	BTL 2
9	i) Construct a Quality plan for activities to be carried out by managers in recent times highlighting the current trends.(8marks) ii) Analyse the cost of quality in detail.(8marks)	BTL 3
10	i) List the main characteristics of TQM implementation?(8marks) ii) Find out the various components of cost of quality with the interrelationship among them in minimizing the total cost of quality.(8marks)	BTL 1
11	i) Find and Elaborate on the steps in establishing a cost of quality reporting system.(8marks) ii) Define and distinguish between vision and mission statements.(8marks)	BTL 1



VALLIAMMAI ENGINEERING COLLEGE
DEPARTMENT OF MECHANICAL ENGINEERING
QUESTION BANK



12	i) Explain Crosby 14 points for quality?(8marks) ii) Discuss on customer satisfaction. (8marks)	BTL 2
13	i) Is customer complaint necessary for an organization? If yes list and elaborate the various tools used for collecting customer complaints.(8marks) ii) Write a brief about “customer retention”.(8marks)	BTL 4
14	i) Explain why and how we should retain the customer using an established model.(8marks) ii) What are internal failure costs? Give examples.(8marks)	BTL 1



VALLIAMMAI ENGINEERING COLLEGE
DEPARTMENT OF MECHANICAL ENGINEERING
QUESTION BANK



Q.No	Unit - II - TQM PRINCIPLES -Part - A - Question	Level
1	Define Leadership.	BTL 1
2	Compare Reward & Recognition.	BTL 2
3	Identify the importance of strategic quality planning	BTL 3
4	Classify the types of motivation.	BTL 4
5	How is teamwork important in TQM?	BTL 5
6	Interpret the objectives Quality councils.	BTL 6
7	What is continuous process improvement?	BTL 1
8	Outline the benefits of Quality circle .	BTL 2
9	Define motivation.	BTL 3
10	Define employee involvement.	BTL 4
11	i)How would show your understanding of PDCA Cycle?(1mark) ii) Do you feel kaizen can be an alternate to it? (1 mark)	BTL 5
12	Explain empowerment.	BTL 6
13	What example can you state for partnering?	BTL 1
14	Classify the types of supplier rating.	BTL 2
15	List the characteristics of good leadership.	BTL 3
16	Interpret the importance of supplier selection.	BTL 4
17	Define performance appraisal.	BTL 1
18	Compare Kaizen and Kairyo.	BTL 2
19	i) Construct a team for Quality implementation in manufacturing company . ii) Analyse Internal and External customers.	BTL 1
20	Define 5s.	BTL 1



VALLIAMMAI ENGINEERING COLLEGE
DEPARTMENT OF MECHANICAL ENGINEERING
QUESTION BANK



Q.No	Unit - II - Part - B - Question	Level
1	How would you describe the characteristics of quality leader and leadership styles for effective leaders in detail?	BTL 1
2	Explain requirements of effective leadership & summarize leadership roles in detail?	BTL 2
3	i) How would you show your understanding on steps involved in strategic quality planning (8marks) ii) Identify the Difference between strategic quality planning Vs Traditional strategic planning (8 marks).	BTL 3
4	i) Categorize the Aspects of employee involvement.(8marks) ii) Analyze the concept of motivation explain in detail?(8 marks)	BTL 4
5	Can you formulate theories of motivation in detail.	BTL 5
6	i) Evaluate Concept of Employee empowerment and general principles and characteristics of it? (8marks). ii) Estimate team types and characteristics of successful team? (8marks).	BTL 6
7	i)what are the objectives and characteristics of quality circles .(8marks) ii) Find the structure of quality circles & its process formation in detail (8marks).	BTL 1
8	i) Explain the process would you use for performance appraisal?(8marks) ii)classify the different performance appraisal techniques. (8marks)	BTL 2
9	i) How would you show your understanding on the essentials PDCA Cycle? (8marks) ii) How would you show your understanding on framing 5s for a manufacturing company and classifying them?(8marks)	BTL 3
10	Examine the Juran trilogy in detail?	BTL 4
11	How would you describe kaizen model and list their merits?	BTL 1
12	i) What is a suitable example for supplier partnership? (8marks) ii) List the various steps involved in supplier selection. (8marks)	BTL 1
13	Examine the process of 5s in detail.	BTL 4
14	List the Ishikawa ten principles for customer / supplier relations.	BTL 1



