May 2024

B. Com. (Hon.) (Fourth Semester)
Business Statistics (BCOMH-403)
(Main)

me : 3 Hours] [*Maximum Marks : 75*

Note : It is compulsory to answer all the questions (1.5 marks each) of Part A in short. Answer any *four* questions from Part B in detail. Different sub-parts of a question are to be attempted adjacent to each other.

Part A

1. (a) Write down steps involved in preparing a Histogram. **1.5**

    (b) Name various graphs and diagrams used for presentation of data. **1.5**

    (c) Give two practical situations where you will apply 'mode' as a measure of central tendency. **1.5**

    (d) Under what conditions Geometric mean is preferred over Arithmetic mean ? **1.5**

(e) Give a specific instance in which the median will be used in preference to arithmetic mean.

1.5

(f) What are the steps for computation of variance ? **1.5**

(g) What are Regression Coefficients ? **1.5**

(h) Explain, how correlation is computed from regression coefficients ? **1.5**

(i) Write down formula to determine the following index numbers : Laspeyre's price Index, Dorbish-Bowley Price Index. **1.5**

(j) Mention the difference between Chain Base Index Numbers and Fixed Base Index Numbers. **1.5**

Part B

2. (a) Draw a Pie diagram to represent the following data of proposed expenditure by State Government for the year 2024-25. **10**

Items	Amt. (Rs. Cr.)
Agriculture and Rural Development	10,000
Industrial Development	2,500
Health	1,500
Education	2,500
Defense	5,500

(b) Prepare ogive curve by taking imaginary data regarding industrial labour. **5**

3. (a) Why averages are called measures of central tendency ? Amongst mean, mode and median which is the most suitable average in analysing equity share price behaviour and why ? **5**

(b) Eight coins were tossed together and the number of heads (X) resulting was noted. The operation was repeated 256 times and the frequency distribution of the number of heads is given below. Calculate Median. **10**

No. of
heads (X) : 0 1 2 3 4 5 6 7 8
Freq. (f)   : 1 9 26 59 72 52 29 7 1

4. Calculate the Mean and Standard Deviation from the following data : **15**

Value	Frequency
90-99	2
80-89	12
70-79	22
60-69	20
50-59	14
40-49	4
30-39	1

5. (a) If price of a share doubles in a period of 4 years, what is the average annual percentage increase ? **5**

(b) Calculate the Karl Pearson's Coefficient of Correlation between the marks obtained in first term and second term tests as given in table below : **10**

No.	Subject	Percentage of Marks	
		First Term Test	Second Term test
1	Hindi	75	62
2	English	81	68
3	Economics	70	65
4	Accounts	76	60
5	Commerce	77	69
6	Mathematics	81	72
7	Statistics	84	76
8	Costing	75	72

6. (a) Below are given the figures of production (in thousand tons) of a sugar factory. Fit straight line by using 'least square' method. Also determine monthly increase in production : 10

Year	Production
2011	77
2012	88
2013	94
2014	85
2015	91
2016	98
2017	90

(b) Describe components of time series. 5

7. From the data given below construct index number of the group of four commodities by using Fisher's Ideal Formula : 15

	Base Year		Current Year	
Commodities	Price per unit (Rs.)	Expenditure (Rs.)	Price per unit (Rs.)	Expenditure (Rs.)
A	2	40	5	75
B	4	16	8	40
C	1	10	2	24
D	5	25	10	60