

GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER– VII (New) EXAMINATION – WINTER 2019

Subject Code: 2171504

Date: 03/12/2019

Subject Name: Industrial Statistics & Quality Management

Time: 10:30 AM TO 01:00 PM

Total Marks: 70

Instructions:

1. Attempt all questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.

		MARKS
Q.1	(a) What do you mean by quality control?	03
	(b) State difference between inspection and quality control.	04
	(c) Write short note on: Test of Hypothesis.	07
Q.2	(a) What is scatter diagram?	03
	(b) Discuss Binomial V/s Poisson distribution.	04
	(c) What are the criteria's of a good measure of central tendency?	07
	OR	
	(c) Discuss the importance of Quality circle for any organization.	07
Q.3	(a) Explain the concept of regression.	03
	(b) What do you understand by skewness and kurtosis?	04
	(c) Write short note: ISO 9000 and its necessity.	07
	OR	
Q.3	(a) What does the control charts tell us about the process?	03
	(b) Explain the construction of histogram with suitable example.	04
	(c) Define statistics. Explain the role of statistics in quality management.	07
Q.4	(a) What is process capability?	03
	(b) Discuss the elements of a process capability analysis.	04
	(c) Write short note: Seven tools of SQC for quality management in industries.	07
	OR	
Q.4	(a) Explain double sampling plan.	03
	(b) Discuss the concept of Total Quality Management (TQM).	04
	(c) The Probability that a T. V. manufactured by the company will be defective is 1/20. If T. V.s are manufactured in lot of 10. Find the probability that: (i) At least two will be defective, (ii) Exactly two will be defective, and (iii) None will be defective.	07
Q.5	(a) What is meant by dispersion?	03
	(b) What are the important criteria for selecting the sampling plan?	04
	(c) Mention the following on a typical O.C. curve for single sampling plan (rough sketch) : AQL = 4.0%, $\alpha = 0.02$, $\beta = 0.10$, LQ = 14.2% Also Explain the meaning of each term.	07
	OR	
Q.5	(a) Draw and explain: Frequency polygon.	03
	(b) Discuss the linkage between quality and productivity with suitable examples.	04
	(c) Discuss various causes of variation in the quality of manufactured product.	07
