LOYOLA COLLEGE (AUTONOMOUS), CHENNAI – 600 034

B.A.DEGREE EXAMINATION –**ECONOMICS**

SECOND SEMESTER – **APRIL 2019**

18/17/16UEC2MC02– QUANTITATIVE METHODS IN ECONOMICS

Date: 03-04-2019   Dept. No.   Max. : 100 Marks

Time: 01:00-04:00

PART-A

Answer any FIVE questions in about 75 words each: **5x4=20 Marks**

1. Determine the median from the following figures:
   25, 15, 23, 40, 27, 25, 23, 25, 20.
2. Distinguish between Type I and Type II errors.
3. What is Conditional probability?
4. What is the probability of obtaining exactly three heads in seven thrown with a single coin?
5. Define the probability function of Poisson distribution.
6. State the properties of Binomial distribution.
7. Distinguish between large and small samples.

PART-B

Answer any FOUR questions in about 250 words each: **4 x 10= 40 Marks**

8. The following are the marks scored by7 students; Find out the mean and median of the marks:

Roll Numbers	1	2	3	4	5	6	7
Marks	45	32	18	57	65	28	46

9. a) Define the expected value of a random variable X.
   b) State the theorems on mathematical expectations.

10. State the properties of Normal Distribution.

11. Briefly explain the procedure of Testing of Hypothesis.

12. Sample of two different types of bulbs were tested for length of life , and the following data were obtained:

	TYPE I	TYPE II
Sample size	8	7
Sample mean	1234 hours	1136 hours
Sample of SD	36 hours	40 hours

   Is the difference in the means significant?
   (Critical value at 5% Level of significance for 13 d.f is 2.16)

13. Find the Coefficient of Correlation for the following data:

X	35	40	60	79	83	95
Y	17	28	30	32	38	49

14. An urn contains five balls. Two balls are drawn and are found to be white. What is the probability of all the balls being white?

Answer any TWO questions in about 900 words each: **2 x20=40 Marks**

15. Calculate the two regression equations of X on Y and Y on X from the data given
   below, taking deviation from actual means of X and 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.

16. The   average daily sales of 500 branch office was Rs.150 thousand and the standard
   deviation Rs.15 thousand. Assuming the distribution to be normal, find how many branches have
   sales between.
   i)   Rs. 1,20,000 and Rs. 1,45,000
   ii)   Rs. 1,40,000 and Rs.1,60,000.

17. A Sample of 400 male students is found to have a mean weight of 171.38 cms. Can it
   be reasonably regarded as a sample from a large population with mean height
   171.17cms and standard deviation 3.30 cms?

18. Two random samples were drawn from two normal population and their values are.

A	66	67	75	76	82	84	88	90	92		
B	64	66	74	78	82	85	87	92	93	95	97

   Test whether the two population have the same variance at 5% level of significance using F test.

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