B.Sc/B.A.	Semester – IV	Credits: 4
Course:5	Statistical Methods for Economics	Hrs/Wk: 5

Learning Outcomes For The Course

At the end of the course, the student is expected to demonstrate the following cognitive abilities and psychomotor skills.

1. Remembers and states in a systematic way(Knowledge)
   a. the definitions, terms and their meaning relating to statistical methods
   b. various formulae used to measure central tendency, correlation regression and Indices
2. Explains(understanding)
   a. Importance of statistics and its applications
   b. The method of classification of primary data
   c. Uses of Correlation and Regression analysis, time series and index numbers in economic analysis
3. Analyses and solves using given data and information (analysis and evaluation)
   a. different kinds of statistical problems using various principles and formulae relating to central tendency, correlation, regression, time series and indices
   b. to interpret data and suggest solutions to economic problems
4. Draws critical diagrams and graphs.
   a. Histogram, Frequency Polygon and Frequency Curve

b. More than cumulative and less than cumulative frequency curves (Ogive)

   c. Different types of Bar diagrams
   d. Pie Diagram and its uses in economic analysis

UNIT I:

Nature and Definition of Statistics: Introduction to Statistics – Definition, scope, importance and limitations of Statistics – Primary and Secondary data- Census and Sampling techniques and their merits and demerits.

UNIT III:

Diagrammatic Analysis: Collection of data - Schedule and questionnaire – Frequency distribution – Tabulation – diagram and graphic presentation of data – Histogram, Frequency Polygon, Cumulative Frequency Curves - Bar Diagrams and Pie Diagram.

UNIT IV:

Measures of Central Tendency and Dispersion: Measures of Central Tendency and Dispersion - Types of averages- Arithmetic Mean, Geometric Mean, Harmonic Mean – Median – Mode – Dispersion - Range, Quartile Deviation, Mean Deviation, Standard Deviation- Coefficient of Variation. **Correlation and Regression:** Correlation and Regression - Meaning, Definition and uses of Correlation- Types of Correlation- Karl Pearson's Correlation coefficient - Spearman's Rank Correlation- Regression Equations - utility of regression analysis – Demand forecasting.

UNIT V:

Time Series and Index Numbers: Time Series and Index Numbers: Definition and components of Time Series – Measurement of Time Series – Moving Average and the Least Squares Method – Index Numbers - Concepts of Price and Quantity Relatives – Laspeyer's, Paasche's and Fisher's Ideal Index Numbers – Uses and Limitations of IndexNumbers.

REFERENCE BOOKS:

1. B. R. Bhat, T. Srivenkataramana and K.S. MadhavaRao (1996): ***Statistics: A Beginner's Text***, Vol. I, New Age International (P)Ltd.
2. Goon A.M, Gupta M.K., Das Gupta B. (1991), ***Fundamentals of Statistics,*** Vol. I, World Press,Calcutta.
3. M. R. Spiegel (1989): ***Schaum's Outline of Theory and Problems in Statistics,***Schaum's OutlineSeries.
4. F.E.Croxton,D.J.CowdenandS.KelinS(1973),***AppliedGeneralStatistics,*** Prentice Hall of India. 2.
5. S.P. Gupta, ***Statistical Methods*** , S. Chand & Co,1985
6. S. C. Guptha, ***Fundamentals of Statistics***, Himalaya Publishing House,Hyderabad.
7. Digambar Patri and D. N. Patri, ***Statistical Methods for Economics,*** Kalyani Publishers, Ludhiana, 2017.
8. Telugu Akademy Book, ParimanathmakaPaddathulu (ForB.A.).

Recommended Co-curricular Activities:

1. Assignments of the application of various statisticalmethods
2. Student Seminar on themes requiring usage of tables, diagrams, statistical analysis andinterpretation
3. `Group project work for collection of data on locally relevant economicproblems
4. Market survey on demand, supply, sales, prices of different kinds of projects like food items, FMCG, other consumable durables etc., etc., and Statistical Analysis- Mini Project and also income elasticity of demand for suchproducts

[21-BA422-B/21-BS426-B]
AT THE END OF FOURTH SEMESTER-
(CBCS PATTERN)
DEGREE EXAMINATIONS
ECONOMICS-IV(B)-STATISTICAL METHODS FOR ECONOMICS
UG PROGRAM (4 YEARS HONORS)
(W.e.f. Admitted Batch 2020-21)
(COMMON FOR B.A, B.Sc.)

