

Course Code	Course Name	Credits
26ED014	BASICS OF EDUCATIONAL STATISTICS	04

Course Objectives

The course aims to,

- ✓ Develop an understanding of the meaning, nature and importance of statistics in education
- ✓ Develop the ability to organize, summarize and interpret educational data
- ✓ Familiarize learners with statistical techniques such as measures of central tendency and variability
- ✓ Help students understand relationships between variables using correlation
- ✓ Develop skills in graphical representation for effective communication of data

Learning Outcomes

After the completion of the course, the Learner will be able to,

- ❖ Explain the meaning and sources of statistics and its utility in the field of education
- ❖ Calculate and interpret measures of central tendency
- ❖ Analyze variability in data using quartile deviation and standard deviation
- ❖ Construct and interpret graphical representations
- ❖ Plan and carry out basic statistical methods for decision making in educational contexts

Unit 1 - Introduction to Educational Statistics (12 hours)

Meaning and Definition of Statistics - Nature and Scope of Educational Statistics - Sources of Educational data and Use of Educational Statistics - Need and Importance of Educational Statistics - Aims and Functions of Statistics in Education

Unit 2 – Measures of Central Tendency (12 hours)

Meaning and Definition - Significance of Measures of Central Tendencies - Characteristics of Central Tendencies - Mean -Median - Mode - Comparison and Uses.

Unit 3 - Measures of variability (12 hours)

Concept of Measures of Variability - Need and Importance in Educational Statistics - Range, Quartile Deviations - Standard Deviation; Direct method, Assumed Mean Method and Step Deviation Method.

Unit 4 – Coefficient of Correlation (12 hours)

Meaning and Definition of Correlation - Types of Coefficient of Correlation - Karl Pearson's Coefficient of Correlation, Spearman's Rank Correlation – Limitation of Correlation

Unit 5 - Organization and Presentation of Data (12 hours)

Meaning of Graphical Representation of Data, advantages of Graphical Representation of Data, Basic Principle of Constructing a Graph, Different Types of Graph: Pie Diagram, Histogram and Polygon

Reference Books:

1. Binod, K. Sahu- Statistics in Psychology and Education, New Delhi – Kalyani Publishers
2. Garrett, H.E. Statistics in Psychology and Education, Bombay. Vikis, Feiffer and Semen's Ltd. 19198
3. Kothari C.R. 2005. Research Methodology
4. Lal and Joshi. Educational Measurement Evaluation and Statistics (2009 edition).
5. Mangal S.K. Statistics in Psychology and Education. PHI Learning Private Limited, Delhi-1100

Alignment with NEP – 2020

The course **Basics of Educational Statistics (26ED014)** is designed in alignment with the transformative vision of the National Education Policy 2020, which emphasizes holistic, multidisciplinary, skill-based, and research-driven education.

1. Promotes foundational literacy in data and numeracy, a key focus of NEP 2020
2. Develops quantitative reasoning skills, essential for 21st century learning. It supports competency based evaluation rather than rote learning
3. Encourages understanding of individual differences among learners which is a major NEP 2020 focus. It supports inclusive education by analyzing diversity in learning outcomes
4. Enhances research aptitude and inquiry based learning. Students develop skills to analyze relationships between educational variables
5. Promotes data visualization and digital literacy important in modern education. Students can present and interpret data visually for better understanding and decision making.

COs and Bloom's Taxonomy Level (BTL) Mapping for 26ED014

Course Outcomes	On successful completion of the course, the students will be able to	BTL
CO1	Explain the meaning and sources of statistics and its utility in the field of education	K1 & K 2
CO2	Apply and interpret measures of central tendency	K 3
CO3	Analyze variability in data using quartile deviation and standard deviation	K 4
CO4	Evaluate and interpret graphical representations	K 5
CO5	Create and carry out basic statistical methods for decision making in educational contexts	K 6

Bloom's Taxonomy Level (BTL):- K1 and K2 – remembering and understanding, K3 - Applying, K4 – Analyse, K5 - Evaluate and K6- Create

Relationship Matrix

Course Outcomes	Programme Outcomes (POs)								Programme Specific Outcomes (PSOs)							Mean Score of COs
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6	PSO7	
CO1	3	2	2	2	1	1	1	1	3	2	2	1	1	1	1	1.6
CO2	3	3	2	1	1	1	2	1	3	3	2	1	2	2	1	1.9
CO3	3	3	2	2	2	2	2	2	3	2	2	1	1	2	1	2.0
CO4	2	2	2	2	3	2	3	2	3	3	2	2	2	2	1	2.2
CO5	3	3	3	2	2	2	3	2	2	2	2	1	3	3	1	2.3
Total																2.0

Mean Score: 3- High, 2- Medium/Moderate, 1-Low