Section—C 10 each

(Long Answer Type Questions)

6. Machines A, B, and C all produce the same product. Of all the units produced, machine A produces 60%, machine B produces 30% and machine C produces 10%. If the machines produce 5%, 8% and 10% defective goods respectively, what is the probability that a randomly selected good, if found defective, comes from machine A ? From machine C ?

7. Solve the following problems by using the binomial distribution formula :

   (a) If $n = 4$ and $p = 0.10$, find P $(x = 3)$.

   (b) If $n = 10$ and $p = 0.60$, find P $(x \geq 7)$.

8. (a) Differentiate random sampling and non-random sampling.

   (b) Discuss sampling errors and non-sampling errors.

9. (a) What do you mean by hypothesis and testing a hypothesis ? Also discuss the concept of Null and Alternative hypothesis.

   (b) Giving example, discuss the concept of one-tailed test and two-tailed tests.

Roll No. .....

BBA–206(N)

B. B. A. (Second Semester) EXAMINATION, May/June, 2015

(New Course)

Paper Sixth

BUSINESS STATISTICS

Time : Three Hours] [*Maximum Marks : 70*

Note : Attempt all questions in Section A. From Section B and C attempt four questions in all selecting *two* questions from each Section.

Section—A 3 each

(Short Answer Type Questions)

1. (A) Construct a pie chart from the following data :

Label	Value
A	55
B	121
C	83
D	46

   (B) How do we decide class width in a frequency distribution ?

   (C) What are the various measures of variation ?

(D) Determine the 30th percentile of the following eight numbers :

14, 12, 19, 23, 5, 13, 28, 17

(E) If a distribution has a mean of 29, a mean of 26 and a standard deviation of 12, find the coefficient of skewness.

(F) What do you mean by Kurtosis ? Draw diagrams to explain different types of kurtosis.

(G) Explain the difference between correlation and regression.

(H) A company has 140 employees, of which 30 are supervisors. Eighty of the employees are married, and 20% of the married employees are supervisors. If a company employee is randomly selected, what is the probability that the employee is married and is a supervisor ?

(I) Explain Central Limit Theorem.

(J) What do you mean by Type I and Type II errors ?

Section—B 10 each

(Long Answer Type Questions)

2. A data set contains the following seven values :

6, 2, 4, 9, 1, 3, 5

(a) Find the mean absolute deviation.

(b) Find the population variance.

(c) Find the population standard deviation.

(d) Find the interquartile range.

(e) Find the range.

3. Compute the mean and mode for the following sample data :

Class Interval	Frequency
10-under 15	6
15-under 20	22
20-under 25	35
25-under 30	29
30-under 35	16
35-under 40	8
40-under 45	4
45-under 50	2

4. Determine the sample variance and standard deviation for the following data :

Class	Frequency
5-under 9	20
9-under 13	18
13-under 17	8
17-under 21	6
17-under 25	2

5. Determine the value of coefficient of correlation r, for the following data :

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