

**GUJARAT TECHNOLOGICAL UNIVERSITY**  
**BE - SEMESTER-VII(OLD) • EXAMINATION – WINTER 2016**

**Subject Code: 171906****Date: 18/11/2016****Subject Name: Quality and Reliability Engineering(Department Elective - I)****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.

- Q.1** (a) Explain any three 7QC tools of problem solving. **07**  
(b) Briefly discuss about ISO 14000 with its benefits and barriers. **07**
- Q.2** (a) Write a short note on TQM Implementation and Limitations. **07**  
(b) Define Quality Circle and discuss the advantages and limitation of quality circle. **07**
- OR**
- (b) Discuss 5 S for housekeeping and its role in quality control. **07**
- Q.3** (a) Explain KANBAN system. **07**  
(b) Explain Methods of Total Productive Maintenance. **07**
- OR**
- Q.3** (a) Write a Short note on:  
i) TAGUCHI's 8 point approach  
ii) Advantages of JIT production system. **07**  
(b) Write a short note on Failure Mode and Effect analysis (FMEA) **07**
- Q.4** (a) Explain Concurrent Engineering list out its merits and demerits. **07**  
(b) Explain six sigma technique in brief. **07**
- OR**
- Q.4** (a) Write a Short note on:  
i) Lean Manufacturing  
ii) World class manufacturing. **07**  
(b) Write a short note on Cost of Quality (COQ) system. **07**
- Q.5** (a) "Quality as winning strategy"; Justify the sentence. **07**  
(b) Write a Short note on: **07**  
(1) Failure data analysis  
(2) Mean time to repair.
- OR**
- Q.5** (a) Explain fundamental laws of probability. **07**  
(b) Explain QS 9000 list out its merits and demerits. **07**

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