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**DEPARTMENT  
OF  
MANAGEMENT STUDIES**

**QUESTION BANK**

**I SEMESTER**

**1915106- TOTAL QUALITY MANAGEMENT**

**Regulation – 2019**

**Academic Year 2019 – 2020**

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## DEPARTMENT OF MANAGEMENT STUDIES

### QUESTION BANK

**SUBJECT : 1915106 – TOTAL QUALITY MANAGEMENT**

**SEM / YEAR : I Semester /I Year**

#### UNIT – I – INTRODUCTION

**TQM definition, Framework, Benefits, awareness and obstacles, Quality – vision, mission and policy statements. Customer Focus – customer perception of quality, Translating needs into requirements, customer retention. Dimensions of product and service quality. Cost of quality.**

#### PART- A

S.NO	QUESTIONS	BT LEVEL	COMPETENCE
1	Define Quality.	Level 1	Remembering
2	Compare Dimensions of product and service quality.	Level 2	Understanding
3	Identify the equation that would quantify quality?	Level 3	Applying
4	Classify the characteristics of quality.	Level 4	Analysing
5	Discuss the duties of quality council.	Level 5	Evaluating
6	Interpret the essential steps of quality planning?	Level 6	Creating
7	Define Vision & Mission.	Level 1	Remembering
8	Compare appraisal and failure costs.	Level 2	Understanding
9	Define Return on Quality (ROQ).	Level 3	Applying
10	What conclusion can you draw on the limitations of TQM?	Level 4	Analysing
11	How is Customer retention focused in TQM?	Level 5	Evaluating
12	Infer the meaning of Customer Retention.	Level 6	Creating
13	Define TQM.	Level 1	Remembering
14	Compare the different costs of quality.	Level 2	Understanding
15	How would you show your understanding on the benefits of TQM?	Level 3	Applying
16	Summarize the need for Customer Focus.	Level 4	Analysing
17	Explain KANO Model.	Level 1	Remembering

18	Define the term 'Quality Cost'.	www.FirstRanker.com	Level 2	Understanding
19	Outline the elements of customer service.		Level 1	Remembering
20	Record the characteristics of Quality Vision statement.		Level 1	Remembering

### PART- B

S.NO	QUESTIONS		BT LEVEL	COMPETENCE
1	How would you explain the TQM framework and its benefits?		Level 1	Remembering
2	How would you summarize TQM Principles?		Level 2	Understanding
3	(i) Sketch the Customer satisfaction Organizational Diagram and Explain. (ii) How do the customers perceive Quality? Discuss them in detail.	(8) (5)	Level 3	Applying
4	How would you classify the dimensions of Quality and its relevance in Productivity Efficiency?		Level 4	Analysing
5	Categorize the various factors to assess customer perception on Quality.		Level 5	Evaluating
6.	(i) Justify the components of Quality policy Statements. (ii) Write down the importance of Quality policy statements with example.	(8) (5)	Level 6	Creating
7	Examine the term Service Quality, its characteristics and Expectations.		Level 1	Remembering
8	Summarize the various dimensions of Product and Service Quality. Also comment on the following statement "Service Quality is more difficult to define than Product Quality".		Level 2	Understanding
9	Determine a Quality plan for activities to be carried out by managers in recent times highlighting the current trends.		Level 3	Applying
10	Find out the various components of cost of quality with the interrelationship among them in minimizing the total cost of quality.		Level 4	Analysing
11	Examine the formulation of Vision, Mission and Quality Policy statements of a Manufacturing Organization.		Level 1	Remembering
12	Describe the concept cost of quality in detail		Level 2	Understanding
13	Conclude your understanding about the 5 perspectives of quality by Garvin.		Level 4	Analysing
14	Examine how to overcome the TQM implementation obstacles. Discuss any eight points.		Level 1	Remembering

**PART - C**

S.NO	QUESTIONS
1	Enumerate the cost of quality and discuss in detail with respect to the service based industry
2	How will you improve customer focus in Indian industries? Draw the customer satisfaction organizational diagram and explain
3	Name four ways that a school student could apply quality management principles at the personal level. Give example of data that could be collected in this effort.
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.

