

GUJARAT TECHNOLOGICAL UNIVERSITY**MAM - SEMESTER-II • EXAMINATION – SUMMER 2013****Subject Code: 4120503****Date: 10-07-2013****Subject Name: Business Statistics****Time: 10.30 am - 01.30 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) Find the regression line equation for the following data. **07**

X	22	30	40	45	50	
Y	30	25	35	40	45	

(b) Write a short note: Importance of statistics in Business **07****Q.2 (a)** The following data are scores on a management examination taken by group of 10 people. **07**

55,78,45,56,67,89,23,44,34,50

Find the Mean and standard deviation of the data.

(b) Find correlation value r of the data **07**

X	Y
25	45
10	20
22	34
44	55
40	50
50	70
60	80

OR**(b)** Write a note on :Exponential Distribution **07****Q.3 (a)** Find the expected value and variance of the following probability distribution **07**

X	P(X)
1	0.2
2	0.3
3	0.35
4	0.10
5	0.05

(b) Define: Permutation , Combination, Pie chart, Histogram, Ogive curve **07****OR****Q.3 (a)** A bag contains 5 white, 3 black and 2 green balls. If 3 balls are randomly selected, Find the probability that (1)All the balls are of same color (2)All the balls are different (3) 2 balls are of same color. **07****(b)** Assume that the monthly demand for unleaded gasoline at a service station is normally distributed with a mean of 25000 gallons and a standard deviation of 5000 gallons **07**

a. What are the chances that daily demand will exceed 30000 gallons?

b. What are the chances that the daily demand will be less than 15000 gallons?

- Q.4 (a)** Twenty randomly chosen people are asked to rank a product from scale 0 to 100. The results are given below. **07**
 57,34,55,56,98,23,45,56,78,43,70,80,90,40,25,50,68,77,30,85.
 Find Range, Coefficient of Range, Q_1 , Q_3 , and Median of the data.
- (b)** Also Find Interquartile range, Coefficient of variation and Absolute Deviation of the above given data in Q-4(a) **07**
- OR**
- Q.4 (a)** Fifteen randomly chosen people are asked to rank a product from scale 100 to 200. The results are given below. **07**
 105,110,135,122,189,167,150,120,170,115,175,185,125,145,140
 Find Range, Coefficient of range, Q_1 , Q_3 , and Median of the data.
- (b)** Also Find Interquartile range, Coefficient of variation and Absolute Deviation of the above given data in Q-4(a) **07**
- Q.5 (a)** Write a note on : Non- probability Sampling Methods **07**
- (b)** According to national health care company, the average annual cost for health in India Rs 1200. Suppose Health insurance are uniformly distributed in India with a range from Rs 800 to Rs. 1600. What is the standard deviation of this distribution? What is the probability that a person annual cost for Health insurance in India is between Rs 1000 and Rs 1200? **07**
- OR**
- Q.5 (a)** If $P(A)=0.1$, $P(B)=0.12$, $P(C)=0.21$ and $P(A \cap B)=0.05$, $P(B \cap C)=0.03$ then Find $P(A \cup C)$ and $P(B \cup C)$ **07**
- (b)** Write a note on : Non- probability sampling methods **07**
