(FOR THE CANDIDATES ADMITTED DURING THE ACADEMIC YEAR 2021 ONLY) **(NO.OF PAGES: 4)**

21UCF4A5

REG.NO:

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

END-OF-SEMESTER EXAMINATIONS: MAY 2023

B.Com -Finance **MAXIMUM MARKS: 70**

SEMESTER: IV **TIME: 3 HOURS**

PART – III

BUSINESS STATISTICS

SECTION - A (10 X 1 = 10 MARKS)

ANSWER THE FOLLOWING QUESTIONS (K1)

1. _____ is the reciprocal of arithmetic mean of the reciprocals of values.
   a) Harmonic Mean b) Geometric Mean
   c) Weighted Arithmetic Mean d) Median
2. _____ is the difference between the highest and the smallest value in the series.
   a) Absolute Measure b) Relative Measure
   c) Range d) Quartile Deviation
3. When there are three variables and any two variables alone are studied, it is called **_____.**
   a) Partial Correlation b) Linear Correlation
   c) Positive Correlation d) Multiple Correlation
4. In _____ method, the price of each item in the current year is expressed as a percentage of the price in the base year.
   a) Simple Aggregative Method b) Simple Average of Relatives Method
   c) Weighted Aggregative Index Method d) Weighted Average of Price Relatives
5. _____ arises owing to unforeseen and unpredictable forces at random and affect the data.
   a) Irregular variations b) Cyclical variations
   c) Secular trend d) Regular trend

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

6. State the different types of averages.
7. List t any two importances of dispersion.
8. What is Co – efficient of Determination?
9. Explain cost of living index.
10. Recall the term ‘secular trend’.

(CONTD…2)

SECTION – B (5 X 4 = 20 MARKS)

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

11. a) Calculate the arithmetic mean **(K3)**

S. No	1	2	3	4	5	6	7
Income (Rs)	200	250	300	350	400	450	500

(OR)

b) Calculate the median from the following data **(K3)**

Marks	50	30	20	10	5
No of Students	7	9	18	4	2

12. a) From the following data, compute standard deviation **(K3)**

Income (in Rs)	40	50	60	70	80	90	100	110	120	130

(OR)

b) Calculate Karl Pearson's co-efficient of skewness for the following data. **(K3)**

45	25	43	60	47

13 a) Calculate the coefficient of correlation between X and Y for the following: **(K3)**

X	-3	-2	-1	0	1	2	3
Y	9	4	1	0	1	4	9

(OR)

b) Calculate two regression equations from the following data **(K3)**

X	10	12	13	12	16	15
Y	40	38	43	45	37	43

14. a) Construct the cost of living index number from the following group data **(K3)**

Group	**Weights**	**Group Index Number For a Given Year**
Food	47	247
Fuel and Light	7	293
Clothing	8	289
House Rent	13	100
Miscellaneous	14	236

(OR)

(CONTD…3)

b) Calculate Price index number from the data given below and comment on the value **(K3)**

Commodity	A	B	C	D	E	F
Price in 2020	20	25	10	12	30	20
Price in 2021	22	30	10	15	33	30

15. a) Draw a trend line by the method of semi – averages **(K3)**

Year	2009	2010	2011	2012	2013	2014	2015
Production (in tonnes)	102	107	115	110	107	120	112

(OR)

b) Explain the methods of measurement of seasonal variation. **(K3)**

SECTION - C (4 X 10 = 40 MARKS)

ANSWER ANY FOUR OUT OF SIX QUESTIONS
(16th QUESTION IS COMPULSORY AND ANSWER ANY THREE QUESTIONS (FROM Qn. No: 17 to 21)

16. Fit a trend by the method of least squares for the following data. Also calculate trend value for the year 2016. (Compulsory question) (K5)

Year	**2011**	**2012**	**2013**	**2014**	**2015**
Sales (in Lakhs)	100	120	110	140	80

17. Sketch the characteristics and scope of statistics. (K4)

18. Calculate Bowley's Coefficient of Skewness**.** (K4)

No of Children Per Family	**0**	**1**	**2**	**3**	**4**	**5**	**6**
No of Families	**7**	**10**	**16**	**25**	**18**	**11**	**8**

19. Calculate Karl Pearson's coefficient of correlation between X and Y for the following data: (K4)

X	28	40	41	35	38	33	40	36	32	33
Y	23	33	34	30	34	26	28	36	31	38

(CONTD…4)

20. Construct index numbers from the following data by using (K5)

a) Laspeyres Method b) Paasche Method c) Bowley's Method d) Fisher's Index Method

Commodity	**2014**		**2015**	
	Price	**Quantity**	**Price**	**Quantity**
A	5	2	6	2
B	6	4	8	5
C	3	8	4	8
D	10	5	9	12

21. Fit a straight line trend by the method of least squares. What would be the predicted profit for the year 2016? (K5)

Year	**2007**	**2008**	**2009**	**2010**	**2011**	**2012**	**2013**	**2014**
Profits (Rs in lakhs)	38	40	65	72	69	60	87	95

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