(FOR THE CANDIDATES ADMITTED DURING THE ACADEMIC YEAR 2021-22 ONLY)

SUBJECT CODE 21 UCO 4A5

REG.NO.

N.G.M.COLLEGE (AUTONOMOUS) : POLLACHI

END-OF-SEMESTER EXAMINATIONS : MAY – 2023

B.Com. (AIDED & S.F) **MAXIMUM MARKS: 70**

IV SEMESTER **TIME : 3 HOURS**

PART – III

STATISTICAL METHODS

SECTION – A (10 X 1 = 10 MARKS)

ANSWER THE FOLLOWING QUESTIONS.
MULTIPLE CHOICE QUESTIONS. **(K1)**

1. The purpose served by diagrams and chart is _____
   (a) To avoid tabulation (b) To avoid textual form
   (c) Simple Presentation of data (d) All the above

2. For a negatively skewed distribution, the correct inequality is _____
   (a) Mean < Mode (b) Mean < Median
   (c) Mode< Median (d) Median > Mode

3. The value of coefficient of correlation is _____
   (a) 0 to 1 (b) – 1 to +1 (c) $-\infty$ to $+\infty$ (d) 1 to 10

4. Index numbers reveal the state of _____
   (a) Inflation (b) Deflation (c) Both (a) and (b) (d) Zero

5. A time series consists of _____
   (a) Two components (b) Three components
   (c) Four components (d) Six components

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

6. Give the published sources of collecting secondary data.
7. Illustrate Bowley's coefficient of skewness.
8. What do you mean by regression?
9. Recall wholesale price index.
10. Define sampling error.

(CONTD …….. 2)

SECTION – B (5 X 4 = 20 MARKS)

ANSWER EITHER (a) OR (b) IN EACH OF THE FOLLOWING QUESTIONS. **(K3)**

11. a) Describe limitations of statistics.

(**OR)**

b) Find out geometric mean for time spent for games on mobile phone by ten students.

85	70	15	75	500	8	45	250	40	36

12. a) Compute quartile deviation and its coefficient for the given data.

X	10	20	30	40	50	60
f	4	7	15	8	7	2

(**OR)**

b) The sum of ten observations is 650, median is 63 and mode is ill-defined and standard deviation is 7.5. Find Karl Pearson's coefficient of skewness.

13. a) How to interpret relationship of correlation coefficient between variables?

(**OR)**

b) Calculate the coefficient of concurrent deviation from the following data.

X	60	55	50	56	30	70	40	35	80	80	75
Y	65	40	35	75	63	80	35	20	80	60	60

14. a) Write a short note on unweighted index numbers.

(**OR)**

b) Construct index numbers of price from the following data by applying (i) Laspeyre's and (ii) Paasche's

Commodity	2019		2020	
	Price	Qty.	Price	Qty.
A	20	8	40	6
B	50	10	60	5
C	40	15	50	15
D	20	20	20	25

15. a) Fit a straight line trend for the following data by the least square method.

Year	2015	2016	2017	2018	2019
Production	12	20	28	32	50

(**OR)**

(CONTD …….. 3)

b) What are the seasonal indices of first and second quarter for the given data?

Year	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter
2017	3.7	4.1	3.3	3.5
2018	3.7	3.9	3.6	3.6
2019	4.0	4.1	3.3	3.1
2020	3.3	4.4	4.0	4.0

SECTION – C (4 X 10 = 40 MARKS)

ANSWER ANY FOUR OUT OF SIX QUESTIONS
(16th QUESTION IS COMPULSORY AND ANSWER ANY THREE QUESTIONS
(K4 (Or) K5)

16. Analyze the arithmetic mean and median for the given data.

Marks	20	40	50	30	70	60
No. of Students	8	20	10	12	4	6

17. Summarize the methods of collecting primary data.

18. Evaluate the coefficient of range and standard deviation (Assumed Mean Method) for blood serum cholesterol data.

240	260	290	245	255	288	272	263	277	251

19. Making use of the data summarized below, compute the Pearson's coefficient of correlation (r_{12}).

Case	A	B	C	D	E	F	G	H
X_1	10	6	9	10	12	13	11	9
X_2	9	4	6	9	11	13	8	4

20. Construct the index numbers from the following data.

Commodity	2019		2020	
	Price	Qty.	Price	Qty.
I	50	8	70	6
II	40	10	60	5
III	80	15	90	15
IV	110	20	120	25
V	20	10	20	15

(i) Find index for 2020 taking 2019 as base price.

(ii) Construct index number of Fisher's ideal method.

(CONTD …….. 4)

21. Calculate 5 and 7 yearly moving averages for the given data. Also plot the actual and trend values on a graph.

Year	2005	2006	2007	2008	2009	2010	2011	2012	2013
No. of failures	23	26	28	32	20	12	12	10	9
Year	2014	2015	2016	2017	2018	2019	2020		
No. of failures	13	11	14	12	9	3	1		

ETHICAL PAPER

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