

Roll No.

BBA-206(N)

B. B. A. (Second Semester)
EXAMINATION, May, 2017
(New Course)

Paper Sixth
BUSINESS STATISTICS

Time : Three Hours]

[Maximum Marks : 70

Note : Attempt all the *ten* questions from Section A and any *two* questions from Section B and any *two* questions from Section C.

Inst : The candidates are required to answer only in serial order. If there are many parts of a question, answer them in continuation.

Section—A 30

(Short Answer Type Questions)

1. (A) From the following series of numbers :

5, 5, 5, 5, 5, 5, 5, 5, 5, 5

Calculate :

(i) Mean

(ii) Median

(iii) Mode

(iv) Standard Deviation

- (B) What is the importance of Sampling ?
- (C) What are the main characteristics of Normal Distribution ?
- (D) What are different quartiles and their importance ?
- (E) Give example of Type 1 and Type 2 errors.
- (F) What is the difference between Ordinal and Nominal data ?
- (G) What is the difference between bar chart and histogram ?
- (H) In the regression equation $y = a + bx + e_i$ interpret a , b and e_i .
- (I) A dice is tossed twice. Find the probability of having number greater than 3 on each toss.
- (J) A man can hit once in 4 shots. If he fires four shots in succession what is the probability that he will hit his target ?

Section—B

20

(Long Answer Type Questions)

- 2. What are the advantages and disadvantages of Mean, Median and Mode and what is their suitability in describing data ?
- 3. Bag I contains 4 white and 6 black balls while another Bag II contains 4 white and 3 black balls. One ball is drawn at random from one of the bags and it is found to be black.
 - (a) What is the probability that it was drawn from Bag I ?

7

(b) What is the probability that it was drawn from Bag II ? 3

4. What are the different method of sampling ? Cite their limitations also.

5. The success of a shopping center can be represented as a function of the distance (in miles) from the centre of the population and the number of clients (in hundreds of people) who will visit. The data is given in the table below :

No. of Customer (x)	Distance (y)
8	15
7	19
6	25
4	23
2	34
1	40

(a) Calculate the linear correlation coefficient.

(b) If the mall is located 2 miles from the centre of the population, how many customers should the shopping center expect ?

(c) To receive 5 customers, at what distance from the center of the population should the shopping centre be located ?

Section—C

20

(Long Answer Type Questions)

6. The owner of M/s. Radico Ltd. observed that his employees are often late. There were five workers in

the firm. The owner has studied the situation over a period of time and has observed that there are 0.4 chance of any employee being late and they arrive independently of each other. Find :

- (a) Probability no one was late on any particular day
- (b) Probability of all coming late on the particular day
- (c) Probability of 2 employees coming late on any day
- (d) Probability of at least 1 employee came late on any day

7. Most graduate schools of business require applicants for admission to take the Graduate Management Admission Council's GMAT examination. Scores on the GMAT are roughly normally distributed with a mean of 527 and a standard deviation of 112.

- (a) What is the probability of an individual scoring above 500 on the GMAT ?
- (b) How high must an individual score on the GMAT in order to score in the highest 5% ?

Given : $P(Z < -0.24) = 0.4052$,

$P(Z > 1.645) = 0.05$

8. (a) Employees of a firm produce units at a rate of 100 per hour with standard deviation of 20 units. A new employee is tested on 36 separate random occasion and found to have output of 90 units per

hour. Does this indicate that the new employees' output is significantly different from the average output ? Test this at 95% confidence.

Given : $P(0 < Z < 1.96) = 0.4750$

- (b) What do you understand by One Tail and Two Tail test ? 6,4

9. Write notes on the following : 5,5

- (a) Usage of Additive and Multiplicative law of Probability
(b) Application of Bayes' Theorem