

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.

- 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**
