Seat No.: _____ **Enrolment No._____**

GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER–VI- EXAMINATION – SUMMER 2016

Subject Code:162501 **Date:19/05/2016**

Subject Name:Statistical Methods and Quality Control

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 various types of Data Collection and representation methods in detail **07**

(b) Describe different types of mean with suitable example. **07**

Q.2 **(a)** What do you mean by skewness and kutosis ? Explain with suitable example **07**

(b) Explain raw moment and central moment up to 4 degrees along with their interrelationship. **07**

OR

(b) Find out mean and variance for following data **07**

15	12	15	15	14	12	16	18	19	21	18	20	18	19	10
15	16	17	13	21	20	15	19	14	16	21	17	16	10	11

Q.3 **(a)** Explain different rules of Probability along with example **07**

(b) Explain properties of poisons distribution with suitable example **07**

OR

Q.3 **(a)** For the following probability distribution **07**

Find: (i) $P(x \geq 2)$ (ii) $P(1 < x \leq 3)$ (iii) $E(x)$ (iv) $V(x)$

x	0	1	2	3	4
P(x)	0.20	0.25	0.30	0.15	0.1

(b) What do you mean by normal distribution? Explain it with suitable example **07**

Q.4 **(a)** Explain F-test with suitable example in detail **07**

(b) Explain chi-square test in detail **07**

OR

Q.4 **(a)** What do you mean by student's T-test? Explain with suitable example **07**

(b) Describe ANOVA with suitable example **07**

Q.5 **(a)** Define following **07**

a. LTPD b. AQL c. Consumer's risk d. Producer's risk

(b) Describe control chart for variables in detail with suitable example **07**

OR

Q.5 **(a)** Draw OC Curve and explain each feature in detail **07**

(b) What do you mean by control charts? Explain C- Chart with suitable example **07**

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