VALLIAMMAI ENGINEERING COLLEGE
DEPARTMENT OF MECHANICAL ENGINEERING
QUESTION BANK



Q.No	Unit - III - TQM TOOLS AND TECHNIQUES I - Part - A - Question	Level
1	What is meant by bench marking?	BTL 1
2	Summarize the evolution of six sigma in Motorola company?	BTL 2
3	Write the features of Activity network diagram.	BTL 3
4	List any four traditional tools of quality.	BTL 4
5	Can you assess the value or importance of bench marking?	BTL 5
6	Differentiate between process distribution check sheet and defective item check sheet.	BTL 6
7	What is meant by FMEA?	BTL 1
8	How would you explain Six Sigma methodologies?	BTL 2
9	Name some new management tools.	BTL 3
10	What are the factors that distinguish six sigma concepts from traditional quality management concepts?	BTL 4
11	Outline the features of Activity network diagram.	BTL 5
12	What is your opinion of RPN?	BTL 6
13	What are the reasons for bench-marking?	BTL 1
14	Outline the scope of six sigma principle.	BTL 2
15	How would you show your understanding of PERT Diagrams?	BTL 3
16	Can you make a distinction between failure mode and failure effects?	BTL 4
17	What is check sheet?	BTL 1
18	Compare between the Tree diagram and Decision tree diagram.	BTL 2
19	What is relationship diagram? When do you use it?	BTL 1
20	Can you list the three benefits of FMEA?	BTL 1



VALLIAMMAI ENGINEERING COLLEGE
DEPARTMENT OF MECHANICAL ENGINEERING
QUESTION BANK



Q.No	Unit - III - Part - B - Question	Level
1	i) How is a cause and effect diagram constructed? Discuss in detail with a case study/example. (8 marks) ii) What are the various types of histograms? (8 marks)	BTL 1
2	i) Explain in detail about new management tools. (8 marks) ii) Infer how is Pareto analysis done? Explain with an example. (8 marks)	BTL 2
3	i) How would you show your understanding of properties of normal curve? (8 marks) ii) How would you solve the tree diagram and arrow diagram? (8 marks)	BTL 3
4	i) Examine in detail the six sigma concepts of process capability. Also bring out the methodologies adopted in six sigma practices. (8 marks) ii) 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. (8 marks)	BTL 4
5	i) Elaborate the stages of six sigma in process improvement. (8 marks) ii) Discuss the usage of scatter diagram? (8 marks)	BTL 5
6	i) Evaluate the purpose and methodology of construction of a Ishikawa diagram with an example. (8 marks) ii) Justify an engineering brief about 'arrow diagram'. When do you use arrow diagrams? (8 marks)	BTL 6
7	i) In what way, matrix data analysis differs from all other management tools? (8 marks) ii) How would you explain the methodology of constructing an affinity diagram by using an illustration(8 marks)	BTL 1
8	i) Explain the significance of "Process Decision Programme Chart (PDPC)" using a simple illustration. (8 marks) ii) Explain would you prepare a FMEA work sheet for an induction motor's shaft failure or a failure of your choice. (8 marks)	BTL 2
9	i) How would you show your understanding of Bench marking process? (8 marks) ii) Experiment the various reasons to bench mark. (8 marks)	BTL 3
10	i) Analyze the three main types of benchmarking. In what circumstances would each type be more appropriate? (8 marks) ii) Examine the steps that contain the core technique of benchmarking? (8 marks)	BTL 4
11	i) What are the objectives for benchmarking? (8 marks)	BTL 1



