

PSG COLLEGE OF ARTS & SCIENCE
(AUTONOMOUS)

BVoc DEGREE EXAMINATION DECEMBER 2023
(First Semester)

Branch – BANKING STOCK AND INSURANCE

BUSINESS STATISTICS

Time: Three Hours

Maximum: 50 Marks

SECTION-A (5 Marks)

Answer ALL questions

ALL questions carry EQUAL marks (5 x 1 = 5)

- 1 The measure which cannot be determined graphically is
(i) Median (ii) Mode
(iii) Mean (iv) Quartiles
- 2 The range of the information 4, 7, 8, 12, 2, 5 is
(i) 11 (ii) 10
(iii) 8 (iv) 7
- 3 When two variables are increasing or decreasing simultaneously is called
(i) Perfect positive correlation (ii) Linear correlation
(iii) Positive correlation (iv) Negative correlation
- 4 There are _____ components in time series
(i) 2 (ii) 4
(iii) 3 (iv) 5
- 5 If Laspeyre's index=120 and Paasche's index=124, then Fisher's index is
(i) 121.98 (ii) 123.50
(iii) 121.40 (iv) 125.12

SECTION - B (15 Marks)

Answer ALL Questions

ALL Questions Carry EQUAL Marks (5 x 3 = 15)

- 6 a List out the various limitations of statistics.
OR
b Write a short note on various sources of collecting data.
- 7 a Define average. Write about the various measures of it.
OR
b Calculate quartile deviation for the following data:

Sales(In lakhs)	10	20	30	40	50	60
No. of companies	4	8	10	15	12	1

- 8 a Find the rank correlation coefficient from the following information:
Price of Tea(Rs) : 75 88 95 70 60 80 81 50
Price of Coffee(Rs) : 120 134 150 115 110 140 142 100
OR

b Mention the properties of regression coefficients.

- 9 a What is time series? Give a brief note on its various components.
OR

b Estimate the trend values using the data given by taking a four-yearly moving average:
Year : 2011 2012 2013 2014 2015 2016 2017 2018
Value : 12 25 39 54 70 87 105 100

- 10 a Explain fixed base and chain base index numbers with an example.
OR

b Construct the consumer price index number for 2018 on the basis of 2016 from the following data using family budget method:

Items	Price in 2016 (Rs)	Price in 2018 (Rs)	Weights
Food	200	280	30
Rent	100	200	20
Clothing	150	120	20
Fuel and Lighting	50	100	10
Miscellaneous	100	200	20

Cont...

SECTION -C (30 Marks)

Answer ALL questions

ALL questions carry EQUAL Marks (5 x 6 = 30)

- 11 a Discuss in detail the various steps involved in the questionnaire preparation.

OR

- b Draw ogives and find median from the data given below:

Profits (in lakhs) :	10-20	20-30	30-40	40-50	50-60	60-70
No. of Cos. :	6	10	12	18	12	2

- 12 a Describe the various characteristics of a good average.

OR

- b An analysis of the monthly wages paid to workers in two firms A and B belonging to the same industry gave the following results:

	Firm A	Firm B
No. of workers :	160	150
Average wage :	560	575
Variance of wage :	400	625

- (i) Which firm pays larger amount as monthly wage?
(ii) In which firm is there greater variability in individual wages?

- 13 a From the following data, Calculate the coefficient of correlation by Karl Pearson's method:

X :	6	2	10	4	8
Y :	9	11	9	8	7

OR

- b From the following two regression equations, calculate the mean values of X and Y and the coefficient of correlation between X and Y:

$$4X - 5Y + 33 = 0 \text{ and } 20X - 9Y - 107 = 0$$

- 14 a What is trend? How trend is calculated using the method of least squares?

OR

- b Calculate the seasonal index from the following data by simple average method:

Year	1 st quarter	2 nd quarter	3 rd quarter	4 th quarter
2011	72	68	80	70
2012	76	70	82	74
2013	74	66	84	80
2014	76	74	84	78
2015	78	74	86	82

- 15 a Compute Laspeyre's, Paasche's and Fisher's index numbers from the following data:

Item	Base Year		Current Year	
	Price (Rs)	Quantity	Price (Rs)	Quantity
A	5	25	6	30
B	3	8	4	10
C	2	10	3	8
D	10	4	3	5

OR

- b Why is Fisher's price index called the ideal index number? Prove it with an example.

Z-Z-Z

END