

(FOR THE CANDIDATES ADMITTED DURING THE ACADEMIC YEAR 2024 ONLY)

24UCC4A1

REG.NO. :

N.G.M.COLLEGE (AUTONOMOUS) : POLLACHI
END-OF-SEMESTER EXAMINATIONS : MAY - 2026
B.Com.-C.A SEMESTER: IV
MAXIMUM MARKS: 75
TIME : 3 HOURS

PART - III
BUSINESS STATISTICS

SECTION - A (10 X 1 = 10 MARKS)

ANSWER THE FOLLOWING QUESTIONS.

K1

MULTIPLE CHOICE QUESTIONS.

- 1. The arithmetic mean for raw data is calculated as...
a) Sum of values divided by number of values
b) Middle value after arrangement
c) Most frequent value
d) Total minus minimum value
2. For a discrete series, the median is found using...
a) Logarithmic interpolation
b) Highest frequency value
c) Cumulative frequency method
d) Square root transformation
3. The range as a measure of dispersion is:
a) Interquartile difference
b) Square root of variance
c) Average deviation from mean
d) Difference between highest and lowest values
4. Spearman's rank correlation coefficient measures:
a) Causal relationship
b) Linear relationship between ranks
c) Time series dependency
d) Non-parametric variance
5. Regression differs from correlation because:
a) It estimates dependent variable values
b) It measures mutual relationship only
c) It ignores independent variables
d) It uses ranks exclusively

ANSWER THE FOLLOWING IN ONE (OR) TWO SENTENCES.

K2

- 6. Define measures of central tendency.
7. State the formula for mode in a continuous series.
8. What is coefficient of variation?
9. Differentiate correlation types.
10. State one use of regression lines.

SECTION-B (5 X 5 = 25 MARKS)

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

K3

11. a) Define statistics and list its main functions.

OR

b) State the key characteristics of statistics.

12. a) If in a moderately asymmetrical frequency distribution, the values of median and arithmetic mean are 72 and 78 respectively, estimate the value of the mode.

OR

b) Calculate H.M. of the following data:

Table with 2 rows and 8 columns: Marks, 30-40, 40-50, 50-60, 60-70, 70-80, 80-90, 90-100; Requency, 15, 13, 8, 6, 15, 7, 6

13.a) Calculate the quartile coefficient from the following:

Table with 2 rows and 8 columns: Age in years, 20, 30, 40, 50, 60, 70, 80; No. of persons, 3, 61, 132, 153, 140, 51, 3

OR

b) Define measures of dispersion and explain range, quartile deviation, and average deviation as absolute measures. (CONTD.....2)

15. a) Explain the classification of Correlation.

OR

b) From the following data calculate the rank correlation coefficient after making adjustment for tied ranks.

X	48	33	40	9	16	16	65	24	16	57
Y	13	13	24	6	15	4	20	9	6	19

16. a) Price indices of cotton and wool are given below for the 12 months of a year.

Obtain the equations of lines of regression between the indices.

Price index of cotton (X)	78	77	85	88	87	82	81	77	76	83	97	93
Price index of wool (Y)	84	82	82	85	89	90	88	92	83	89	98	99

OR

b) Explain the uses of regression analysis.

SECTION- C

(5 X 8 = 40 MARKS)

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

16. a) Elaborate on the scope, uses, and limitations of statistics.

OR

b) Calculate the Arithmetic Mean of the following distribution.

Mid -X	59	61	63	65	67	69	71	73
Frequency	1	2	9	48	131	102	40	17

17. a) Calculate the Median and Mode for the data given below:

Daily earnings (Rs.)	50-53	53-56	56-59	59-62	62-56	65-68	68-71	71-74	74-77
No. of Persons	3	8	14	30	36	28	16	10	5

OR

b) Explain the concept of Geometric Mean. Discuss its definition, formula, properties, and applications.

18. a) The following data relate to the age of a group of workers. Calculate the standard deviation.

Age	20-25	25-30	30-35	35-40	40-45	45-50	50-55
No. of Workers	170	110	80	45	40	30	25

OR

b) Compare standard deviation and variance for discrete and continuous series, including combined standard deviation and coefficient of variation as relative measures.

19. a) Find Karl Pearson's coefficient of correlation from the following series of marks secured by 10 students in a test in Mathematics and Statistics:

Mathematics	55	70	56	30	90	40	50	75	85	60
Statistics	35	90	70	40	95	40	60	80	80	50

OR

b) Ten competitors in a beauty contest are ranked by three judges in the following order:

I Judge	1	5	4	8	9	6	10	7	3	2
II Judge	4	8	7	6	5	9	10	3	2	1
III Judge	6	7	8	1	5	10	9	2	3	4

Use rank correlation coefficient to discuss which pair of judges has the nearest approach to common tastes in beauty.

20. a) Calculate the coefficient of correlation and obtain the lines of regression for the following:

X	1	2	3	4	5	6	7	8	9
Y	9	8	10	12	11	13	14	16	15

Obtain an estimate of Y which should correspond to the average $X = 6.2$

OR

b) Compare correlation and regression lines, highlighting differences and SPSS application in both analyses.
