Integrated B. Sc. – M. Sc. in Applied Statistics (Faculty of Science)
(B. Sc.) (Applied Statistics) First year Semester (I)

Course Code	IS01CAST51	Title of the Course	DESCRIPTIVE STATISTICS FOR UNIVARIATE DATA I
Total Credits of the Course	02	Hours per Week	02

Course Objectives:	1. To understand the types of data in scientific fields 2. To summarize and derive tangible information contained in the scientific data

Course Content		
Unit	Description	Weightage* (%)
I	Introduction of Statistics: Definition and scope in Sciences, Concepts of statistical population and sample. Scientific Data: quantitative and qualitative, attributes, variables. Data types: scales of measurements- nominal, ordinal, interval and ratio. Presentation: tabular and graphical. Measures of central tendency: mean, median, mode, G.M., H.M., quantiles (positional) for raw (ungrouped) and classified (tabulated /grouped) scientific data. Measures of dispersion: range, Q.D., M.D., variance, S.D. and C.V. for raw (ungrouped) and classified (tabulated /grouped) scientific data.	60
II	Moments: concept, raw, central, factorial. Measures shape recognition: measures of skewness concept, and Bowley's and Pearson's formula, measure of kurtosis concept and its relevance to all other three measures. Box-and-Whisker plot.	40

Teaching-Learning Methodology	Interactive Class Lectures, ICT Tools, hand on experience in problem solving through practical sessions.

Evaluation Pattern		
Sr. No.	Details of the Evaluation	Weightage
1.	Internal Written / Practical Examination	15%
2.	Internal Continuous Assessment in the form of Practical, Viva-voce, Quizzes, Attendance	15%
3.	University Examination	70%

Course Outcomes: Having completed this course, the learner will be able to	
1.	Present original data in tabular, diagrammatical and graphical form based on the data types
2.	Quantify the measures of central tendency (location), dispersion (spread), skewness and kurtosis (shape related) and relate them with data
3.	Calculate quantiles and relate it with different characteristics of data

Suggested Text Books/ References:	
Sr. No.	Text Books
1.	B. L. Agarwal (2003). Programmed STATISTICS (Questions – Answers). New Age International Publishers. Chap. 1-5.
2.	D. Bhattacharya and S. Roychowdhury (2019 reprint).STATISTICS, Theory and Practice, 3rd Ed., U.N. Dhur & Sons Pvt. Ltd., Kolkata. Chap. 1-7.
3.	D. freedman, R. Pisani, R. Purves (2017 reprint). Statistics, 4th Ed., Viva Books, Kolkata. Chap 3-4.
4.	Goon, A.M., Gupta, M. K. and Dasgupta, B. (2002). Fundamental of Statistics, Vol. I, 8th Ed., The World Press, Kolkata. Chap. 4-9.
	Reference Books
5.	Bilal, M. A. And Richard, H. M. (2015). Probability, Statistics, and reliability for

	Engineers and Scientists, 3rd Ed. Special Indian Ed., (Chapter 1 & 2), CRC Press.
6.	J. McClave and T. Sincich (2018). Statistics, 13th Ed., Pearson, NY. Chap. 1-2.
7.	Pandian, C.R and Murali, K.S.K. (2015). Simple Statistical Methods for software Engineering: Data and patterns, (Section I) CRC Press. Chap. 1-4.

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