LOYOLA COLLEGE (AUTONOMOUS), CHENNAI – 600 034

B.A. DEGREE EXAMINATION – **ECONOMICS**

FOURTH SEMESTER – **APRIL 2022**

UEC 4501 – STATISTICAL METHODS FOR ECONOMICS

Date: 16-06-2022   Dept. No.   Max. : 100 Marks
Time: 09:00 AM - 12:00 NOON

PART- A

Answer any FIVE questions in about 75 words each.   (5 x 4 = 20 marks)

1. State the applications of Statistics.
2. What is meant by Coefficient of variation?
3. List out the different types of correlation.
4. Find the probability of obtaining a total of 10 or more points when two ordinary dice are thrown.
5. Find the Binomial distribution where mean is 3 and variance is 2.
6. If 3% of electric bulbs manufactured by a company are defective. Find the probability that in a sample of 100 bulbs exactly the five bulbs are defective.
7. Write a short note on Conditional Probability.

PART- B

Answer any FOUR questions in about 250 words each.   (4 x 10 = 40 marks)

8. Bring out the purpose of classifying the data.
9. Find the SD of the following set of observations
   45, 36. 40, 37, 39, 42, 45, 35, 40, 39
10. Find the coefficient of correlation between x and y from the following data:

X:	10	14	15	28	35	48
Y:	74	61	50	54	43	26

11. (i) Four coins are tossed. Find the probability of getting 2 heads and 2 tails.
    (ii) A bag contains 4 white and 6 black balls. Two balls are drawn at random. What is the probability that (a) both are white (b) both are black (c) one white and one black?
12. For a random variable of size 1000 from a normal distribution the sample mean and S.D are 80 and 15 respectively find (a) appropriate number of items between 65 and 95. (b) the probability that a randomly chosen item will be greater than 100.
13. (i) State Baye's Theorem.
    (ii)There are two Urns are containing 5 white and 4 black balls and the other containing 6 white 5 black balls. One Urn is chosen and one ball is drawn. If it is white, what is the probability that the urn is the second?
14. Calculate the mean deviation from median for the following data.

Marks Less than:	80	70	60	50	40	30	20	10
No.of student:	100	90	80	60	32	20	13	5

Answer any TWO questions in about 900 words each.   **(2 x 20 = 40 marks)**

15. The frequency distribution of weight in grams of mangoes of a given variety is given below. Calculate the Arithmetic Mean, Mode and Median,

WT. in Grams:	410-419	420-429	430-439	440-449	450-459	460-469	470-479
No. of Mangos:	14	20	42	51	45	18	7

16. Find the mean deviation about the mean for the following data

Class Interval	0-10	10-20	20-30	30-40	40-50	50-60	60-70
Frequency	8	12	10	8	3	2	7

17. Calculate the two regression equations of X on Y and Y on X from the data given below taking deviations from actual means of X on Y.

Price (Rs):	10	12	13	12	16	15
Amount Demanded:	40	38	43	45	37	43

Estimate the likely demand when the price is Rs.20.

18. (i) The probabilities of 3 students A, B, C solving a problem for Statistics are ½, 1/3 and ¼. A problem is given to all the 3 students. What is the probability that
   (a) No one will solve the problem,
   (b) Only one will solve the problem,
   (c) At least one will solve the problem?

   (ii) In a Binomial distribution consisting of 5 independent trials I and II terms are 0.4096 and 0.2048 respectively. Find the parameter of P.

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