

C.U.SHAH UNIVERSITY

Summer Examination-2017

Subject Name: Business Statistics**Subject Code: 4MS02BST1****Branch: BBA****Semester: 2****Date: 06/05/2017****Time: 02:00 To 05:00****Marks: 70**

Instructions:

- (1) Use of Programmable calculator & any other electronic instrument is prohibited.
- (2) Instructions written on main answer book are strictly to be obeyed.
- (3) Draw neat diagrams and figures (if necessary) at right places.
- (4) Assume suitable data if needed.

Q-1 Attempt the following questions: (14)

- a) Give the formula for General law of Addition in Probability. 01
- b) What do you mean by descriptive statistics? 01
- c) What is kurtosis? 01
- d) Give basic difference between parameter and statistic. 01
- e) Define Ogive. 01
- f) What do you mean by sample? 01
- g) Calculate the arithmetic mean for 15,13,18,25 and 28. 01
- h) Define percentile. 01
- i) Calculate the first quartile for 106,109,114,116. 01
- j) Define Experiment. 01
- k) What is a pareto chart? 01
- l) What is interquartile range? 01
- m) What do you mean by complementary event? 01
- n) Define Correlation. 01

Attempt any four questions from Q-2 to Q-8**Q-2 Attempt all questions (14)**

- a. Determine the value of coefficient of correlation r , for the following data **07**

X	4	6	7	11	14	17	21
Y	18	12	13	8	7	7	4

- b. Compute the mean and variance on the following sample data. **07**

Class Interval	Frequency
10-under 15	6
15-under20	22
20-under25	35
25-under30	29
30-under35	16
35-under40	8



40-under45	4
45-under50	2

Q-3 Attempt all questions (14)

- a. Explain the four common levels of data measurement. **07**
 b. Construct a stem and leaf plot using two digits for the stem. **07**

212	239	240	218	222	249	265	224
257	271	266	234	239	219	255	260
243	261	249	230	246	263	235	229
218	238	254	249	250	263	229	221
253	227	270	257	261	238	240	239
273	220	226	239	258	259	230	262
255	226						

Q-4 Attempt all questions (14)

- a. Construct a histogram and a frequency polygon for the following data. **07**

Class Interval	Frequency
10-under20	9
20-under30	7
30-under40	10
40-under50	6
50-under60	13
60-under70	18
70-under80	15

- b. Construct an ogive for the following data: **07**

Class Interval	Frequency
3-under6	2
6-under9	5
9-under12	10
12-under15	11
15-under18	17
18-under21	5

Q-5 Attempt all questions (14)

- a. Determine the value of r for the following data. **07**

X	158	296	87	110	436
Y	349	510	301	322	550

- b. What are the different uses of statistics in business? **07**

Q-6 Attempt all questions (14)

- a. The client company data from ABB Ltd. reveals that 155 employees worked one of four types of positions. The table below depicts the same. If an employee of the company is selected randomly, what is the probability that the employee is female or a professional worker? **07**

Type of Position	Sex		Total
	Male	Female	
Managerial	8	3	11
Professional	31	13	44
Technical	52	17	69



	Clerical	9	22	31
--	----------	---	----	----

- Q-7**
- b. Explain Bayes' Rule in Probability **07**
Attempt all questions **(14)**
a. Differentiate between Parametric and Non-Parametric Test. **07**
b. A survey of the morning beverage market shows that the primary breakfast beverage for 17% of Indians is milk. A milk producer in Gujarat, where milk is plentiful, believes the figure is higher for Gujarat. To test this idea, he contacts a random sample of 550 Gujarat residents and asks which primary beverage they consumed for breakfast that day. Suppose 115 replied that milk was the primary beverage. Using a level of significance of .05, test the idea that the milk figure is higher for Gujarat. **07**

- Q-8**
- Attempt all questions** **(14)**
a. Which are the different random sampling techniques? **07**
b. A specialist in hotel administration stated that the number of employees in a hotel can be estimated by counting the number of rooms in the hotel. A business analyst decided to develop a regression model in an attempt to predict the number of employees of a hotel by the number of rooms. He surveyed 12 hotels and obtained the following data. **07**

No.of rooms	Employees	No.of rooms	Employees
23	69	50	138
29	95	54	178
29	102	64	156
35	118	66	184
42	126	67	176
46	125	78	225

Give the equation for regression line

