

Lecture Plan							
Name of the College: Government College of Arts, Science and Commerce, Sanquelim-Goa							
Name of Faculty: Ms. Alisha Teli			Subject: Mathematics				
Paper code: MAT 112 Elementary Statistics			Program: F.Y.B.Sc.			Division: -	
Academic year: 2025-26			Semester: II			Total Lectures: 60	
Course Objectives: This course is intended to familiarize students with organizing, summarizing, analyzing data, and drawing appropriate conclusions from it. The various tools and techniques are also intended to be used in day-to-day real – world problems.							
Student Learning Outcome: Student will be able to							
1) Interpret data and graphically represent it and calculate measures of central tendencies and variations.							
2) Analyze correlation and regression.							
3) Solve problems in Probability theory.							
4) Understand different data sampling techniques and apply statistical quality control.							
Month	Lecture From	Lecture To	No. of lectures allotted	Topic, Subtopic to be covered	Exercise/ Assignment	ICT Tools	Reference books
December	01/12/2025	06/12/2025	St. Francis Xaviers	Introductory concepts: Definition and scope of Statistics; Concept of population and sample.		Chalk Board	S. C. Gupta: Fundamentals of Statistics, 7 th Edition,

			Feast 03			Himalaya Publishing House, 2018.
	08/12/2025	13/12/2025	04	<b>Types of data:</b> Quantitative; Qualitative; Attributes; Variates., <b>Tabulation of data:</b> Class intervals; Frequency tables	Chalk Board	Statistical Techniques, S.Y.B.Com(sem-III & IV) by Dr. Neena Joshi, S.GChitale, Mrs. Gomathi Venkat, Late Shree S.R.Rege.
	15/12/2025	20/12/2025	Liberation Day 03	<b>Presentation of data:</b> Diagrams and graphs: Bar diagrams and their types; Pie charts; Frequency polygon; Histogram; Ogives. Consistency and independence of data with special reference to attributes. <b>Scales of measurement:</b> Nominal, Ordinal, Interval, Ratio	Chalk Board	S. C. Gupta: Fundamentals of Statistics, 7 th Edition, Himalaya Publishing House, 2018. Statistical Techniques, S.Y.B.Com(sem-III & IV) by Dr. Neena Joshi, S.GChitale, Mrs. Gomathi Venkat, Late Shree S.R.Rege
	22/12/2025	23/12/2025	02	<b>Measures of Central Tendency:</b> Mathematical and Positional – Mean, Median, Mode, Quartiles, Percentiles.	Chalk Board	Statistical Techniques, S.Y.B.Com(sem-III & IV) by Dr. Neena Joshi, S.GChitale, Mrs. Gomathi Venkat, Late Shree S.R.Rege
January	02/01/2026	03/01/2026	02	<b>Measures of Dispersion:</b> Range, Quartile deviation, Standard deviation, Coefficient of variation	Chalk Board	S. C. Gupta: Fundamentals of Statistics, 7 th Edition, Himalaya Publishing House, 2018.

						Statistical Techniques, S.Y.B.Com(sem-III & IV) by Dr. Neena Joshi, S.GChitale, Mrs. Gomathi Venkat, Late Shree S.R.Rege
05/01/2026	10/01/2026	04	Tutorial: 1. Data entry in Excel and basic tools in Excel. 2. Drawing of Frequency tables for raw, grouped, and ungrouped data. 3. Graphical representations using various diagrams. 4. Finding Mean, Median, Mode. 5. Finding Quartiles and Percentiles. 6. Computing measures of dispersion, namely, Range, Quartile deviation, Standard deviation, and Coefficient of variation.	Problem solving	Chalk Board	S. C. Gupta: Fundamentals of Statistics, 7 th Edition, Himalaya Publishing House, 2018. Statistical Techniques, S.Y.B.Com(sem-III & IV) by Dr. Neena Joshi, S.GChitale, Mrs. Gomathi Venkat, Late Shree S.R.Rege
12/01/2026	17/01/2026	04	<b>Bivariate data</b> Definition; Scatter diagram.  Correlation, Coefficient of correlation Correlation.		Chalk Board	S. C. Gupta: Fundamentals of Statistics, 7 th Edition, Himalaya Publishing House, 2018. Statistical Techniques, S.Y.B.Com(sem-III & IV) by Dr. Neena Joshi, S.GChitale, Mrs. Gomathi Venkat, Late Shree S.R.Rege
19/01/2026	24/01/2026	04	Correlation, Coefficient of correlation		Chalk	S. C. Gupta:

