CHOICE BASED CREDIT SYSTEM SCHEME AT UNDER-GRADUATE LEVEL

(SUMMERISED COURSE TITLES WITH CREDIT WEIGHTAGE OF STATISTICS AS A DISCIPLINE (SUBJECT) FOR B.A/B.SC (GENERAL) PROGRAMME.

PROGRAMME: BACHELOR OF ARTS / SCIENCE (GENERAL)   **SUBJECT: STATISTICS**

CORE (DSC) AND DISCIPLINE SPECIFIC ELECTIVE COURSES (DSE):

SEMESTER	COURSE CODE	TYPES OF COURSE	TITLE OF COURSE	CREDITS		
				THEORY	PRACTICAL 2 or 0	TUTORIAL 0 or 2
I	ST120C	DSC-1 (6 Credits)	STATISTICS: DESCRIPTIVE STATISTICS	4	2	0
II	ST220C	DSC-2 (6 Credits)	STATISTICS: PROBABILITY THEORY AND PROBABILITY DISTRIBUTIONS	4	2	0
III	ST320C	DSC-3 (6 Credits)	STATISTICS: LARGE SAMPLE TESTS AND SAMPLING DISTRIBUTIONS	4	2	0
IV	ST420C	DSC-4 (6 Credits)	STATISTICS: SAMPLING THEORY	4	2	0
VA OR VB	ST520DA	DSE (6 Credits)	STATISTICS: OPERATIONS RESEARCH	4	2	0
	ST520DB	DSE (6 Credits)	STATISTICS: DESIGN OF EXPERIMENTS	4	2	0
VIA OR VIB	ST620DA	DSE (6 Credits)	STATISTICS: STATISTICAL INFERENCE AND INDUSTRIAL STATISTICS	4	2	0
	ST620DB	DSE (6 Credits)	STATISTICS: APPLIED STATISTICS	4	2	0

GENERIC ELECTIVE COURSES (GE): 6 Credits: *For B. A. (General) Students in 5th & 6th Semesters who have not opted for the Subject as Core from 1st to 4th Semesters*

SEMESTER	COURSE CODE	TYPES OF COURSE	TITLE OF COURSE	CREDITS		
				THEORY 4	PRACTICAL	TUTORIAL
V	ST520G	GE (6 Credits)	STATISTICS: BASIC STATISTICS-I	4	2	0
VI	ST620G	GE (6 Credits)	STATISTICS: BASIC STATISTICS-II	4	2	0

Head of the Department
/ Convenor BOUGS

ST120C: STATISTICS: DESCRIPTIVE STATISTICS

CREDITS: THEORY: 4, PRACTICAL: 2
MAXIMUM MARKS: THEORY: 60; PRACTICAL: 30

THEORY (4 CREDITS)

UNIT- I

Concept of Statistical Population and sample from a population. Types of Data-Primary and secondary data, qualitative and quantitative data. Methods of collecting data. Diagrammatic and graphical representation of data-Bar diagram, Histogram, Frequency polygon and ogives.

UNIT- II

Measures of central tendency or location (Arithmetic mean, median, mode, geometric mean and harmonic mean). Characteristics of a good average. Relationship between various measures of location and their applications. Merits and demerits of these measures. Dispersion: Relative and absolute measures (Range, Quartile Deviation, Mean Deviation and standard Deviation). Coefficient of variation and its applications.

UNIT- III

Skewness, Kurtosis and their measures including those based on quartiles. Moments, relation between central moments in terms of raw moments and vice-versa. Effect of change of scale and origin on moments. Sheppard's correction for grouping errors. Coefficients based on moments (α, β & γ coefficients).

UNIT- IV

Bivariate Data: Concept of correlation and its types. Scatter diagram method and product moment method of studying correlation. Properties of a correlation coefficient (limits of the Pearson correlation coefficient, effect of change of origin and scale).Concept of rank correlation, derivation of Spearman's rank correlation coefficient and its limits.
Principal of least squares and fitting of first-degree polynomial and parabola. Meaning of regression, derivation of two regression lines. Regression coefficients and their properties.

REFERENCES

1. Bhat B.R, Srivenkatramana T and Rao Madhava K.S (1997): Statistics: A Beginner's Text, Vol 1. New Age International (P) Ltd.
2. Croxton F. E, Cowden D.J and Kelin S (1973): Applied General Statistic, Prentice Hall of India.
3. Spiegel, M.R. (1967): Theory & Problems of Statistics, Schaum's Publishing Series
4. S.C Gupta and V.K Kapoor (2007): Fundamentals of Mathematical Statistics.11th edition (reprint) Sultan Chand and sons.
5. S.P.Gupta: Statistical Methods. Sultan Chand and sons.

ADDITIONAL REFERENCES

1. Anderson T.W and Sclove S.L (1978): An introduction to the Statistical Analysis of Data, Houghton Miffin /Co.
2. Cooke, Cramer and Clarke (1996): Basic Statistical Computing, Chapman and Hall.
3. Mood A.M. Graybill F.A and Boes D.C. (1974): Introduction to the Theory of Statistics. McGraw Hill.

1. Diagrammatic and graphical representation of data.

2. Computation of arithmetic mean discrete and continuous data.

3. Computation of median for discrete and continuous data.

4. Computation of mode, for discrete and continuous data.

5. Computation of geometric mean for discrete and continuous data.

6. Computation of harmonic mean for discrete and continuous data.

7. Computation of range, for discrete and continuous data.

8. Computation of mean deviation for discrete and continuous data.

9. Computation of quartile deviation   for discrete and continuous data.

10. Computation of standard deviation for discrete and continuous data.

11. Computation of coefficient of variation for discrete and continuous data

12. Computation of measures of skewness and kurtosis.

13. Computation of Karl Pearson's correlation coefficient.

14. Computation of Spearman's rank correlation coefficient.

15. Computation of two regression lines.