

SEMESTER -III**BUSINESS STATISTICS****1. Course Description**

Programme: B. Com (A&F, IB, H, CAP, IPP)

Max Hours: 75

Course Code: U24/COM/DSC/303

Marks: 100

Course Type: DSC

Hours Per Week: 5

No. of Credits: 5

2. Course Objectives

- To understand, plan, and execute the process of data collection.
- To inculcate presentation, analytical, and computational abilities.

3. Course outcomes

On successful completion of the course the student will be able:

CO1: To define the Basic Concepts of Statistics.

CO2: To solve Averages using formulas.

CO3: To compare and analyze the data in dispersion through variance analysis.

CO4: To compare, analyze, and interpret the data using Correlation and Regression

CO5: To devise and develop an action plan using graphical presentation and predicting trend analysis in time series.

4. Course Content**MODULE–I: INTRODUCTION****(15Hrs)**

Origin and Development of Statistics – Definition- Statistics - Functions-Importance and Scope - Limitations of Statistics - Distrust of Statistics. Planning and Execution of Survey-Census Vs Sampling-Sampling methods–Techniques of Data Collection: Primary data and Secondary data–Methods–Limitations.

MODULE-II: MEASURES OF CENTRAL TENDENCY**(15Hrs)**

Arithmetic Mean–Median— Mode -Combined Arithmetic Mean-Weighted Averages – Calculation of Missing Frequencies, Incorrect Mean-Uses and Limitations of Different Averages. (Computer-based application of Mean, Median, Mode)

MODULE III: MEASURES OF DISPERSION**(15Hrs)**

Quartile deviation Deciles, percentiles –Mean Deviation-Standard Deviation-Coefficient of Variation (Problems). (Computer based application of standard deviation)

MODULE-IV: CORRELATION & REGRESSION**(15Hrs)**

Meaning – Significance of Correlation- Types of correlation – Methods of studying Correlation: Karl Pearson Coefficient of Correlation – Rank Correlation Probable Error

Regression – Meaning – Uses of Regression Analysis - Differences between Correlation & Regression–Regression equations: X on Y & Y on X regression coefficient

Computer-based application of correlation and regression

MODULE-V: DIAGRAMS AND GRAPHS AND ANALYSIS OF TIME SERIES (15Hrs)

Introduction–Significance of Diagram and Graphs– -Types of Diagrams and graphs– Ogive Curves: Meaning and Utility of Ogive Curves-Limitations of Diagram and Graphs

Meaning – Utility of Time series – Components: – Measurement of Trend by Straight Line Method — Moving Average – Semi Average– Method of Least squares

5. References:

1. Fundamentals of Statistical Methods: S.P Gupta, Sultan Chand
2. Statistics for Management: Levin & Rubin, Pearson
3. Fundamentals of Statistics: Gupta S.C, Himalaya
4. Business Statistics: S. Aggarwal, S.L. Bhardwaj, Kalyani Publications
5. Statistics-Theory, Methods, and Applications: Sancheti D.C.& Kapoor V.K

6. Model Question Paper- End Semester Exam**BUSINESS STATISTICS****Course Code: U24/COM/DSC/303****Credits: 5****Max Marks: 60****Time: 2Hrs****SECTION-A****I. Answer the Following questions****5 x 10= 50 marks**

1) Define Statistics and describe the scope of Statistics.

OR

2) What are the differences between Primary data and Secondary data. What are the methods of collecting primary data?

3) Identify the missing frequency. If the arithmetic mean is 28 of the data given below & also find the Median.

Profit per shop ('Rs. '000)	0-10	10-20	20-30	30-40	40-50	50-60
No. of Shops	12	18	27	?	17	6

OR

4) Construct a Modal distribution from the following data

Class Interval	0-100	100-200	200-300	300-400	400-500	500-600	600-700
Frequency	15	20	28	32	18	12	5

5) What are the values of Standard Deviation from the following data:

Age under	10	20	30	40	50	60	70	80
No. of Persons	15	30	53	75	100	110	115	125

OR

6) What are the values of Q1 and Q3 for the following distribution?

Marks	0-10	10-20	20-30	30-40	40-50	50-60
Frequency	10	20	30	50	40	30

7) What is the relationship between Expenditure and sales of the following data using Karl Pearson's Coefficient of correlation.

Expenditure	39	65	62	90	82	75	25	98	36	78
Sales	47	53	58	86	62	68	60	91	51	84

OR

8) How can you identify the regression line of X on Y and Y on X of aptitude test scores and productivity indices of 10 randomly selected workers?

Aptitude scores(X)	60	62	65	70	72	48	53	73	65	82
Productivity Index(Y)	68	60	62	80	85	40	52	62	60	81

9) How would you compile the Trend values by the method of Least-squares from the data given below and predict the sales for the year 2014.

Year	2004	2005	2006	2007	2008	2009	2010	2011
Sales (in tons)	80	90	92	83	94	99	92	104

OR

10) Prepare a Histogram and Frequency polygon for the following data

Variable	100-110	110-120	120-130	130-140	140-150	150-160	160-170
Frequency	11	28	36	49	33	20	8

SECTION- B**II. Answer any five of the following****(5 x 2 = 10 M)**

11) List out the differences between Census vs. sampling

12) What are the Advantages of mean?

13) What are the values of the upper and lower quartiles for the following data

Marks	10	20	30	40	50	60
No. of students	8	15	22	20	10	5

14) Correlation and Regression. Distinguish

15) What are the uses of Time-series Analysis?

16) What is the relation between the Experiment and the Survey?

17) How would you differentiate between a Diagram and a Graph?