

GUJARAT TECHNOLOGICAL UNIVERSITY**BE - SEMESTER-VII • EXAMINATION – SUMMER • 2014****Subject Code: 171906****Date: 31-05-2014****Subject Name: Quality and Reliability Engineering****Time: 02:30 pm - 05:00 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) Discuss Business Process Re-engineering in brief **07**
 (b) Explain ISO 14000 with its benefits and barriers **07**

- Q.2** (a) Write a short note on views of different quality Gurus **07**
 (b) Explain 7 New Quality Improvement tools **07**

OR

- (b) Discuss TQM implementation and limitations **07**

- Q.3** (a) Explain different steps in experimental design **07**
 (b) Explain KANBAN system in brief **07**

OR

- Q.3** (a) Write a short note on Taguchi approach **07**
 (b) Write a short note on Just In Time system **07**

- Q.4** (a) Discuss advantages and disadvantages of Total Productive Maintenance **07**
 (b) Write a short note on a) Bench marking **07**
 b) Agile manufacturing

OR

- Q.4** (a) Explain six sigma technique in brief **07**
 (b) Write a short note on a) Quality Assurance **07**
 b) Quality Management

- Q.5** (a) Define 1)Quality 2) Inspection 3)Failure rate 4)Quality Control 5) Failure density 6)MTTF 7)MTTR **07**
 (b) One thousand steel pins with the specification of 10 ± 0.015 , $10.70 - 0.010$ diameter were obtained and the data was recorded follows **07**

Diameter in mm	No Of pins
10.60-10.65	05
10.65-10.70	10
10.70-10.75	30
10.75-10.80	35
10.80-10.85	17
10.85-10.90	03

- 1) Find the Arithmetic mean and standard deviation
- 2) Interpret the results on the basis of Normal distribution and suggest the change if any

OR

- Q.5** (a) Write a short note on a) Histogram **07**
 b) Normal Distribution Curve
 (b) Write a short note on a) Failure Data Analysis **07**
 b) Mortality Curve
