

S.No: 429 BATCH: 2015 - 2018

Reg. No.:

END OF SEMESTER EXAMINATIONS, APRIL / MAY - 2019

STATISTICAL METHODS
SUBJECT CODE: 15UBCA06

MAJOR : B.C.A.,
TIME : 3 HOURS

SEMESTER : II
MAX. MARKS : 75

SECTION - A (5 x 2 = 10)

Answer ALL the Questions:

1. Write the types of classification of data.
2. Write the formula for finding the semi - inter quartile range and co - efficient of quartile deviation.
3. Write the types of correlation.
4. Define an index number.
5. Write the components of time series.

SECTION - B (5 x 4 = 20)

Answer ALL the Questions:

6. a) Calculate the median for the following frequency distribution.

Marks	45-50	40-45	35-40	30-35	25-30	20-25	15-20	10-15	5-10
No. of Students	10	15	26	30	42	31	24	15	7

(OR)

- b) Write the difference between classification and tabulation.

7. a) Calculate mean deviation from mean and median for the following data:

100, 150, 200, 250, 360, 490, 500, 600, 671.

Also calculate co - efficient of mean deviation.

(OR)

- b) Calculate the standard deviation from the following data:

14, 22, 9, 15, 20, 17, 12, 11

8. a) A random sample of 5 college students is selected and their grades in mathematics and statistics are found to be:

	1	2	3	4	5
Mathematics	85	60	73	40	90
Statistics	93	75	65	50	80

Calculate Pearman's rank correlation co - efficient.

(OR)

- b) The total of the multiplication of deviation of X and Y = 3044.

Number of pairs of the observations = 10

Total of the deviations of X = -170

Total of the deviations of Y = -20

Total of the squares of deviations of Y = 2264

Total of the squares of deviations of X = 8288

Find out the co - efficient of correlation when the arbitrary means of X and Y are 82 and 68 respectively.

9. a) From the following data calculate price index numbers for 1985 with 1975 as base by Paache's method.

Commodity	1975		1985	
	Price	Quantity	Price	Quantity
A	20	8	40	6
B	50	10	60	5
C	40	15	50	15
D	20	20	20	25

(OR)

b) Construct Fisher's Ideal index number for the following data:

Commodity	1986		1987	
	Quantity	Price	Quantity	Price
M	20	12	30	14
N	13	14	15	20
O	12	10	20	15
P	8	6	10	4
Q	5	8	5	6

10. a) Calculate the 3 - yearly moving averages of the production figures given below:

Year	Production (in met. Tonnes)	Year	Production (in met. Tonnes)
1973	15	1981	63
1974	21	1982	70
1975	30	1983	74
1976	36	1984	82
1977	42	1985	90
1978	46	1986	95
1979	50	1987	102
1980	56		

(OR)

b) Fit a trend line to the following data by the method of semi averages:

Year	Sales of Firm A (thousand unit)	Year	Sales of Firm A (thousand unit)
1980	102	1984	108
1981	105	1985	116
1982	114	1986	112
1983	110		

SECTION - C (3 x 15 = 45)

Answer any THREE Questions:

11. Calculate the Mean, Median and Mode for the data given below:

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

12. Compute the standard deviation and mean deviation from the following data:

Class (x)	0-10	10-20	20-30	30-40	40-50	50-60	60-70
Frequency	8	12	17	14	9	7	4

13. Calculate the co-efficient of concurrent deviations from the data given below:

Month	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.
Supply	160	164	172	182	166	170	178	192	186
Price	292	280	260	234	266	254	230	190	200

14. Calculate from the following data the Fisher's ideal index and show how it satisfies the time reversal test and factor reversal test.

Item	Price		Quantity	
	1985	1986	1985	1986
A	8	20	50	60
B	2	6	15	10
C	1	2	20	25
D	2	5	10	8
E	1	5	40	30

15. Below are given the figures of production (in thousand quintals) of a sugar factory,

Year	Production (thousand quintals)	Year	Production (thousand quintals)
1975	77	1980	91
1977	88	1981	98
1978	94	1984	90
1979	85		

- Fit a straight line by the 'least squares' method and tabulate the trend values.
- Eliminate the trend. What components of the time series are thus left over?
- What is the monthly increase in the production of sugar?