VALLIAMMAI ENGINEERING COLLEGE
DEPARTMENT OF MECHANICAL ENGINEERING



QUESTION BANK

	ii) What are the different types of benchmarking in relation to objects being benchmarked? (8 marks)	
12	i) Classify benchmarking based on the nature of firms against which benchmarking could be done. (8 marks) ii) Infer 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. (8 marks)	BTL 2
13	i) Analyze the benefits and fit falls of benchmarking. (8 marks) ii) Simplify the objectives, process, outcome and benefits of FMEA. (8 marks)	BTL 4
14	i) Can you recall the four stages of FMEA? (8 marks) ii) How do you use FMEA in an organization to increase process reliability? (8 marks)	BTL 1



VALLIAMMAI ENGINEERING COLLEGE
DEPARTMENT OF MECHANICAL ENGINEERING
QUESTION BANK



Q.No	Unit - IV - TQM TOOLS AND TECHNIQUES II - Part - A - Question	Level
1	What is meant by quality loss?	BTL 1
2	List the objectives of TPM.	BTL 2
3	How would you show your understanding of Control charts?	BTL 3
4	List the measures of process capability.	BTL 4
5	Can you assess the value or importance of 'process is in control'?	BTL 5
6	Differentiate between control charts for variables and attributes.	BTL 6
7	What are the purposes of capability analysis?	BTL 1
8	How would you explain Six Sigma principle?	BTL 2
9	How would you apply what you learned to develop QFD?	BTL 3
10	What are the six sections of a basic house of quality matrix?	BTL 4
11	Can you identify the different objectives of QFD?	BTL 5
12	What is your opinion of Taguchi methods?	BTL 6
13	Can you recall the significance of Taguchi's QLF?	BTL 1
14	Outline the scope of quality loss function.	BTL 2
15	How would you show your understanding of Terotechnology?	BTL 3
16	Can you make a distinction between preventive maintenance and predictive maintenance?	BTL 4
17	Define Maintenance.	BTL 1
18	What is the main idea of corrective maintenance?	BTL 2
19	What are the benefits of TPM?	BTL 1
20	Can you list the types of Maintenance?	BTL 1



VALLIAMMAI ENGINEERING COLLEGE
DEPARTMENT OF MECHANICAL ENGINEERING
QUESTION BANK



Q.No	Unit - IV - Part - B - Question	Level
1	What are control charts? What are various types of control charts used in industries?	BTL 1
2	Explain in detail about process capability.	BTL 2
3	Describe the difference between control limits and specification limits.	BTL 3
4	Explain the stages involved in developing TPM.	BTL 4
5	Discuss quality function deployment with suitable application.	BTL 5
6	Evaluate the concept of six sigma. Also compare process capability with six sigma concept.	BTL 6
7	Explain quality function deployment with an example.	BTL 1
8	How would you summarize House of quality? Sketch the basic structure of HOQ explaining each sections.	BTL 2
9	List and explain the various measures of performance in evaluating the success of an organization.	BTL 3
	Discuss the need for Taguchi's quality loss function.	BTL 4
10	What is meant by QFD Process? Describe the four phases of QFD.	BTL 1
11	What are the Pillars of TPM? Discuss them in detail. How are they implemented?	BTL 1
12	Rephrase the handle of a domestic iron box is being designed. How is QFD applied for their process? Discuss with the diagram of House of Quality.	BTL 2
13	Examine in detail how the house of quality constructed? Explain with an example.	BTL 4
14	What are the six major loss areas need to be measured for implementing TPM?	BTL 1



