

GUJARAT TECHNOLOGICAL UNIVERSITY**BE - SEMESTER-VII (NEW) EXAMINATION – WINTER 2023****Subject Code:3171515****Date:01-12-2023****Subject Name: Six Sigma and Lean Manufacturing****Time: 10:30 AM TO 01:30 PM****Total Marks:70****Instructions:**

1. Attempt all questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.
4. Simple and non-programmable scientific calculators are allowed.

- Q.1** (a) Write full form of TPM. **03**
(b) What is line balancing? **04**
(c) Elaborate just in time in detail. **07**
- Q.2** (a) What is quality? **03**
(b) What is TQM? **04**
(c) Explain the relationship between lean manufacturing and six sigma. **07**
- OR**
- (c) Explain the relationship between TQM and Six sigma. **07**
- Q.3** (a) What is SMED? **03**
(b) What is value stream mapping? **04**
(c) Explain 5S System. **07**
- OR**
- Q.3** (a) What is change acceleration process (CAP)? **03**
(b) What is design for six sigma (DFSS)? **04**
(c) Discuss 7 types of MUDA with examples. **07**
- Q.4** (a) What is QFD in six sigma? **03**
(b) What is CTQ tree? **04**
(c) Discuss SIPOC diagram with its importance. **07**
- OR**
- Q.4** (a) What is Return on six sigma (ROSS)? **03**
(b) What is ROI? **04**
(c) Write note: concept of kaizen **07**
- Q.5** (a) What is pokayoke? **03**
(b) What are the advantages of PESTLE tool? **04**
(c) Write note: concept of Kanban. **07**
- OR**
- Q.5** (a) What is inventory in process (IIP)? **03**
(b) What is pareto chart? **04**
(c) Explain failure mode effect analysis (FMEA). **07**
