LOYOLA COLLEGE (AUTONOMOUS), CHE	NNAI - 600 034				
B.A. DEGREE EXAMINATION – ECO	NOMICS				
SECOND SEMESTER – APRIL 202	22				
16/17/18UEC2MC02 – QUANTITATIVE METHOI	DS IN ECONOMICS				
Date: 18-06-2022 Dept. No.	Max. : 100 Marks				
PART-A					
Answer any FIVE Questions:	(5 x 4 = 20 marks)				
 2) Distinguish between equally likely events and mutually evaluative ev 	ronto				
2) Distinguish between equally likely events and mutually exclusive ev	ents.				
3) State the probability density function of Poisson distribution. What a	are its properties?				
4) Define the Classical Probability.					
5) Define Null Hypothesis and Alternative Hypothesis.					
6) Distinguish between Type I and Type II errors.					
7) Write a note on Chi-Square test.					

PART –B

Answer any FOUR Questions:

8) Calculate Arithmetic Mean and Median for the following data:

Income (Rs)	0-5	5 - 10	10 - 15	15 - 20	20-25	25-30
Frequency	5	7	10	8	6	4

9) State and prove the Theorems of Probability.

10) Eight coins are tossed together 256 times. Find the expected frequencies of success (getting a head) and tabulate the result obtained.

11) Write short notes on the following:

- a. Exhaustive event. (2 marks)
- b. Composite event. (2 marks)
- c. Null event. (2 marks)
- d. Dependant event. (2 marks)
- e. Complimentary event. (2 marks)

12) Daily demand for transistors is having the following probability distribution:

Demand:	1	2	3	4	5	6
Probability:	0.10	0.15	0.20	0.25	0.18	0.12
		1.0	•			

Determine the daily demand for transistors. Also obtain the variance of the demand. 13) State the procedure for testing the significance using Z test for large samples.

(4 x 10 = 40 marks)

14) In a sample survey of public opinion, answer to the questions:

- (a) Do you drink Pepsi?
- (b) Are you in favor of local option on sale of Pepsi?
 - The collected answers are tabulated below:

	Yes	No	Total
Yes	56	31	87
No	18	6	24
Total	74	37	111

Can you infer whether the local option on the sale of Pepsi is independent on individual drink? [Hint: $\chi^2_{\alpha 0.05, 1d:f} = 3.411$]

PART-C

Answer any TWO Questions:

15) Elaborate the functions, limitations, and distrust of Statistics.

- 16) A) State the various properties of Normal Distribution.
 - B) What is the probability that a standard normal variate Z will be?
 - (i) Greater than 1.09.
 - (ii) Less than -1.65.
 - (iii)Lying between -1.00 and 1.96.
 - (iv)Lying between 1.25 and 2.75?

Area:	1.00	1.09	1.25	1.65	1.96	2.75
Z:	0.34143	0.36214	0.39435	0.45053	0.47500	0.49702

17) Examine in detail the procedure of Testing of Hypothesis.

- 18) A) Explain the procedure for conducting ANOVA One way test.
 - B) Four samples are given below:

А	В	С	D
8	12	18	13
10	11	12	9
12	9	16	12
8	14	6	16
7	4	8	15

Using ANOVA one way procedure test the equality of their means. Hint: (F α , v d:f = 3.24)

(10 marks)

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(10 marks)

(10 marks)

(10 marks)

 $(2 \times 20 = 40 \text{ marks})$