VALLIAMMAI ENGINEERING COLLEGE
DEPARTMENT OF MECHANICAL ENGINEERING
QUESTION BANK



Q.No	Unit - V - QUALITY SYSTEMS - Part - A - Question	Level
1	Define ISO.	BTL 1
2	What is QS 9000 standard?	BTL 2
3	Give some other quality systems?	BTL 3
4	Enumerate the steps necessary to implement the Quality Management System?	BTL 4
5	Can you list the three sections of QS-9000?	BTL 5
6	Explain the objectives of the internal audit?	BTL 6
7	What are the requirements of ISO 14001?	BTL 1
8	Can you explain the benefits of ISO 14000?	BTL 2
9	Identify the four elements for the checking & corrective action of ISO14001?	BTL 3
10	List the seven elements for the implementation & operations of ISO14001?	BTL 4
11	Name the four elements for the planning of ISO 14001?	BTL 5
12	Give the types of Organizational Evaluation Standards?	BTL 6
13	What are the types of Product Evaluation Standards?	BTL 1
14	Explain the use of Quality Auditing?	BTL 2
15	Give the usage of an effective recognition and reward system?	BTL 3
16	List down the typical measurements frequently asked by managers and teams?	BTL 4
17	Specify the objectives of “quality policy”.	BTL 1
18	Compare QS 9000 with TS 16949 quality system.	BTL 2
19	Define the ISO 9001 requirements?	BTL 1
20	Explain briefly the environmental management system.	BTL 1



VALLIAMMAI ENGINEERING COLLEGE
DEPARTMENT OF MECHANICAL ENGINEERING
QUESTION BANK



Q.No	Unit - V - Part - B - Question	Level
1	<p>i. What are the steps to be followed in implementing quality system ISO 9001:2000(8 marks)</p> <p>ii. What is ISO 9000:2000? State its scope and applications. (8 marks)</p>	BTL 1
2	<p>i. Explain the requirements of ISO 14000? Explain them briefly. (8 marks)</p> <p>ii. Can you explain the principles of leadership? (8 marks)</p>	BTL 2
3	<p>i. Define quality system and explain the evaluation of ISO 9000. (8 marks)</p> <p>ii. How would show your understanding towards the principles of leadership? (8 marks)</p>	BTL 3
4	<p>i. Bring out the Industrial application of ISO 14000. (8 marks)</p> <p>ii. Assuming that you are working as a quality manager in a manufacturing company in India. Recently you have initiated and implemented TQM in your organization. Change in culture was felt and you have taken the steps required to fulfill the TQM culture.Now,the problem is sustaining the change. Describe what measures you will take to sustain the change to a quality culture. (8 marks)</p>	BTL 4
5	<p>i. Formulate the steps followed to get ISO 9000 certification for an educational institute. (8 marks)</p> <p>ii. Can you elaborate on quality auditing and explain its types? (8 marks)</p>	BTL 5
6	<p>i. Discuss the various elements of ISO 9000:2000 operating system. (8 marks)</p> <p>ii. Elaborate the relationship between (8 marks)</p>	BTL 6
7	<p>i. Define employee empowerment? (8 marks)</p> <p>ii. What is the relationship between employee empowerment and team work? (8 marks)</p>	BTL 1
8	<p>i. Discuss in briefly about the documentation of quality system. (8 marks)</p> <p>ii. Outline the need for QMS and quality audit. (8 marks)</p>	BTL 2
9	<p>i. Discuss about the four important documents to be prepared for ISO 9000 certification. (8 marks)</p> <p>ii. What are the benefits of implementing ISO 14000 standard? (8 marks)</p>	BTL 3 BTL 4
10	<p>i. Point out the benefits of EMS. (8 marks)</p> <p>ii. Discuss quality auditing in detail. (8 marks)</p>	BTL 1
11	<p>i. What are the contents of an environmental management system? (8 marks)</p> <p>ii. Can you list the steps involved in creating TQM culture? (8 marks)</p>	BTL 1
12	<p>i. Outline the major clauses of QS 9000 standards. (8 marks)</p> <p>ii. Outline the steps on ISO registration process, audit. (8 marks)</p>	BTL 2
13	<p>i. Analyze the role of audit checklist for quality management system. (8 marks)</p>	BTL 4



VALLIAMMAI ENGINEERING COLLEGE
DEPARTMENT OF MECHANICAL ENGINEERING



QUESTION BANK

	<p>ii) Elucidate the main reasons for people quitting organizations and taking up job elsewhere? Is money the main reason? Explain the approach to generating commitment. (8 marks)</p>	
14	<p>i. What are the various requirements of ISO 14001? (8 marks) ii. Explain the requirements for total quality system implementation. (8 marks)</p>	BTL 1