**UNIT – II – PRINCIPLES AND PHILOSOPHIES OF QUALITY MANAGEMENT**

**Overview of the contributions of Deming, Juran Crosby, Masaaki Imai, Feigenbaum, Ishikawa, Continuous Improvement- Kaizen, Concepts of Quality circle, Japanese 5S principles and 8D methodology.**

**PART- A**

S.NO	QUESTIONS	BT LEVEL	COMPETENCE
1	Define brainstorming.	Level 1	Remembering
2	Summarize the concept of loss function in Quality Management.	Level 2	Understanding
3	Identify the concept Taguchi define Quality.	Level 3	Applying
4	Classify the four parts of Deming wheel.	Level 4	Analysing
5	List the importance of A.V.Feigenbaum's Cycle time reduction methodology.	Level 5	Evaluating
6	How would you show your understanding the benefits of Ishikawa Diagram?	Level 6	Creating
7	Interpret the objectives of Quality circles.	Level 1	Remembering
8	What is continuous process improvement?	Level 2	Understanding
9	Outline the importance of Signal to Noise Ratio.	Level 3	Applying
10	How would you show your understanding on the on the Juran's quality planning?	Level 4	Analysing
11	Define companywide Quality.	Level 5	Evaluating
12	How would show your understanding of PDCA Cycle?	Level 6	Creating
13	Describe Deming Cycle.	Level 1	Remembering
14	Explain about Quality Circle.	Level 2	Understanding
15	Classify any four principles of TQM.	Level 3	Applying
16	List the aspects of Juran Triology.	Level 4	Analysing
17	Interpret the importance of Crosby's contention that Quality is free.	Level 1	Remembering
18	What is 8D methodology?	Level 2	Understanding
19	Compare Kaizen and Kairyo.	Level 1	Remembering
20	Define 5S.	Level 1	Remembering

PART- B				
S.NO	QUESTIONS		BT LEVEL	COMPETENCE
1	Enumerate in detail about Deming's Philosophy.		Level 1	Remembering
2	Explain the concept of continuous improvement by TQM.		Level 2	Understanding
3	i) How would you show your understanding on the contributions of Feigenbaum? (6marks) ii) Illustrate the contribution of Ishikawa and Masaaki Imai's towards quality with suitable example? (7marks)	(8) (5)	Level 3	Applying
4	Explain the Juran Trilogy covering planning, control and improvement in detail. Why is it considered as one of the best approaches?		Level 4	Analysing
5	Conclude on what is TQM and explain the 10 steps of Juran's quality improvement.		Level 5	Evaluating
6.	Validate the contributions of Deming's, Juran's and Crosby's for the Quality Movement.		Level 6	Creating
7	i) What are the objectives and characteristics of quality circles? (6marks) ii) Find the role of various members in the structure of quality circles & list out its benefits. (7marks)	(8) (5)	Level 1	Remembering
8	Generalize the 10 steps of Juran's quality improvement		Level 2	Understanding
9	How would you show your understanding on the essentials PDCA Cycle?		Level 3	Applying
10	Point out the concepts of Quality Circle in detail.		Level 4	Analysing
11	(i) How would you describe kaizen model? (ii) List out the merits of Kaizen model?	(8) (5)	Level 1	Remembering
12	Can you briefly explain the steps for problem solving in Quality Circle.		Level 2	Understanding
13	(i) Examine the process of 5S in detail. ii) What are the factors required for the implementation of 5S principle?	(8) (5)	Level 4	Analysing
14	i) List out all the disciplines of 8D methodology. ii) List some benefits of using '8D' methodology for problem solving.	(8) (5)	Level 1	Remembering

**PART - C**

S.NO	QUESTIONS
1	Discuss in detail about the Japanese 5S principles and 8D Methodology.
2	Explain the Japanese 8D Methodology.
3	Do you think Crosby's preachings are relevant today in the present context at India? Justify.
4	Cite atleast three organizational activities that can be categorized under management processes that comprise Juran's quality trilogy.

UNIT – III – STATISTICAL PROCESS CONTROL

**Meaning and significance of statistical process control (SPC) – construction of control charts for variables and attributes. Process capability – meaning, significance and measurement – Six sigma - concepts of process capability. Reliability concepts – definitions, reliability in series and parallel, product life characteristics curve. Total productive maintenance (TMP), Tero Technology. process Improvement (BPI) – principles, applications, reengineering process, benefits and limitations. Waste Control**

