

(FOR THE CANDIDATES ADMITTED  
DURING THE ACADEMIC YEAR 2022 ONLY)

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REG.NO

NGM COLLEGE (AUTONOMOUS) POLLACHI

END-OF-SEMESTER EXAMINATIONS: DECEMBER- 2022

B. Sc –Information Technology

MAXIMUM MARKS: 50

I SEMESTER

TIME: 3 HOURS

PART - III

MATHEMATICS –I (STATISTICS)

SECTION – A (10 X 1 = 10 MARKS)

ANSWER THE FOLLOWING QUESTIONS. (K1)

- Which of the following diagrams is used to find the value of mode graphically?  
(a) Pie chart (b) Bar graph (c) Histogram (d) line graph
- While calculating the standard deviation, the deviations are only taken from \_\_\_\_\_.  
(a) The mode value of a series (b) The median value of a series  
(c) The quartile value of a series (d) The mean value of a series
- The correlation for the values of two variables moving in the same direction is \_\_\_\_\_.  
(a) Positive (b) Perfect positive (c) Negative (d) No correlation.
- What will be the probability of getting odd numbers if a dice is thrown?  
(a) 2 (b) 1/2 (c) 4/2 (d) 5/2
- Any statement whose validity is tested on the basis of a sample is called \_\_\_\_\_.  
(a) Statistical Hypothesis (b) Null Hypothesis  
(c) Alternate Hypothesis (d) Simple Hypothesis

ANSWER THE FOLLOWING IN ONE (OR) TWO SENTENCES (K2)

- Write the merits of mode.
- Find the range of weights of seven students from the following 27,30,35,36,38,40,43
- Give the uses of regression analysis.
- Evaluate  ${}^8C_3$  in different ways.
- In 600 throws of a six faced dice, odd points appeared 360 times. Would you say that the dice is fair at 5% level of significance?

SECTION – B (5 X 3 = 15 MARKS)

ANSWER EITHER (a) OR (b) IN EACH OF THE FOLLOWING QUESTIONS.

(Qn. No. 11 to 15 Questions for Short Answers with internal choices) (K3)

- a) An average rainfall of a city from Monday to Saturday is 0.3 inch. Due to heavy rainfall on Sunday, the average rainfall for the week increased to 0.5 inch. What was the rainfall on Sunday?

(OR)

- b) Calculate geometric mean of the following:

50

72

54

82

93

(CONTD....2)

12. a) Calculate mean deviation from the following data:

X	2	4	6	8	10
f	1	4	6	4	1

(OR)

- b) The table below gives the marks obtained by ten B.Com students in statistics examination. Calculate standard deviation.

Nos:	1	2	3	4	5	6	7	8	9	10
Marks	43	48	65	57	31	60	37	48	78	59

13. a) Calculate coefficient of correlation from the following data:

X	12	9	8	10	11	13	7
Y	14	8	6	9	11	12	3

(OR)

- b) Calculate the coefficient of correlation between X and Y series from the following data

	X – series	Y-series
Number of pairs of observations	15	15
Arithmetic mean	25	18
Standard deviation	3.01	3.03
Sum of the squares of deviation from the arithmetic mean	136	138

Summation of product deviations of X and Y series from their respective arithmetic mean = 122.

14. a) A bag contains 7 red, 12 white and 4 green balls. What is the probability that (i) 3 balls drawn are all white and (ii) 3 balls drawn are one of each colour?

(OR)

- b) Out of all integers from 1 to 100, an integer is chosen at random. What is the chance that the selected number is not divisible by 7?

15. a) A wholesaler in apples claims that only 4% of the apples supplied by him are defective. A random sample of 600 apples contained 36 defective apples. Test the claim of the wholesaler.

(OR)

- b) 4 Coins were tossed 160 times and the following results were obtained:

No of heads:	0	1	2	3	4
Observed frequencies	17	52	54	31	6

Under the assumption that coins are balanced, find the expected frequencies of getting 0, 1, 2, 3 or heads and test the goodness of fit.

### SECTION – C

(5 X 5 = 25 MARKS)

ANSWER EITHER (a) OR (b) IN EACH OF THE FOLLOWING QUESTIONS.

(Qn. No. 16 to 20 Questions for Long Answers with internal choices) (K4 (Or) K5)

16. a) From the following data calculate the median marks:

Marks	Frequency	Marks	Frequency
10 -19	7	60 -69	20
20 -29	15	70 - 79	16
30 - 39	18	80 - 89	7
40 - 49	25	90 - 99	2
50 - 59	30		

