MES VASANT JOSHI COLLEGE OF ARTS AND COMMERCE, ZUARINAGAR – GOA
BCOM III SEMESTER END EXAMINATION, NOVEMBER, 2024
GE 3 –BUSINESS STATISTICS–I (UCAG101)

Instructions: i) *All questions are compulsory.*

ii) *Figures to the right indicate full marks.*

iii) *Use of simple (non-scientific) calculator is allowed.*

iv) *Graph paper will be supplied on request*

<u>Time: 2 Hours</u>   <u>Total Marks: 80</u>

Q 1) Answer the following   (**16 Marks**)

    a. i. Write any two limitations of Statistics   (3)
        ii. Define Sample
    b. Construct frequency curve for the following data   (6)

Class Interval	0-10	10-20	20-30	30-40
Frequency	10	5	20	15

    c. Calculate mean and median for the following data   (7)

Class Interval	30-40	40-50	50-60	60-70
Frequency	12	45	41	18

<div align="center">OR</div>

Q I) Answer the following   (**16 Marks**)

    x. Write a short note on types of data   (3)
    y. Construct more than ogive for the following data   (6)

Class Interval	10-20	20-30	30-40	40-50	50-60
Frequency	12	21	14	11	36

    z. Compute Bowley Coefficient of skewness for the following   (7)

Class Interval	100-120	120-140	140-160
Frequency	12	22	31

Q 2) Answer the following   (**16 Marks**)

    a. **i.** Define Variable   (3)
        ii. Two uses of Index Numbers
    b. A group of 63 workers have mean wage of Rs 3568 and another group of 14 workers with mean wages of 4500. Find combined mean wages of both the groups   (6)
    c. Calculate 4 yearly moving averages of the following data and represent the trend values on the graph.   (7)

Year	2005	2006	2007	2008	2009

Production	26	23	28	22	32

OR

Q II) Answer the following (**16 Marks**)

x. i. Define Quantitative Classification. (**3**)
ii. Define Attribute

y. Calculate standard deviation and Variance for the following data: (**6**)

Class Interval	50-60	60-70	70-80	80-90
Frequency	12	51	32	15

z. Calculate Q_1 and Q_3 along with Coefficient of Quartile Deviation for the following data (**7**)

Class Interval	10-20	20-30	30-40	40-50
Frequency	40	23	33	21

Q 3) Answer the following (**16 Marks**)

a. Write down the Definition of (**3**)
i. Inflation
ii. Deflation

b. Calculate Quartile Deviation for the following (**6**)

Class intervals	0-25	25-50	50-75	75-100	100-125
frequency	22	15	39	38	22

c. Obtain an equation of Trend Line by the Method of Least Squares for the following data (**7**)

Year	2012	2013	2014	2015	2016	2017	2018	2019
production	21	24	32	40	38	49	57	60

OR

Q III) Answer the following (**16 Marks**)

x. Give uses of cost of living index number (**3**)

y. Calculate D_3 and P_{33} for the following Data (**6**)

Age in years	20-25	25-50	50-75	75-100	100-125	125-150
No of employees	3	5	14	15	24	10

z. Calculate 3 yearly moving averages of policy holders. Also plot the time series (original data) and trend value on the same graph paper. (**7**)

Year	2013	2014	2015	2016	2017	2018	2019	2020
No of policy holders	55	35	37	43	22	34	65	45

Q 4) Answer the following (16 Marks)

a. Write a short note on Classification of Data (3)

b. Calculate Karl Pearsons Coefficient of Correlation for the following data (6)

Class Interval	15-20	20-25	25-30
Frequency	12	15	22

c. Construct Laspyer's, Paache's and Fisher's Price Index number for the following (7)

Commodity	Price BaseYear	Price CurrentYear	Quantity BaseYear	Quantity CurrentYear
A	3	10	10	20
B	20	24	5	10
C	16	32	15	2

OR

Q IV) Answer the following (16 Marks)

x. The following Data gives the marks of 20 students. Construct the frequency distribution table for the following by taking suitable class intervals (3)

35,40,22,38,40,14,29,38,19,44,17,20,33,15,33,12,25,15,39,45

y. Draw frequency curve for the following (6)

Age in years	17-19	19-21	21-23	23-25	25-27	27-29	29-31
No of students	7	23	24	13	23	25	06

z. Evaluate the data given below calculate the Price Index Number by using weighted aggregate of Prices (7)

Commodity	Current Year	Base Year	Weight
A	30	25	5
B	160	60	7
C	120	47	7

Q 5) Answer the following (16 Marks)

a. Write a short note on advantages and disadvantages of Quartiles, Deciles and percentiles (3)

b. Find the Inter Quartile Range for the following (6)

Class Intervals	0-25	25-50	50-75	75-100	100-125

Frequency	25	16	38	28	13

   c. Calculate mean Deviation about Mode for the following   (7)

Marks	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90
No. Of Students	2	6	12	18	25	20	10	7

<div align="center">OR</div>

Q V) Answer the following   **(16 Marks)**

   x. The following are the marks of 15 students, calculate median and mode of the following

     15,18,17,29,3,15,20,21,39,22,21,15,32,58,12,15,14,29,17,18,17,15,1   (3)

   y. Splice the following index No. Series.   (6)

Year	2013	2014	2015	2016	2017	2018	2019	2020
Series A	125	136	143	165	-----	----	----	----
Series B	----	----	----	176	187	198	189	199

   z. Calculate Mean Deviation about Median for the following data   (7)

Class Intervals	0-10	10-20	20-30	30-40
Frequency	5	7	12	6