Annexure – 40

Basics of Statistics-I
B-STAT-102
Semester-I

Total Credit: 2	External Theory Marks:	35
L-P-T	Internal Assessment Marks:	15
2-0-0	Time Allowed:	1.30 hrs.

Course Outcomes:

CO_1: Gain knowledge of the concepts of basics of statistics, methods for data collection, discrete and continuous data.
CO_2: Introduction of graph and Measure of Central tendency.

Unit-I

Statistics: Concept, need, Importance, applications; Collection of data: types, methods, classification and tabulation of data, Quantitative and Qualitative Attributes, Scale of measurement: Nominal, Ordinal, Interval and Ratio. Presentation: Tabular and Graphical including histogram and ogives. Frequency, Stem and Leaf display, Frequency distribution, data grouping: Discrete and continuous.

Unit-II

Introduction to Graphs, Graph for qualitative variables, Graph for quantitative variables, various types of graphs and diagram. Measure of Central tendency: Mean, Median, Mode, harmonic mean and geometric mean, measure of dispersion: range, inter-quartile range, quartile deviation, mean deviation, standard deviation, coefficient of variation.

Instructions for External Theory Paper Setter/Examiner:

The examiner will set 5 questions asking two questions of 12 marks from each unit and one compulsory question by taking course outcomes (CO) into consideration. The compulsory question (Question No. 1) will contain 5 parts of 11 marks covering entire syllabus. The examinee will be required to attempt 3 questions, selecting one question from each unit and the compulsory question.

Recommended Readings:

1. S P Gupta, Statistical methods 46th edition. S. Chand & Sons Co. 2021.
2. D.N. Elhance, Veena Elhance and B.M. Aggarwal. Fundamental of Statistics, New Revised edition, Kitab Mahal, 2018
3. R.P. Hooda, Statistics for Business and Economics, 5th edition Macmillan India ltd., New Delhi 2013.
4. Gupta, S.C. and Kapoor, V.K. (2020): Fundamentals of Mathematical statistics, Sultan Chand and sons, New Delhi.

Basics of Statistics-II
B-STAT-202
Semester-II

Total Credit: 2	External Theory Marks:	35
L-P-T	Internal Assessment Marks:	15
2-0-0	Time Allowed:	1.30 hrs

Course Outcomes:

CO_1: Introduction of probability theory with types, type of events and laws of probability.
CO_2: Conditional Probability and applications, Discrete and Continuous Random Variables.

Unit-I

Probability: Introduction, Random Experiment, Trial, Sample Space, Events and Algebra of Events, Exhaustive events, Equally Likely events, mutually exclusive and Independent events. Definition of Probability: Classical, Statistical and Axiomatic, Conditional Probability, Laws of Addition and Multiplication, Independent events.

Unit-II

Conditional Probability: Independent events, Theorem of Total probability, Baye's Theorem and its Applications; Random Variables: Discrete and Continuous Random Variables, Probability Mass Function (PMF), Probability Density Function (PDF).

Instructions for External Theory Paper Setter/Examiner:

The examiner will set 5 questions asking two questions of 12 marks from each unit and one compulsory question by taking course outcomes (CO) into consideration. The compulsory question (Question No. 1) will contain 5 parts of 11 marks covering entire syllabus. The examinee will be required to attempt 3 questions, selecting one question from each unit and the compulsory question.

Recommended Readings:

1. Gupta, S.C. and Kapoor, V.K. (2020): Fundamentals of Mathematical Statistics, Sultan Chand and Sons, New Delhi.
2. Rose, S.M. (2016): A First Course in Probability, Pearson Education, India.
3. Gun, A.M., Gupta, M.K. and Dasgupta, B. (2016): Fundamental of Statistics, Vol. I, The World Press Private Limited, Kolkata.
4. Biswas, D. (2016): Probability and Statistics, Vol. I, New Central Book Agency, New Delhi.