

S.D.E.
M.B.A. (Executive) SEM-I (CBCS - 2018 Course) : WINTER - 2018
SUBJECT : STATISTICAL & MATHEMATICAL TECHNIQUES

Day : Wednesday
Date : 05/12/2018

W-2018-4731

Time : 10.00 AM TO 1.00 PM
Max. Marks : 70

N.B.

- 1) Attempt **ANY FOUR** questions from Section – I and **ANY TWO** questions from Section – II.
- 2) Figures to the **RIGHT** indicate **FULL** marks.
- 3) Answer to both the sections should be written in **SEPARATE** answer book.

SECTION – I

Q.1 Define statistics. Discuss its importance in business domain. (10)

Q.2 Draw Less than Ogive Curve for the following data. (10)

Class	0-10	10-20	20-30	30-40	40-50	50-60	60-70
Frequency	6	8	10	15	13	8	5

Q.3 Calculate mean and median for the following frequency distribution. (10)

Class	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90
Frequency	5	10	24	40	20	18	12	6

Q.4 The scores of two batsmen A & B in ten innings during a certain season are (10)

A	32	28	47	63	71	39	10	60	96	14
B	19	31	48	53	67	90	10	62	40	80

Find coefficient of variation and decide which batsman is more consistent in scoring?

Q.5 Calculate Karl Pearson's coefficient of correlation for the following data : (10)

X	62	72	98	76	81	56	76	92	88	49
Y	112	124	131	117	132	96	120	136	97	85

Q.6 What is decision making? What is the difference between decision making under risk and decision making under uncertainty? (10)

Q.7 Write short note on **ANY TWO** of the following. (10)

- i) Scatter Diagram
- ii) Applications of correlation in business.
- iii) Conditional probability

P.T.O.

SECTION – II

Q.8 A manufacturer of pins knows that 2% of his product is defective. If he sells them in a box of 100 pins and guarantees that not more than 5 pins will be defective in a box. Find the number of boxes in a consignment of 100 boxes that will be rejected by the customer as they fail to meet the guaranteed quality. Use Poisson Distribution to find that, in consignment of 100 pins not more than 5 pins will be defective. **(15)**

Q.9 In an intelligent test administered to 1000 students, the average score was 50 and standard deviation 25. Find the number of students whose score lying **(15)**

- i) Between 45 and 55
- ii) Between 40 and 50
- iii) More than 50.

Q.10 In two towns A and B the following information was supplied by an investigator **(15)**

Information	Town A	Town B
Total Population (in thousands)	240	234
Literates (in thousands)	40	34
Illiterate Criminals (in thousands)	40	22
Literates criminals (in thousands)	5	2

Compare the degree of association between literacy and crime in each of the two towns. Use Yule's coefficient of association.

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