Seat No.: _____ Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER–IV EXAMINATION – WINTER 2015

Subject Code: 142502 **Date:06/01/2016**

Subject Name: Fundamentals of Quality Management

Time: 02:30pm to 05:00pm **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)** What is QFD? Discuss importance of QFD. **07**

(b) Define Quality, Quality Assurance and Total Quality Control. What is Strategic Quality Management? How it is define? **07**

Q.2 **(a)** Explain the difference between **07**

1. Chance causes & Assignable causes
2. Variables & Attributes
3. Control limits & Tolerance limit

(b) A single sampling plan uses a sample size of 15, and an acceptance number 1. Using hyper geometric probabilities, compute the probability of acceptance of lots of 50 articles 2% defective. **07**

OR

(b) Following are the inspection results of magnets for nineteen observations. **07**

Week No.	No. of Magnets Inspected	No. of Defective Magnets
1	724	48
2	763	83
3	748	70
4	748	85
5	724	45
6	727	56
7	726	48
8	719	67
9	759	37
10	745	52
11	736	47
12	739	50
13	723	47
14	748	57
15	770	51
16	756	71
17	719	53
18	757	34
19	760	29

Calculate the average fraction defective and 3 sigma control limits, construct the control chart and state whether the process is in control.

Q.3 **(a)** Write a short note on ‘Quality Audits’. **07**

	(b)	Discuss Deming's fourteen points for quality management.	**07**

OR

Q.3	**(a)**	Distinguish clearly between quality of design, quality of conformance and quality of performance. Explain the factors which influence the quality of conformance and quality of performance.	**07**
	(b)	What do you mean by 'Brainstorming'? Explain it by a case study of 'Apple Mobile'.	**07**
Q.4	**(a)**	Define and explain 'Six Sigma'.	**07**
	(b)	Discuss key theme for service quality management applications in enterprise.	**07**

OR

Q.4	**(a)**	Describe Deming Award for quality.	**07**
	(b)	Which are the common measurements of software quality? Explain them briefly.	**07**
Q.5	**(a)**	Explain types of sampling plans with suitable example.	**07**
	(b)	Explain 'Malcolm Baldrige National Quality Award'.	**07**

OR

Q.5	**(a)**	Describe Operating Characteristics Curves (O-C) and explain about Consumer's and Producer's Risk.	**07**
	(b)	Discuss some of the efforts by Indian Industries on the field of quality improvement.	**07**

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