Roll No. ☐☐☐☐☐☐☐☐☐☐

B.Com-9
2nd Year Examination, Calendar Batch 2016
Business Statistics

Time : 3 Hours]   *[Max. Marks : 100*

Note. *(A)Attempt any **five** questions. (B) Each question carries equal marks. (20*5)*

Q.1 A machine produces an average of 20% defective bolts. A batch is accepted
if a sample of 5 bolts taken from that batch contains no defective and rejected if the
sample contains 3 or more defectives. In other cases, a second sample is taken. What
is the probability that the second sample is required?

Q.2 Write a short note on skewness and kurtosis.

Q.3 A bag has 5 red and 4 green balls, a second bag has 4 red and 6 green balls.
One ball is drawn from the first and two from the second. Find the probability
that out of three balls
(A) all three balls are red
(B) all three balls are green
(C) two are red and one is green

Q.4 Test whether the following Markov chain is ergodic and regular:

		To	
	E_1	E_2	E_3
E_1	1/4	1/4	1/2
From E_2	1/4	3/4	0
E_3	1/2	0	1/2

Q.5 The mean of 15 items is 34. It was found out, later on, that the two items 48
and 32 were wrongly copies as 84 and 23 respectively. Find out the correct mean.

Q.6 The sample variance $S^2 = \frac{1}{n}\sum(x_i - \bar{x})^2$ is a biased estimator of the population
variance σ^2.

Q.7 If the tangent of the angle between the lines of regression of Y on X and X on
Y is 0.6, and the S.D. of Y is twice that of X, find the correlation coefficient
between X and Y.

Q.8 A and B throw alternately with a pair of dice. One who first throws a total of 9 wins. Show that the chances of their wining are 9:8.