

Dronacharya Group of Institutions, Greater Noida
Electronics and Communication Engineering Department

Question Bank

Subject: QM (EOE-072)

Branch: ECE 7th Semester

- Q.01** What do you mean by the term Quality? Explain the various characteristics of quality in detail?
- Q.02** Explain evolution of quality control in detail?
- Q.03** Write the five differences between the quality control and quality assurance?
- Q.04** Which is the open body in the world for quality standards formulation? Describe it in brief?
- Q.05** What do you understand by quality management?
- Q.06** Explain PDCA cycle or Deming Cycle for continuous improvement? What are the other widely used methods?
- Q.07** What do you mean by Total Quality Management (TQM) and how it differs from Six Sigma method?
- Q.08** What are the management practices to help companies increase their quality and productivity?
- Q.09** Define the quality concepts in design and review of design?
- Q.10** Describe why Mark analysis is necessary for an organization?
- Q.11** Discuss the development of common product platform technique?
- Q.12** What is PSI and why quality inspection of a supplier is essential?
- Q.13** Differentiate between single supplier and multiple suppliers? Also write their advantages and disadvantages?
- Q.14** What are the typical factors for a company to take into account while evaluating a supplier?
- Q.15** Explain the various purchasing methods used in an organization?
- Q.16** Explain the capacity verification process of a vendor?
- Q.17** What are the various types of manufacturing process? Explain in detail?
- Q.18** Explain the use of quality control in techniques in sales departments?

- Q.19** What are the benefits of having guarantee policy in an organization?
- Q.20** Discuss the claim analysis process?
- Q.21** How can you define the organizational structure and design in quality management system?
- Q.22** What is quality cost and why cost reduction is important?
- Q.23** Why change in organization structure is necessary for quality management?
- Q.24** Define the centralization and decentralization of quality function?
- Q.25** What is organization life cycle?
- Q.26** Explain the six sigma organizational structure?
- Q.27** Discuss the economics of quality in detail?
- Q.28** Discuss the total quality cost and its optimization?
- Q.29** What do you mean by the quality function deployment and discuss the main goals of QFD?
- Q.30** What do you mean by human factor in quality and what is the work behavior analysis of human beings?
- Q.31** Explain the performance management system of human beings?
- Q.32** Describe the model of human attitude and behavior about quality?
- Q.33** Describe in detail the attitude of top management towards the human factor in quality system?
- Q.34** Describe the co-operating and support policy of quality groups?
- Q.35** What are the various responsibility factors to maintain the quality system?
- Q.36** What are the main causes of the apparatus error?
- Q.37** Point out the instructional objectives of CAPA?
- Q.38** What is the key element for measuring the success or failure of an organization?
- Q.39** How you can develop positive attitude in workers and employ?
- Q.40** Why PDCA model is an effective method for monitoring quality assurances?
- Q.41** Define the statistical process control system?
- Q.42** Give the concept of control charts?

Q.43 Discuss the control limit theorem with suitable example?

Q.44 The numbers of weekly customer complaints are monitored at BSNL following Telephone Exchange. Complaints have been recorded over the past twenty weeks. Develop three-sigma control limit using the following data:

Table-1

Week No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Complaints	3	2	3	1	3	3	2	1	3	1	3	4	2	1	1	1	3	2	2	3

Q.45 What are the different types of control charts used for process analysis, define in detail?

Q.46 How process improvements can be done using control charts?

Q.47 Define the seven quality control tools, with examples?

Q.48 How the process capability can be measured? What are its advantages?

Q.49 A production manager at Bike manufacturing plant has inspected the number of defective tyres in twenty random samples with twenty observations each. Following are the number of defective tyres found in each sample. Draw the P-Chart?

Table-2

Sample Number	Number of defective tyres	Number of observations sampled	Fraction defective
1	3	20	0.15
2	2	20	0.10
3	1	20	0.05
4	2	20	0.10
5	1	20	0.05
6	3	20	0.15
7	3	20	0.15
8	2	20	0.10
9	1	20	0.05
10	2	20	0.10
11	3	20	0.15
12	2	20	0.10
13	2	20	0.10
14	1	20	0.05
15	1	20	0.05
16	2	20	0.10
17	4	20	0.20

18	3	20	0.15
19	1	20	0.05
20	1	20	0.05
Total	40	400	

Q.50 Computer C_{pk} measure of process capability for the following machine and interpret the finding. What value would you have obtained with the C_p measure? Machine data: USL=120, LSL=50, Process $\sigma=10$, process $\mu=70$.

Q.51 Three bottling machines at Limca soft drink have

Table-3

Bottling Machine	Standard Deviation
A	2.0
B	0.8
C	3.2

If specifications are set between 295 and 305 ml ounces, determine which of the machines are capable of producing within specifications?

Q.52 Define the following:

a) Nominal value, b) Specification limits, c) Process average, d) Control limits, e) Variables

Q.53 Give the brief idea about the types of distributions?