**PART- A**

S.NO	QUESTIONS	BT LEVEL	COMPETENCE
1	What is Reliability management?	Level 1	Remembering
2	Summarize the evolution of six sigma in Motorola company	Level 2	Understanding
3	Write the features of Activity network diagram.	Level 3	Applying
4	List the contribution of Statistical Process Control to Quality.	Level 4	Analysing
5	Can you assess the importance of TPM?	Level 5	Evaluating
6	What is the difference between control limits with specification limits?	Level 6	Creating
7	What is Process capability Index?	Level 1	Remembering
8	How the upper and lower capability indices are fixed?	Level 2	Understanding
9	Name some new management tools.	Level 3	Applying
10	What are the factors that distinguish six sigma concepts from traditional quality management concepts?	Level 4	Analysing
11	Discuss the six big losses that are to be eliminated by TPM.	Level 5	Evaluating
12	What is your opinion of Terotechnology?	Level 6	Creating
13	What is the significance of SPC?	Level 1	Remembering
14	Outline the scope of Process Improvement Principle.	Level 2	Understanding
15	How would you show your understanding on Process Engineering?	Level 3	Applying
16	Can you make a distinction between failure mode and failure effects?	Level 4	Analysing
17	What is Six Sigma?	Level 1	Remembering
18	What is the significance of waste control?	Level 2	Understanding
19	Define process improvement	Level 1	Remembering
20	Can you list the any application of BPR in Quality?	Level 1	Remembering



PART- B																										
S.NO	QUESTIONS		BT LEVEL	COMPETENCE																						
1	What is Control Chart? Explain its need and types.		Level 1	Remembering																						
2	Describe Product Life characteristics Curve and its Functional impact.		Level 2	Understanding																						
3	(i)Review the concept Six Sigma in detail. (ii) How is a Six Sigma Programme implemented in an organization? Discuss the Steps involved in DMAIC & DMADV.	(8) (5)	Level 3	Applying																						
4	<p>Light bulbs are tested for their Luminance, with the intensity of brightness desired to be within a certain range. Random samples of 5 Bulbs are chosen from the output and their luminance values measured the sample mean (X-Bar) and the standard deviation S are found. After 30 samples, the following summary information is obtained.</p> <table> <tr> <td>30</td> <td>30</td> <td></td> </tr> <tr> <td><math>\sum_{i=1} X_i=2550</math></td> <td><math>\sum_{i=1} S_i=195</math></td> <td>the specifications are <math>90\pm15</math> lumens.</td> </tr> </table> <p>(i) Find the Control limits for the X(Bar) and S charts. (ii) Assuming that the process is in control, estimate the process mean and process std deviation.</p>	30	30		$\sum_{i=1} X_i=2550$	$\sum_{i=1} S_i=195$	the specifications are $90\pm15$ lumens.	(8) (5)	Level 4	Analysing																
30	30																									
$\sum_{i=1} X_i=2550$	$\sum_{i=1} S_i=195$	the specifications are $90\pm15$ lumens.																								
5	Summarize the choice of control charts.		Level 5	Evaluating																						
6.	Generalize the benefits and limitation of Reengineering Process.		Level 6	Creating																						
7	What are the steps in implementing TPM.		Level 1	Remembering																						
8	Explain about six major losses which influence the OEE. Also explain the methodology for computing OEE.		Level 2	Understanding																						
9	<p>In a casting process, the results of the inspection of 10 lots of 125 items each are given in the following table:</p> <table> <tr> <td>No.</td> <td>1</td> <td>2</td> <td>3</td> <td>4</td> <td>5</td> <td>6</td> <td>7</td> <td>8</td> <td>9</td> <td>10</td> </tr> <tr> <td>No. of Defectives</td> <td>3</td> <td>8</td> <td>9</td> <td>10</td> <td>4</td> <td>6</td> <td>9</td> <td>5</td> <td>6</td> <td>8</td> </tr> </table> <p>Compute trial control limits, plot appropriate chart and draw the conclusion.</p>	No.	1	2	3	4	5	6	7	8	9	10	No. of Defectives	3	8	9	10	4	6	9	5	6	8		Level 3	Applying
No.	1	2	3	4	5	6	7	8	9	10																
No. of Defectives	3	8	9	10	4	6	9	5	6	8																
10	<p>In a injection moulding process, the results of the inspection of 10 lots of 100 items each are given in the following table:</p> <table> <tr> <td>No.</td> <td>1</td> <td>2</td> <td>3</td> <td>4</td> <td>5</td> <td>6</td> <td>7</td> <td>8</td> <td>9</td> <td>10</td> </tr> <tr> <td>No. of Defectives</td> <td>13</td> <td>3</td> <td>9</td> <td>4</td> <td>10</td> <td>6</td> <td>7</td> <td>15</td> <td>4</td> <td>2</td> </tr> </table> <p>Compute trial control limits, plot appropriate chart and draw the conclusion.</p>	No.	1	2	3	4	5	6	7	8	9	10	No. of Defectives	13	3	9	4	10	6	7	15	4	2		Level 4	Analysing
No.	1	2	3	4	5	6	7	8	9	10																
No. of Defectives	13	3	9	4	10	6	7	15	4	2																
11	For the system shown in the figure 1, determine the system reliability for 2000 hour of operation, and find the MTTF. Assume that all 3 components have an identical time-to – failure distribution that all 3 components have an identical time to failure		Level 1	Remembering																						