				Correlation and Regression: Simple, Partial and Multiple Correlation (3 variables only); Rank correlation; Simple linear regression		Board	Fundamentals of Statistics, 7 th Edition, Himalaya Publishing House, 2018. Statistical Techniques, S.Y.B.Com(sem-III & IV) by Dr. Neena Joshi, S.GChitale, Mrs. Gomathi Venkat, Late Shree S.R.Rege
	26/01/2026	31/01/2026	03 Republic Holiday	Tutorial: 1.Computing and Analyzing the various types of correlation.  2. Finding the Rank correlation.	Problem solving	Chalk Board	S. C. Gupta: Fundamentals of Statistics, 7 th Edition, Himalaya Publishing House, 2018. Statistical Techniques, S.Y.B.Com(sem-III & IV) by Dr. Neena Joshi, S.GChitale, Mrs. Gomathi Venkat, Late Shree S.R.Rege
February	02/02/2026	07/02/2026	04	Tutorial: 1.Computing and Analyzing the various types of correlation.  2. Finding the Rank correlation.  <b>Probability:</b>  Introduction to Probability, Random	Problem solving	Chalk Board	S. C. Gupta: Fundamentals of Statistics, 7 th Edition, Himalaya Publishing House, 2018. Statistical Techniques, S.Y.B.Com(sem-III & IV) by Dr. Neena Joshi, S.GChitale, Mrs. Gomathi Venkat, Late

			experiment, Sample space.			Shree S.R.Rege
	09/02/2026	14/02/2026	04 Events and algebra of events: Mutually exclusive, Exhaustive and Complementary events Definition of Probability: Classical, Axiomatic and Statistical Conditional Probability Addition and Multiplication Theorem of probability		Chalk Board	S. C. Gupta: Fundamentals of Statistics, 7 th Edition, Himalaya Publishing House, 2018. Statistical Techniques, S.Y.B.Com(sem-III & IV) by Dr. Neena Joshi, S.GChitale, Mrs. Gomathi Venkat, Late Shree S.R.Rege
	16/02/2026	21/02/2026	04 Independent Events Theorem of Total Probability		Chalk Board	S. C. Gupta: Fundamentals of Statistics, 7 th Edition, Himalaya Publishing House, 2018.
	23/02/2026	28/02/2026	04 Bayes Theorem and its applications		Chalk Board	S. C. Gupta: Fundamentals of Statistics, 7 th Edition, Himalaya Publishing House, 2018.
March	02/03/2026	07/03/2026	03 Holi Tutorial: 1. Solving problems on the addition and multiplication theorem of probability. 2. Solving problems on conditional	Problem solving	Chalk Board	S. C. Gupta: Fundamentals of Statistics, 7 th Edition, Himalaya Publishing House, 2018.

			probability and total probability. 3. Solving problems on Bayes' theorem.			Statistical Techniques, S.Y.B.Com(sem-III & IV) by Dr. Neena Joshi, S.GChitale, Mrs. Gomathi Venkat, Late Shree S.R.Rege
09/03/2026	14/03/2026	04	<b>Statistical Quality Control:</b> Introduction, Causes of variation in quality, Objective, Advantages and techniques of SQC  <b>Attribute Data:</b> P chart, U chart, C chart		Chalk Board	S. C. Gupta: Fundamentals of Statistics, 7 th Edition, Himalaya Publishing House, 2018. Statistical Techniques, S.Y.B.Com(sem-III & IV) by Dr. Neena Joshi, S.GChitale, Mrs. Gomathi Venkat, Late Shree S.R.Rege
16/03/2026	21/03/2026	03 Gudi Padva / Id-UI Fitr	<b>Numerical Data:</b> X bar chart, R bar chart, S bar chart  <b>Sampling techniques-</b> Various methods of data collection; Census survey and sample survey  <b>Sampling Methods:</b> Simple random sampling, Systematic sampling, Stratified sampling and Clustered sampling.		Chalk Board, Smart board	S. C. Gupta: Fundamentals of Statistics, 7 th Edition, Himalaya Publishing House, 2018. Statistical Techniques, S.Y.B.Com(sem-III & IV) by Dr. Neena Joshi, S.GChitale, Mrs. Gomathi Venkat, Late Shree S.R.Rege
23/03/2026	28/03/2026	03 Ram	<b>Non probability sampling methods:</b>		Chalk Board,	S. C. Gupta: Fundamentals of

			Navami	Convenience sampling, Consecutive sampling, Quota sampling, Purposive or Judgmental sampling, Snowball sampling		Smart board	Statistics, 7 th Edition, Himalaya Publishing House, 2018.
	30/03/2026	31/03/2026	02	Tutorial: 1.Demonstration of quality control using P chart, U chart, C chart. 2. Demonstration of quality control using X bar chart, R bar chart, S bar chart.	Problem solving		S. C. Gupta: Fundamentals of Statistics, 7 th Edition, Himalaya Publishing House, 2018

**\* Assessment Rubrics**

Component	Max Marks
ISA 1	10
ISA 2	10
ISA 3	10
Project	Nil
Semester End Exam	80