Q.54 A quality control inspector at the Limca soft drink company has taken fifteen samples with four observations each of the volume of bottles filled. The data and the computed means are shown in the table. If the standard deviation of the bottling operation is 3 ml, use this information to develop control limits of three standard deviations for the bottling operation.

Table-4

Sample Number	Observations (Bottle volume in ml)				Average \bar{x}	Range R
	1	2	3	4		
1	300.12	300.20	300.30	300.18	300.20	0.18
2	300.10	300.14	300.12	299.00	299.84	1.22
3	298.00	299.40	300.05	300.16	299.40	2.16
4	295.20	297.00	300.80	301.00	298.45	6.00
5	296.12	298.20	299.00	297.50	297.70	2.88
6	301.00	297.50	298.00	300.50	299.25	3.50
7	300.80	301.20	304.00	297.00	300.75	6.50
8	298.00	303.00	301.70	300.80	300.87	3.70

9	296.00	299.00	302.00	301.00	299.50	6.00
10	299.50	305.00	296.00	299.80	300.07	8.80
11	302.20	301.00	298.10	295.80	299.28	6.40
12	295.80	296.20	301.90	302.00	298.98	6.20
13	299.00	297.00	304.20	300.50	300.18	7.20
14	301.20	300.60	303.00	301.20	301.50	2.40
15	304.00	297.20	300.80	302.00	301.00	6.80
Total					4496.97	69.94

Q.55 A quality control inspector at Limca soft drink is using the data from Question-54 to develop control limits. If the average range (\bar{R}) for the fifteen samples is 4.66 ml (computed as $\frac{69.94}{15}$) and the average mean ($\bar{\bar{x}}$) of the observations is 299.80 ml. Develop three control limits for the bottling operation?

Q.56 The quality control inspector at Limca soft would like to develop a range (R) chart in order to monitor volume dispersion in the bottling process. Use the data from Question-54 to develop control limits for the sample range?

Q.57 What do you mean by the word “kaizen”?

Q.58 What do you mean by frequency distribution? What is the shape of “U distribution”?

Q.59 Which chart is used to measure the proportion that is defective in assemble?

Q.60 What is the use of C-chart? What is the use of control chart for variable?

Q.61 Define the process defect diagnosis in a process?

Q.62 Define DPMO?

Q.63 What is reliability and its objectives?

Q.64 How we can evaluate reliability of a product?

Q.65 What are the various factors affecting reliability?

Q.66 What is the duty of top management of an organization for corrective measures?

Q.67 What are the six issues to be addressed in building reliability products?

Q.68 Define the following terms in details?

a) MTBF

b) MTTF

c) MTTR

Q.69 What do you understand by maintainability?

Q.70 What are six components of maintainability according to Military Handbook 472 (MIL-HDBK-472)?

Q.71 10 devices are tested for 500 hours. During the test two failures occur. Estimate the MTBF, MTTF and failure rate?

Q.72 Explain the term Zero defects in brief?

Q.73 What are the various advantages and disadvantages of zero defects?

Q.74 Explain the concept of quality circle?

Q.75 What is the mission of quality circle across India and write objectives of quality circle?

Q.76 What is the significance of MTTF?

Q.77 Distinguish between reliability control and maintainability control?

Q.78 What do you mean by Bathtub curve and for what purpose it bathtub curve used?

Q.79 Define the DMAIC strategy?

Q.80 Define the use of fish bone diagram (Ishikaka diagram)?

Q.81 What do you mean by ISO standards?

Q.82 What is EMS and why it is introduced?

Q.83 Define ISO 9000 standards in details? How it is accredited by organizations?

Q.84 What are the various types of ISO certification? Give the comparison between ISO standards?

Q.85 Explain the steps involving for implementation of ISO 9000 in quality management?

Q.86 Discuss the benefits and drawbacks of ISO-9000 series in respect of development and registration?

Q.87 Enumerates classification of National Standardization Bodies?

Q.88 Discuss the family of standards for quality management administered for accreditation?

Q.89 Enumerate linkage between TQM and ISO-9000 for standardization?

Q.90 What are the various ISO 9001: 2008 standard step process for a successful project?

Q.91 Write the different sections of ISO standard?

Q.92 Point out the important quality principles of ISO 9000 standard?

Q.93 Describe the Taguchi methods for quality improvement?

Q.94 Describe the 8-steps involved in Taguchi methodology? How Taguchi method applied in a process?

Q.95 Define the process of Taguchi's loss function used for process improvement with neat curve, what are its various steps?

Q.96 Discuss the concept of Just-in-Time (JIT) process?

Q.97 What are the possible key elements of JIT and discuss the benefits of JIT in detail?

Q.98 Establish the correlation between Taguchi method and JIT method?

Q.99 Define the core concepts of six sigma and its various levels?

Q.100 Why Voice of Customers is supreme in today's world market?