	<p>distribution that is exponential, with a constant failure rate of 0.0005/hr. what is the MTTF of each component? If it is desired for the system to have a MTTF of 4000 hour, what should be the MTTF for each component?</p> <p>Figure 1: Systems with components in Parallel</p>	www.FirstRanker.com	www.FirstRanker.com
12	<p>(i) Explain in detail the series and parallel reliability models and the implications for product design (6)</p> <p>(ii) A product is made up of components <b>a,b,c,d,e,f,g,h,i and j</b>. components <b>a,b,c and f</b> have a <b>1/10,000</b> chance of failure during useful life. <b>d,e,g and h</b> have a <b>3/10,000</b> chance of failure. Component I and j have a <b>5/10,000</b> chance of failure. What is the overall reliability of the product? (7)</p>	(8) (5)	Level 2 Understanding
13	Outline the principles and applications of Process Improvement BPI.		Level 4 Analysing
14	<p>(i) List the purpose of 'p-chart'. Inspection was carried out on 15 samples with sample size 25. Two samples had no defects, four samples had each one defect five samples had each two defects, and remaining four samples had each three defects. Determine the limits and centre line of p-chart.</p> <p>(ii) What is the use of process capability indices? Give any two process capability indices.</p>	(8) (5)	Level 1 Remembering

### PART - C

PART - C							
S.NO	QUESTIONS						
1	Develop house of quality for designing a mobile phone.						
2	In a capability study of a machine used for grinding a shaft to a diameter of $23.75 \pm 0.1$ 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.						
3	Explain the steps by steps process used for implemented BPR in the manufacturing organizations.						
4	Write the step by step procedure to develop a TPM programme in an organization						

**UNIT – IV – TOOLS AND TECHNIQUES FOR QUALITY MANAGEMENT**

**Quality functions development (QFD) – Benefits, Voice of customer, information organization, House of quality (HOQ), building a HOQ, QFD process. Failure mode effect analysis (FMEA) –FMEA stages, design, process and documentation. Seven Tools (old & new). Bench marking and POKAYOKE-Hoshin Planning.**

**PART- A**

S.NO	QUESTIONS	BT LEVEL	COMPETENCE
1	Define Quality Function Deployment.	Level 1	Remembering
2	What are the objectives of QFD?	Level 2	Understanding
3	Identify the six sections of a basic house of quality matrix.	Level 3	Applying
4	What are the various types of FMEA Process?	Level 4	Analysing
5	What do you critically determining the number of Express Failure Mode?	Level 5	Evaluating
6	Evaluate risk priority numbers.	Level 6	Creating
7	Expand FMEA.	Level 1	Remembering
8	Summarize the uses of Bench marking	Level 2	Understanding
9	Classify the seven tools of quality control.	Level 3	Applying
10	What are the types of check sheets commonly used?	Level 4	Analysing
11	Why do you think matrix diagram is essential?	Level 5	Evaluating
12	Compare benchmark and pokayoke.	Level 6	Creating
13	What is Benchmarking?	Level 1	Remembering
14	Outline the sources of Benchmarking.	Level 2	Understanding
15	Identify the benefits of pokayoke.	Level 3	Applying
16	Analyse when relationship diagram is used ?	Level 4	Analysing
17	Define POKA YOKE.	Level 1	Remembering
18	Will you state the four tools of quality?	Level 2	Understanding
19	What is matrix data analysis diagram?	Level 1	Remembering
20	What is Flow Chart?	Level 1	Remembering

