

PARUL UNIVERSITY
FACULTY OF LAW
I-B.B.A. LL.B. Winter 2017 – 18 Examination

Semester: 3

Subject Code: 17300203

Subject Name: Business Statistics-I

Date: 11/12/2017

Time: 10:30 am to 1:00 pm

Total Marks: 60

Instructions:

1. All questions are compulsory.
2. Figures to the right indicate full marks.
3. Make suitable assumptions wherever necessary.
4. Start new question on new page.

Q.1 Do as directed. (All compulsory)**(15)**

- (1) Define: Exhaustive Event.
- (2) Define: Geometric Mean.
- (3) Define: Statistics.
- (4) Define: Mode for ungrouped data.
- (5) Define: Correlation.
- (6) Define: Regression.
- (7) The sample space S for throwing a dice is _____.
- (8) The sample space S for tossing one coin is _____.
- (9) Relation between Regression coefficient and Correlation coefficient is _____.
- (10) The mean of 2,8,5 is _____.
- (11) The Mean and Variance in Poisson Distribution is _____.
- (12) If the ratio of change between two variables is constant, then the Correlation is said to be _____.
- (13) For Binomial Distribution, the Variance is
 (A) np (B) npq (C) \sqrt{npq} (D) None of these
- (14) Find Mode of the following data:

X_i	6	10	14	18	24	28
F_i	2	4	7	12	8	4

- (A) 10 (B) 14 (C) 18 (D) 24
- (15) $P(A \cap B) = P(A) * P(B)$ if
- (A) Dependent (B) Independent (C) Both (D) None of these

Q.2 Do as directed. (Each of three marks)**(15)**

- 1] State any three limitations of statistics.
- 2] The heights in cms of 10 students are as follows: Find mean for
 120,115,117,123,130,122,119,125,121,116
- 3] Find the Probability of getting at least one head in two throws of unbiased coin.
- 4] If A and B are two events with $If P(A) = \frac{1}{3}, P(B) = \frac{1}{4}, P(A \cap B) = \frac{1}{12}$
 Find $P(A/B), P(B/A)$
- 5] The probability distribution of a random variable X is given below, Find Mean= $E(X)$

X	-2	-1	0	1	2
$P(X=x)$	0.2	0.1	0.3	0.3	0.1

- Q.3(A)** If the Mean of a Poisson variable is 1.8.
 Find a] $P(X>1)$ b] $P(X=5)$

(08)**OR**

- Q.3(A)**
- Calculate Correlation coefficient from the following data:

(08)

X	2	4	5	6	8	11
Y	18	12	10	8	7	5

- Q.3(B)** Three unbiased coins are tossed. Find the probability of getting **(07)**
- A] exactly 2 heads
 - B] at least one tail
 - C] at most 2 heads
 - D] a head on the second coin
 - E] Exactly 2 heads in succession.

OR

- Q.3(B)** Calculate Regression coefficients b_{xy} and b_{yx} and hence find the correlation coefficient between x and y for the following data: **(07)**

X	4	2	3	4	2
Y	2	3	2	4	4

- Q.4(A)** Calculate Harmonic Mean of following frequency distribution: **(07)**

Class	8-12	12-16	16-20	20-24	24-28
frequency	15	18	30	22	15

- Q.4(B)** Answer the following (Attempt any four) **(08)**

- 1] Cumulative Frequency of 1,2,3,1,2,3
- 2] What is Relative Frequency and Percentage Frequency?
- 3] Write Karl Pearson's Coefficient of Correlation.
- 4] Write Formula for Regression Coefficient b_{xy} and b_{yx} .
- 5] Write Formula for Poisson Distribution.
- 6] Write Formula for Binomial Distribution.