

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

24UCF4A1

REG.NO. :

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

**PART - III**  
**BUSINESS STATISTICS**

**SECTION – A (10 X 1 = 10 MARKS)**

**ANSWER THE FOLLOWING QUESTIONS.**

**MULTIPLE CHOICE QUESTIONS.**

**(K1)**

- In which of the following is the characteristic of statistics \_\_\_\_\_.  
 (a) Statistics is a qualitative science (b) Statistics is liable to be misused  
 (c) Inductive logic is applied (d) all
- Bowley’s coefficient of skewness is \_\_\_\_\_,  
 (a)  $S_{Kp} = \frac{\text{mean} - \text{mode}}{\text{standard deviation}}$  (b)  $S_{Kp} = \frac{3(\text{mean} - \text{median})}{\text{standard deviation}}$   
 (c)  $S_{KB} = \frac{Q_3 + Q_1 - 2M}{Q_3 - Q_1}$  (d)  $S_{Kk} = \frac{D_9 + D_1 - 2M}{D_9 - D_1}$
- Correlation coefficient between two variables is \_\_\_\_\_.  
 (a) 0 (b) -1 (c) +1 (d) between -1 and +1
- In the computation of an index number, if the base year used for comparison is kept constant throughout, then it is called \_\_\_\_\_ method.  
 (a) Chain base (b) fixed base (c) aggregate (d) price relative
- Component of time series \_\_\_\_\_.  
 (a) Long term effect (b) short term variations (c) Irregular variations (d) all

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

**(K2)**

- Write any four limitations of statistics.
- Find the range and its coefficient for the following data:

8	10	5	9	12	11
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- Define positive and negative correlation.
- Define index number.
- Write four methods to estimate the secular trend.

**SECTION – B (5 X 5 = 25 MARKS)**

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

- a) Draw pie diagram for the following data of sixth Five-year plan Public sector outlays

Agriculture and Rural development	12.9%
Irrigation etc	12.5%
Energy	27.2%
Industry and minerals	15.4%
Transport, communication etc	15.9%
Social Services and others	16.1%

**(OR)**

**(CONTD.....2)**

11. b) Calculate the median from the following data

Marks	10-25	25-40	40-45	55-70	70-85	85-100
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12.a) Calculate Karl Pearson's coefficients of Skewness for the following data

Wage per item RS	12	15	20	25	30	40	50
Number of items	10	25	40	70	32	13	10

(OR)

b) Calculate the standard deviation of the following series.

No of students in 00 below	2	6	10	14	18	22	26
No of colleges	0	7	19	42	61	72	80

13.a) The following table gives aptitude test scores and productivity of 8 randomly selected Workers.

Aptitude score	57	58	59	59	60	61	62	64
Productivity Index	67	68	65	68	72	72	69	71

Calculate the correlation coefficient between aptitude score and productivity index.

(OR)

b) Discuss the differences between correlation and regression

14.a) Calculate the cost of living index number from the following data

Item	Base year price	Current year price	Weight
Food	39	47	4
Fuel	8	12	1
Clothing	14	18	3
Housing rent	12	15	2
Miscellaneous	25	30	1

(OR)

b) Calculate the cost of living index number using family budget method.

Commodity	A	B	C	D	E	F	G	H
Quantity in Base year(units)	200	50	50	20	40	50	60	40
Price in base year (Rs)	10	30	40	200	25	100	20	150
Price in current year (Rs)	12	35	50	300	50	150	25	180

15.a) Draw a trend line by the method of semi- Averages.

Year	1987	1988	1989	1990	1991	1992	1993
Production (in tones)	90	110	130	150	100	150	200

(OR)

b) Using four yearly moving averages, Calculate the trend values and short term fluctuations:

Year	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990
Production (in million lbs)	464	515	518	467	502	540	557	571	586	612

## SECTION – C

(5 X 8 = 40 MARKS)

ANSWER EITHER (a) OR (b) IN EACH OF THE FOLLOWING QUESTIONS. (K4 (Or) K5)

16. a) Calculate the mean, median and mode

Marks	11-20	21-30	31-40	41-50	51-60	61-70	71-80
No of students	42	38	120	84	48	36	31

(OR)

b) Calculate (i) Arithmetic mean (ii) Geometric mean (iii) Harmonic mean

Marks	20	21	22	23	24	25
No of students	4	2	7	1	3	1

17.a) For the data given here, give the quartile deviation

X	351-500	501-650	651-800	801-950	951-1100
f	48	189	88	47	28

(OR)

b) Calculate (i) Karl Pearson's coefficient of skewness and (ii) Bowley's coefficient of skewness for the data given below:

Mid value	20	30	40	50	60	70	80
Frequency	1	12	55	91	55	12	1

18. a) Calculate the two regression equations from the following data.

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

(OR)

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

1st judge	1	6	5	10	3	2	4	9	7	8
2 <sup>nd</sup> judge	3	5	8	4	7	10	2	1	6	9
3 <sup>rd</sup> judge	6	4	9	8	1	2	3	10	5	7

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

19.a) Evaluate Laspeyre's, Paasche's and Fisher's index numbers:

Item	Price		Quantity	
	Base year	Current year	Base year	Current year
A	6	10	50	50
B	2	2	100	120
C	4	6	60	60
D	10	12	30	25

(OR)

- 19b) (i) Construct cost of living index , for 2000 taking 1999 as the base year from the following data using Aggregate Expenditure method

Article	Quantity in 1999 (kg)	Price(per kg) Rs 1999	Price (per kg) Rs 2000
A	6	5.75	6
B	1	5	8
C	6	6	9
D	4	8	10
E	2	2	1.8
F	1	20	15

- (ii) ) Calculate the cost of living index number from the following data .

Item	Base year price	Current year price	Weight
Food	39	47	4
Fuel	8	12	1
Clothing	14	18	3
Housing rent	12	15	2
Miscellaneous	25	30	1

- 20.a) Fit a straight line trend to the following time series.

Year	1990	1991	1992	1993	1994	1995
production	72	75	74	78	83	82

(OR)

- b) Calculate the seasonal variations by the ratio to trend method from the data given below:

Year	QUARTER I	Quarter II	Quarter III	Quarter iv
1972	39	20	60	85
1973	45	23	62	90
1974	44	25	69	92
1975	53	30	70	97
1976	60	32	76	100

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**ETHICAL PAPER**