

GUJARAT TECHNOLOGICAL UNIVERSITY**BE- SEMESTER-VIII (NEW) EXAMINATION – WINTER 2020****Subject Code:2181920****Date:21/01/2021****Subject Name:Quality Engineering****Time:02:00 PM TO 04:00 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.

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| Q.1 | (a) What is Quality Circle? Explain its role in industry. | 03 |
| | (b) Discuss the contribution of any one of the Quality Gurus. | 04 |
| | (c) Discuss about the basic 7 Quality Control Tools. | 07 |
| Q.2 | (a) Give any three definitions of Quality. | 03 |
| | (b) Explain the various Dimensions of Quality. | 04 |
| | (c) Explain the concept of 5S. | 07 |
| Q.3 | (a) List out 7 new Quality Management Tools. | 03 |
| | (b) What is Muda, Muri, and Mura? Explain the various types of Muda. | 04 |
| | (c) What is Total Quality Management (TQM)? Explain the principles of TQM. | 07 |
| Q.4 | (a) What is the difference between product and process quality | 03 |
| | (b) How Taguchi Techniques helps in achieving robust design of a product? | 04 |
| | (c) Define QFD and Discuss house of quality-product planning matrix. | 07 |
| Q.5 | (a) Explain the principle of concurrent engineering | 03 |
| | (b) Explain PDCA cycle. | 04 |
| | (c) Define FMEA. Draw a typical format of FMEA and explain its elements in brief. | 07 |
| Q.6 | (a) What is the difference between General Maintenance and Total Productive Maintenance? | 03 |
| | (b) What is world class manufacturing? Explain. | 04 |
| | (c) Explain about basic concept, principle, implementation methodology and application of six sigma. | 07 |
| Q.7 | (a) What is Bench Marking? Explain. | 03 |
| | (b) Discuss the various Quality Dimensions in service sectors. | 04 |
| | (c) Define DOE and enlist the components of DOE. Discuss Taguchi Quality Loss Function. | 07 |
| Q.8 | (a) Discuss Just in Time Concept. | 03 |
| | (b) Explain characteristics of Quality in Service Sectors. | 04 |
| | (c) Briefly explain the concepts of Lean and Agile Manufacturing. | 07 |
