B.Com(BIM) DEGREE EXAMINATION,APRIL 2019
I Year I Semester
Business Statistics

Time : 3 Hours **Max.marks :75**

Section A $(10 \times 2 = 20)$ Marks

Answer any **TEN** questions

1. Define Statistics.
2. What do you mean by Lorenz curve?
3. List out the components of Time Series.
4. Write Short notes on Quality control
5. What is Test of Adequacy?
6. Differentiate between correlation & Regression.
7. The following data relates to the distance travelled by 520 villagers to buy their weekly requirements:

Miles travelled:	2	4	6	8	10	12	14	16	18	20
No. of villagers:	38	104	140	78	48	42	28	24	16	2

   Calculate the arithmetic average.

8. Find median and mean deviation

X:	0-10	10-20	20-30	30-40	40-50	50-60
Y:	5	10	13	18	14	8

9. From the following information calculate Mode:

Lower limit of the modal class	200
Upper limit of the modal class	120
Frequency of the modal class	40
Frequency of the class succeeding the modal class	30
Frequency of the class preceding the modal class	28

10. Given the following data variance of X=9

    Regression equation: 4x- 5y+33=0

    20x-9y-107=0

    Find the mean values of x and y and standard deviation of y, and the coefficient of correlation between x and y.

11. Fit a trend line to the following data by the method of Semi-averages

Year	2004	2005	2006	2007	2008	2009	2010
Sales	102	105	114	110	108	116	112

12. Compute a price index for the following by a Simple aggregate method

Commodity	A	B	C	D	E	F
Price in 2005	20	30	10	25	40	50
Price in 2006	25	30	15	35	45	55

Section B $(5 \times 5 = 25)$ Marks

Answer any **FIVE** questions

13. Discuss the Merits and Limitations of Diagrammatic Representation of data.
14. What are the problems in constructing a Index Number?
15. The following table shows the Monthly Expenditure of Three Families. Represent the data by a multiple bar diagram on percentage basis and write a note on it

Item of expenditure	Family-A	Family-B	Family-C
Food articles	43	83	120
Clothing	8	17	25
Recreation	3	10	12
Education	5	9	15
Rent	10	21	17
Miscellaneous	6	15	17

16. Calculate the mean deviation from mean for the following data, relating to heights of 100 children:

Heights (inches'):	60	61	62	63	64	65	66	67	68
No. of children:	2	0	15	29	25	12	10	4	3

17. Calculate the standard deviation from the following data

Marks	No of students	Marks	No of students
10-20	1	50-60	7
20-30	2	60-70	12
30-40	3	70-80	16
90-100	5	80-90	10
		90-100	4

18. A manufacturer of optical lenses has the following data on the cost per unit (in rs) of a certain made lenses and the number of units made in each order

Order No	No of units (x)	Cost per unit(y)
1	1	58
2	3	52
3	5	46
4	7	40
5	10	37
6	12	22

Determine the two regression equations Find the correlation coefficient.

19. Calculate 3 year moving average for the following series

Year	production in lakh tons
2001	17.2
2002	17.3
2003	17.7
2004	18.9
2005	19.2
2006	19.3
2007	18.1
2008	20.2
2009	25.3
2010	24.9
2011	23.2
2012	24.3
2013	25.2
2014	16.3
2015	27.3

Section C $(2 \times 15 = 30)$ Marks

Answer any **TWO** questions

20. What are measures of Central Tendency? Calculate Mean Median and Mode for the following frequency distribution :

Variable (Rs):	0-50	50-100	100-150	150-200	200-250	250-300
No of workers in a factory:	20	25	35	28	24	19

21. Following data are given for marks in English (x) and marks in math's (y) at a certain examination

	x	y
Mean marks	39.5	47.5
SD of marks	10.8	16.8

Coefficient of correlation is 0.42

Find the regression equation of y on x and estimate the marks when marks in English is 50

22. Apply the method of Least squares to obtain the trend values from the following data and predict the sales for the year 2019

Year:	2012	2013	2014	2015	2016
Sales:	100	120	110	140	80

23. Convert the following fixed base index numbers into chain base index numbers

Year	2002	2003	2004	2005	2006	2007
FBI	376	392	408	380	392	400