Time: 3 Hours **Maximum: 75 Marks**

SECTION-A
విభాగము -ఎ

I. Answer any Five questions. **(5×5=25)**

ఏవైనా ఐదు ప్రశ్నలకు సమాధానములు వ్రాయండి.

1. Primary data.
   ప్రాథమిక దత్తాంశము.
2. Census.
   జనాభా గణన పద్ధతి.
3. Pie diagram.
   'పై' చిత్ర పటము.
4. Schedule.
   షెడ్యూల్.
5. Geometric mean.
   గుణ మధ్యమము.
6. Geometric mean.
   వ్యాప్తి.
7. Uses of Index numbers.
   సూచీ సంఖ్యల ఉపయోగాలు
8. Regression
   ప్రతి గమనం.

SECTION-B
విభాగము - బి

II. Answer ALL the questions. **(5×10=50)**

అన్ని ప్రశ్నలకు సమాధానములు వ్రాయండి.

9. a) Define statistics? Explain the scope and importance of statistics?
   గణాంకశాస్త్రము నిర్వచించి గణాంకశాస్త్రం యొక్క పరిధి ప్రాముఖ్యత వివరింపుము?

   (OR/లేదా)

   b)What is sampling? Explain the merits and demerits of sampling?
   ప్రతిచయన పద్ధతి అనగానేమి? దాని గుణం దోషాలను వివరింపుము?
10. a)What is questionnaire? What are the good qualities of questionnaire?
    ప్రశ్నావళి అనగానేమి? మంచి ప్రశ్నావళి లక్షణాలు ఏఏమిటి?

    (OR/లేదా)

    b). Draw a percentage bar diagramme from the following data?
    క్రింది దత్తాంశము నుండి శాతం బార్ రేఖా చిత్రాన్ని గియండి?

Expenditure On Cycles	Raw Material	Wages	Direct Expenditure	Office Expenditure	Total
2018	300	100	25	30	455
2022	350	150	50	40	590

11. a) What are the measures of Central tendency. Explain good qualities of average?
కేంద్రస్థాన కొలతలు అనగానేమి? సగటు యొక్క మంచి లక్షణాలను వివరించండి. .

(OR/లేదా)

b). Compute standard deviation from the following data?
క్రింది దత్తాంశము నుండి ప్రామాణిక విచలనాన్ని గణించండి?

CI	0-10	10-20	20-30	30-40	40-50	50-60	60-70
F	3	5	8	12	7	5	2

12. a) Compute Coefficient of correlation from the given data?
ఇచ్చిన డేటా నుండి సహసంబంధ గుణకాన్ని గణించండి?

X	2	4	5	6	8	11
Y	18	12	10	8	7	5

b). Define regression? Explain the uses of regression?
ప్రతి గమనం నిర్వచించి, ప్రతిగమనం యొక్క ఉ పయోగాలను వివరించండి?

13. a)Define Time series? Explain how the time series are measured?
కాలశ్రేణి అనగానేమి కాల శ్రేణి ఎలా కొలుస్తారో వివరించండి?

(OR/లేదా)

b).Compute Fisher's quality Index number from the following data? Prove that it is an idle index number.
ఈ క్రింది దత్తాంశము నుండి ఫిషర్ నాణ్యత సూచికను లెక్కించండి? ఇది ఆదర్శ సూచి అని నిరూపించండి?

Items వస్తువులు	2010 Year		2020 Year	
	Price ధర	Quantity పరిమాణం	Price ధర	Quantity పరిమాణం
A	2	8	4	6
B	5	10	6	5
C	4	14	5	10
D	2	19	2	13

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