Seat No.: _____ Enrolment No._____

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

****