

GUJARAT TECHNOLOGICAL UNIVERSITY

BE- SEMESTER-VII (NEW) EXAMINATION – WINTER 2020

Subject Code:2173407

Date:19/01/2021

Subject Name:Quality & Reliability Engineering

Time:10:30 AM TO 12:30 PM

Total Marks: 56

Instructions:

1. Attempt any FOUR questions out of EIGHT questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.

		Marks
Q.1	(a) Explain Benchmarking	03
	(b) Discuss TQM limitations.	04
	(c) Define TQM and discuss various obstacles associated with implementation of TQM in an organization	07
Q.2	(a) Define the term Reliability with suitable example.	03
	(b) Explain Venn diagram of probability.	04
	(c) Explain KAIZEN in detail.	07
Q.3	(a) What is “Lean Manufacturing”	03
	(b) Discuss Taguchi Quality Loss Function	04
	(c) Explain standardization of quality system with ISO 9000 and ISO 9000-2000.	07
Q.4	(a) What is Tero technology? Explain in brief.	03
	(b) What is Total Productive Maintenance? Discuss implementation steps of TPM.	04
	(c) Briefly explain Six Sigma methodology. Why manufacturing industries should implement Six sigma?	07
Q.5	(a) What is Total Productive Maintenance?	03
	(b) Enlist TQM principals pertaining to leadership, quality and customer.	04
	(c) Explain FISH BONE diagram with figure	07
Q.6	(a) What is performance appraisal and why it is required in TQM.	03
	(b) Write shot note on “Just In Time (JIT)”	04
	(c) Write short note on (i) Mean Time To Failure (ii)Mean Time Between Failure	07
Q.7	(a) What is Six Sigma?	03
	(b) Explain stages of Failure Mode and Effects Analysis (FMEA).	04
	(c) What is Probability? Discuss fundamental laws of probability.	07
Q.8	(a) How Quality Function Deployment is useful for quality improvement?	03
	(b) Draw and explain the Bathtub curve.	04
	(c) What is Design of Experiments (DOE)? Explain Steps in experimental design.	07
