

Sr. No. 1285

Exam. Code : 110103  
Subject Code : 3656**B. Voc. Banking & Financial Services - 3rd Sem.**

(2116)

**BVC-301: Business Statistics****Time allowed: 3 hrs.****Max. Marks: 50****Section A****Note: Attempt any 10 parts. Each part carries 1 mark.**

1. (i) What is meant by Dispersion?
- (ii) What are the limitations of Index numbers?
- (iii) What are the chief characteristics of Statistics?
- (iv) What do you understand by Coefficient of variation?
- (v) Distinguish between Linear and Non Linear Correlation.
- (vi) What are Mutually Exclusive events?
- (vii) Discuss the Multiplicative law of probability.
- (viii) Differentiate Mean & Median.
- (ix) Define Quantity Index Number.
- (x) Differentiate between Mean deviation and Quartile deviation.
- (xi) Differentiate between Correlation and Regression.
- (xii) What is meant by Splicing in Index Numbers?

**Section B****Note: Attempt any two questions. Each question carries 10 marks.**

2. "Statistical analysis is of vital importance for successful businessmen, economists, administrators and educationalists". Discuss with illustrations.
3. (a) What is meant by 'correlation'? Distinguish between positive, negative and zero correlation.
- (b) The following table gives indices of industrial production and number of registered unemployed people (in lakh). Calculate the correlation coefficient.

Year	2005	2006	2007	2008	2009	2010	2011	2012
Index of Production	100	102	104	107	105	112	103	99
Number of Unemployed	15	12	13	11	12	12	19	26

(5, 5)

4. Determine the values of Median and Mode of the following distribution graphically. Verify the results by actual calculations.

Size :	10-19	20-29	30-39	40-49	50-59	60-69	70-79	80-89	90-99
Frequency:	11	19	21	16	10	8	6	3	1

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(2)

5. (a) An analysis of the monthly salaries paid to employees in two companies X and Y, belonging to the same industry, provides the following results:

	Company A	Company B
Number of employees	1200	1500
Average Salary (Rs.)	12000	9000
Standard deviation of salary (Rs.)	200	225

Find the Combined average monthly salary and the combined standard deviation of salaries of the two companies.

(b) The following table shows the number of motor registrations in a certain territory for a term of 5 years and the sale of motor tyres by a firm in that territory for the same period.

Year	Motor Registrations	No. of Tyres Sold
1	600	1250
2	630	1100
3	720	1300
4	750	1350
5	800	1500

Find the two Regression equations. Estimate the sale of tyres when no. of motor registrations is 850. (5,5)

### Section C

**Note: Attempt any two questions. Each question carries 10 marks.**

6. What do you understand by Time Series Analysis? Explain the importance of Time series as a tool of forecasting. Also discuss its methods.

7. (a) Distinguish between trend and seasonal fluctuations in time series.

(b) Estimate the trend value by the 4-yearly moving averages method for the following data:

Year	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Value	12	18	26	32	40	60	76	94	100	108	98	90

(5, 5)

8. (a) "Index numbers are the barometers of economic activity". Explain.

(b) Using the following data construct Fisher's Ideal Index and show that it satisfies Factor Reversal test and Time reversal test:

Commodity	Price (in Rs.)/Unit		No. of Units	
	Base Year	Current Year	Base Year	Current Year
A	6	8	10	12
B	10	10	5	8
C	5	7	8	10
D	15	20	12	15
E	20	25	15	10

(5, 5)

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**(3)**

9. The chocolate market in India has shown rapid growth. With respect to product variation, 50% of the market is occupied by Moulded chocolates and 33% of the market is occupied by Countline bars. Sugar panned occupies 13% of the market and choco occupies 4% of the market. If 40 customers are randomly selected, then:

- (i) What is the probability that exactly 15 customers will purchase Moulded chocolates?
- (ii) What is the probability that 15 or less customers will purchase Moulded chocolates?
- (iii) What is the probability that exactly 10 customers will purchase Countiline bars?
- (iv) What is the probability that exactly 5 customers will purchase Sugar panned?
- (v) What is the probability that two or less customers will purchase Choco?

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