PART - B				
S.NO	QUESTIONS		BT LEVEL	COMPETENCE
1	What are the types of customer information? How is it collected? How it is used in QFD?		Level 1	Remembering
2	Describe features of QFD.		Level 2	Understanding
3	How would you show your understanding of FMEA? Explain its procedure for automotive organization		Level 3	Applying
4	(i) Illustrate the features of FMEA? (ii) Enumerate the role of FMEA in TQM. Also highlight the scales used in FMEA.	(8) (5)	Level 4	Analysing
5	Evaluate the process of QFD.		Level 5	Evaluating
6.	Plan and discuss about the Construction the House of Quality.		Level 6	Creating
7	Describe in detail about the seven tools of Quality management .		Level 1	Remembering
8	Explain the seven steps in Hoshin Planning.		Level 2	Understanding
9	“Creative solutions will emerge only from seven new management tools” Discuss.		Level 3	Applying
10	Examine the significance of Hoshin planning system.		Level 4	Analysing
11	How would you describe scatter diagram? Outline the steps used to construct.		Level 1	Remembering
12	(i) Explain the reasons for Benchmarking? (ii) Interpret the term “POKA YOKE”. Discuss its applications.	(8) (5)	Level 2	Understanding
13	Categorize the Benchmarking process with an illustration.		Level 4	Analysing
14	Compare prevention based Pokayoke and Detection- based pokayoke.		Level 1	Remembering

### PART - C

S.NO	QUESTIONS
1	A coffee shop owner gets sudden increase in complaints about poor quality apply cause and effect diagram to this situation
2	Explain the application of FEMA in Snack Industry.
3	“create solutions will emerge only from seven new management tool- discuss
4	Discuss with an example the stages in building the House of Quality.

**UNIT – V – QUALITY SYSTEMS ORGANIZING AND IMPLEMENTATION**

**Introduction to IS/ISO 9004:2018 – quality management systems – guidelines for performance improvements. Environmental Management system, ISO 14000, Quality Audits. TQM culture, Leadership – quality council, employee involvement, motivation, empowerment, recognition and reward. International/National Quality Awards**

**PART- A**

S.NO	QUESTIONS	BT LEVEL	COMPETENCE
1	Explain ISO.	Level 1	Remembering
2	What is the function of ISO 9004?	Level 2	Understanding
3	Classify the objectives of ISO 9004 Quality System Standards.	Level 3	Applying
4	Outline the need for ISO9004.	Level 4	Analysing
5	Elaborate quality system requirements	Level 5	Evaluating
6	Interpret the necessity for Documentation	Level 6	Creating
7	What is quality audit on the basis of area of coverage?	Level 1	Remembering
8	What is quality audit?	Level 2	Understanding
9	Identify the stages of Quality Audit.	Level 3	Applying
10	What is Quality Council?	Level 4	Analysing
11	What are the important aspects of employee involvement?	Level 5	Evaluating
12	What is your opinion on the indicators of Poor Motivation level among the Employees?	Level 6	Creating
13	Define empowerment.	Level 1	Remembering
14	What do you understand by the term Reward?	Level 2	Understanding
15	What other way would you plan satisfy your employees?	Level 3	Applying
16	List any two TQM award and name any two Motivation Theory.	Level 4	Analysing
17	Identify the main idea of TQM leadership	Level 1	Remembering
18	What are the obstacles to frame with TQM framework?	Level 2	Understanding
19	What is self actualization?	Level 1	Remembering
20	Define the term 'Empowerment' in Quality aspects.	Level 1	Remembering

PART- B				
S.NO	QUESTIONS		BT LEVEL	COMPETENCE
1	(i) State the benefits of ISO 2018 Certification? (ii) What is ISO 9004? State its significance?	(8) (5)	Level 1	Remembering
2	Demonstrate the various stages of Quality Auditing.		Level 2	Understanding
3	Summarize the necessity, required documents and benefits of documentation of quality system.		Level 3	Applying
4	Analyze the implementation aspects of ISO 14000.		Level 4	Analysing
5	How would you show your understanding of various principles of leadership? Also highlight what leadership style is most appropriate in a total quality setting and why?		Level 5	Evaluating
6.	How would you summarize the characteristics of quality leaders?		Level 6	Creating
7	Examine the need for QMS and steps to implementation of Quality System.		Level 1	Remembering
8	What is the need for quality council? Discuss its function.		Level 2	Understanding
9	Discuss the responsibilities of the quality council coordinator? Explain the quality structure in detail		Level 3	Applying
10	What is meant by employee involvement? Explain its benefits.		Level 4	Analysing
11	Explain the various motivational theory of individual employee in detail.		Level 1	Remembering
12	Describe the implementation of Quality Audit in a Textile Industry.		Level 2	Understanding
13	How is recognition and reward related to employee involvement?		Level 4	Analysing
14	Elaborate some national & International Quality Awards.		Level 1	Remembering

PART - C	
S.NO	QUESTIONS
1	Describe the concept of Environmental Management System.
2	Explain the steps followed to get ISO 9000 certification for an IT industry
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
4	Describe the characteristics of successful teams. Use a real time illustration.