(B) Minor Courses to be offered by the Department for Students of other Departments of Science

Sl. No.	Sem	Type of Course	Name of Course	Credits	Marks
1.	I	MIC-1 (T)	Introduction to Statistics (T)	2	100
		MIC-1 (P)	Introduction to Statistics (P)	1	100
2.	II	MIC-2 (T)	Probability Theory and Probability Distribution (T)	2	100
		MIC-2 (P)	Probability Theory and Probability Distribution (P)	1	100
3.	III	MIC-3(T)	Introductory Numerical Analysis & Sampling Distribution (T)	2	100
		MIC-3(P)	Introductory Numerical Analysis & Sampling Distribution (P)	1	100
4.	IV	MIC-4 (T)	Introduction to Statistical Inference (T)	2	100
		MIC-4 (P)	Introduction to Statistical Inference (P)	1	100
5.	V	MIC-5 (T)	Basics of Non Parametric and Sequential Analysis (T)	2	100
		MIC-5 (P)	Basics of Non Parametric and Sequential Analysis (P)	1	100
6.	V	MIC-6(T)	Introduction to Linear Models(T)	2	100
		MIC-6 (P)	Introduction to Linear Models(P)	1	100
7.	VI	MIC-7(T)	Introduction to Design of Experiments (T)	2	100
		MIC-7(P)	Introduction to Design of Experiments (P)	1	100
8.	VI	MIC-8(T)	Basics of Time series Analysis (T)	2	100
		MIC-8(P)	Basics of Time series Analysis (P)	1	100
9.	VII	MIC-9(T)	Introduction to Statistical Quality Control (T)	3	100
		MIC-9(P)	Introduction to Statistical Quality Control (P)	1	100
10.	VIII	MIC-10(T)	Introductory Operations research (T)	3	100
		MIC-10(P)	Introductory Operations research (P)	1	100

Sub Total = 32

Note: The Department may reduce the syllabus of the Minor Courses as per the credit distribution. The Department concerned may also decide practical courses.

(C) Multidisciplinary Courses to be offered

Sl. No.	Sem	Type of Course	Name of Course	Credits	Marks
1.	I	MDC-1	To be selected from the basket	3	100
2.	II	MDC-2	To be selected from the basket	3	100
3.	III	MDC-3	To be selected from the basket	3	100

Sub Total = 09

14/6/23 14/06/23 14.6.23

SEMESTER–I

MIC-1 (T): Introduction to Statistics

Credits: 2 **Full Marks: ESE-70 + CIA-30 = 100**

Course Objective:

- To introduce the basic idea of descriptive statistics including graphical representation
- To introduce the concept of simple linear regression

Course Outcomes:

After the completion of the course, the students will be able to:

- Identify the basic problem in statistics
- Understand the statistical data, graphical presentation,
- Apply various statistical methods to analyze the statistical data,
- Use the Correlation coefficient and Rank Correlation etc.
- Apply simple linear regression analysis.

UNIT I No. of hours: 04

Statistical Methods: Definition and scope of Statistics, concepts of population and sample. Data: quantitative and qualitative, variables, frequency and non frequency. Scales of measurement- nominal, ordinal, Presentation of data: tabular and graphical including histogram, and ogives.

UNIT II No. of hours: 06

Measures of Central Tendency: mathematical and positional. Measures of Dispersion: range, quartile deviation, mean deviation, standard deviation, coefficient of variation. Moments, skewness and kurtosis.

UNIT III No. of hours: 05

Bivariate data: Definition, scatter diagram, Karl Pearson product moment correlation coefficient and its properties, rank correlation.

UNIT IV No. of hours: 05

Simple linear regression, properties of regression coefficients, principle of least square.

SUGGESTED READING:

1. Goon A.M., Gupta M.K. and Dasgupta B. (2002): Fundamentals of Statistics, Vol. I & II, The World Press, Kolkata.
2. Miller, Irwin and Miller, Marylees (2006): John E. Freund's Mathematical Statistics with Applications, Pearson Education, Asia.
3. Mood, A.M. Graybill, F.A. and Boes, D.C. (2007): Introduction to the Theory of Statistics, Tata McGraw-Hill Pub. Co. Ltd.
4. Gupta, S. C. and Kapoor, V. K. (2020): Fundamentals of Mathematical Statistics, S. Chand & Sons, New Delhi.

14.6.23 14/6/23 14/06/23

MIC-1 (P): Introduction to Statistics

Credits: 1 **No. of hours: 10** **Full Marks: ESE-70 + CIA-30 = 100**

Practical Based on Unit 1, 2, 3, and 4 of MIC-1 (T)

14.6.23 14/6/23 14/06/23