

B.E./B.TECH. Degree Examination, December 2020
Seventh Semester
GE16701- TOTAL QUALITY MANAGEMENT
(Regulation 2016)

Time: Three hours

Maximum : 80 Marks

Answer **ALL** questions

PART A - (8 X 2 = 16 marks)

1. "Quality is defined by the customer" is
 - A. An unrealistic definition of quality
 - B. A user-based definition of quality
 - C. A manufacturing-based definition of quality
 - D. A product-based definition of quality
2. At the time of making a purchase agreement with a vendor, what is important to mention about inspection?
 - A. the characteristics of the product that are to be inspected
 - B. the tolerances that would be allowed
 - C. the reputation of the vendor
 - D. a & b both
3. X bar should never be interpreted when:
 - A. R chart shows out of control points
 - B. X bar chart shows out of control points
 - C. The process mean is not known
 - D. None of the above
4. Scatter diagrams show the relationship between:
 - A. Two variables
 - B. The dependent variable along the y axis
 - C. The dependent variable along the x axis
 - D. None of these
5. Relating to a product/service describe how the dimensions of quality influence its acceptance?
6. For a commercial product which you use regularly, explain how kaizen could be implemented for continuous process improvement.
7. Compare how benchmarking is done within and outside industries.
8. What performance measures are to be framed for a healthcare sector post Covid-19?

PART B - (4 X16 = 64 marks)

09. (a) Quality Management is only applicable for firms in manufacturing sector and (16)
not for public or service company. Give your suggestions in detail for or
against this assertion and discuss dimensions of service quality.

(OR)

- (b) (i) With a suitable example of a product which you use daily, elaborate (8)
Kano's model of Customer satisfaction.
(ii) Quality has evolved with each Industrial revolution from I1.0 to I4.0. (8)
Connect its evolution with each Industrial revolution.

10. (a) (i) With suitable example explain phases of Shewhart's cycle for (10)
continuous process improvement.

- (ii) Elaborate Japanese 5S concept with respect to any SME of your choice. (6)

(OR)

- (b) Thomas is offered 4 jobs. He has got his offers from manufacturing (A), (16)
Bankers Bank (B), Creative Consulting (C), and Dynamic Decision Making
(D). He bases his evaluation on the criteria such as location, salary, job
content, and long-term prospects. Perform an Analytical Hierarchy Process
and find out which offer best suits him.

11. (a) (i) Construct a flow diagram for a manufacture of a product or providing a (8)
service.

- (ii) Develop a tree diagram for customer requirements for a product or (8)
service.

(OR)

- (b) Illustrate with suitable examples how DFMEA and PFMEA are done with an (16)
industrial case study.

12. (a) A machine makes bolts in batches of 1024. Twenty consecutive batches (16)
were tested and the number of rejectable bolts in each batch is given below

Batch No.	1	2	3	4	5	6	7	8	9
Number of Rejectable bolts	2	3	7	1	0	4	8	7	1

10	11	12	13	14	15	16	17	18	19	20
3	2	1	5	4	3	12	8	1	2	2

Draw a control chart for the fraction defective with the control limits. If any point lies out of the control limits, then estimate the revised control limits.

(OR)

- (b) With Walmart and Flipkart joining together for Online retailing in India, **(16)** explain with QFD, how voice of Indian customers can be transformed into technical and functional requirements by benchmarking with its competitors- Amazon and Jio Mart.