Business Statistics

Offered to: B.Com General/CA/BFSI   **Course Code: 22COMT32**

Course Type: Core (Theory)

Year of Introduction: 2021-22   **Year of Revision:**   **Percentage of Revision:**

Semester: III   **Credits : 4**

Hours Taught: 75 hrs. Per Semester   **Max. Time** : 3 Hours

Course Prerequisites (if any): Intermediate level

After completing this programme the students will be able to –
Objective: 1. The objective of this course is to impact knowledge on the application of statistical tool and techniques in business decision making.
2. Students will be able to understand basic theoretical and applied principles of statistics.
3. Students will gain proficiency in using statistical for data analysis.

CO-1 Students will be able to understand the basic knowledge and characteristics of business statistics. **PO5, PO7**
CO-2 Determine the value of the mean, the median, and the mode of ungrouped data. **PO5, PO7**
CO-3 Explains the disparity of data from one another delivering a precise view of the distribution of data. **PO5, PO7**
CO-4 Design, Evaluate and apply regression analysis. **PO5, PO7**
CO-5 Students will able to understand interpret indexes to identify trends in a data set. And what the trend, seasonality, cyclical irregularity in time series. **PO5, PO7**

Unit	Learning Units	Lecture Hours
I	**Introduction to Statistics:** Definition, Importance and limitation of statistics, Collection of data, Schedule and questionnaire, Frequency distribution, Tabulation	12
II	**Measures of Central Tendency:** Characteristics of measures of central tendency, Types of Averages, Arithmetic Mean, Geometric Mean, Harmonic Mean, Median, Mode	18
III	**Measures of dispersion and Skewness:** Properties of dispersion, Range, Quartile Deviation, Mean deviation, Standard deviation, Coefficient of Variation, Skewness Definition, Karl Pearson's and Bowley's Measures Of skewness	15

IV	**Measures of Relation:** Meaning and use of correlation, Types of correlation, Karl Pearson's correlation coefficient, Probable Error, Spearman's Rank correlation, Regression analysis comparison between correlation and Regression, Regression Equations	15
V	**Analysis of Time Series & Index Numbers** Meaning and utility of time series, Components of Time series, Measurement of trend and Seasonal Variations, Techniques of Time series analysis, Methods of averages(Semi , Moving averages), Least square method, Index Numbers, Methods of Construction of Index numbers, Price index numbers, Limitations of index numbers.	15

Text Book
1) Business Statistics –S.Chand

Reference Books:
1) Business Statistics – S. L Agarwal , S. L Bhrdwaj, K. Raghuveer – Kalyani publishers
2) Business Statistics And Operations Research – Dr. S.P .Gupta, P.K. Gupta, Dr.Manmohan – S. Chand

Suggested Co-Curricular Activities:
1. Power point presentations
2. Role play
3. Seminar
4. Problem Solving Exercises
5. Quiz using Google forms

MODEL QUESTION PAPER

Commerce	II B.Com (Gen, CA)	Semester-III		COMT32

Business Statistics

Time: 3Hrs   Max.Marks:75

Section – A

Answer any FIVE of the following   **5 x 5 = 25 Marks**
1. Mention four important functions of statistics.**CO1,L1**
2. What are different kinds of classifications?**CO1,L1**
3. What are different types of averages?**CO2,L1**
4. Define standard deviation and its coefficient.**CO3,L1**
5. Explain different types of correlation.**CO4,L2**
6. State seasonal variations and explain any three uses?**CO5,L3**
7. What are the different types of price index numbers?**CO5,L1**
8. What are the methods of construction of index numbers?**CO5,L1**

Section – B

Answer All the questions   **5 x 10 = 50 Marks**
9. (a) Contrast between primary and secondary data. **CO1,L2**

    OR

    (b) What is a questionnaire? Discuss the precautions to be taken while preparing a questionnaire.**CO1,L1**

10. (a) What is an average? What are characteristics of a good average?**CO2, L1**

    OR

    (b) Calculate a Mean and Mode from the data given below:**CO2,L3**

Wages	10 – 15	15 – 20	20 – 25	25 – 30	30 – 35	35 – 40	40 – 45	45 – 50
No. of Workers	22	45	67	73	85	90	64	55

11. (a) What are the objects or uses of Dispersion?**CO3,L1**

    OR

    (b) Compute, S.D and Co – efficient of variation for given data**CO3,L3**

x	0 – 10	10 – 20	20 – 30	30 – 40	40 – 50
f	5	15	30	65	80

12. (a) Distinguish between correlation and regression analysis.**CO4,L4**

    OR

    (b) The following are the ranks assigned by 2 judges A & B to 12 contestants in cooking competition. Find out what agreement the judges had in judgment.**CO4,L4**

S. No	A	B	C	D	E	F	G	H	I	J	K	L
A	1	9	2	10	3	11	8	4	12	9	5	6
B	2	9	1	7	4	10	8	3	12	6	5	11

13. (a) What do you mean by an index numbers? Explain its uses and limitations. **CO5,L1**

    OR

    (b) Following are the data of production of computers in a factory. Fit a straight line trend.**CO5,L4**

Year	2000	2001	2002	2003	2004
Production (in Lakhs)	4	6	9	10	11