## Course specific outcome:

Course	Expected outcome
STSACOR01T	Developed a clear understanding of:
	1. Concepts of statistical population and sample, variables and attributes.
	2. Tabular and graphical representation of data based on variables.
	3. Measures of central tendency, Dispersion, Skewness and Kurtosis
	4. Concept of correlation, various correlation coefficients, principle of least squares for curve
	fitting and regression lines.
STSACOR03T	Familiarity with:
	1. Different approaches to the theory of probability.
	2. Important theorems on probability and their use in solving problem
	3. Concept of random variable and its properties.
	4. Concept of different discrete probability distributions and their uses.
STSACOR05T	Familiarity with:
	1. Two dimentional random variables and their joint, marginal and conditional distribution.
	2. Concept of different continuous standard probability distributions and its uses in real life
	phenomena.
STSACOR06T	Introduction to:
	1. Understand the concept of sampling distributions of statistic and their applications in
	statistical inference.
	2. To understand the process of hypothesis testing and its significance, and to draw
	conclusions using p-value.
STSACOR08T	Developed a clear idea on:
	1. Drawing conclusions about the whole population on the basis of a sample. Statistical
	inference is the process of deducing properties of an underlying probability distribution by
	analysis of data.
	2. Inferential statistical analysis infers properties about a population, this includes testing
	hypotheses and deriving estimates.
STSACOR09T	Developed clear understanding of
	1. Basic concepts of linear models and estimation of linear models.
	2. Gauss Markov Theorem and its use in fitting of these models.
	3. Techniques of analysis of variance and covariance for fixed effect models
STSACOR11T	Developed a clear understanding of:
	1. The fundamental concepts of stochastic processes and tools needed to analyze stochastic
	processes: Markov chains
	2. Concepts of time series analysis, its different components and analysis of different time
	series models: AR, MA and its uses.
STSADSE031	Econometrics deals with the measurement of economic relationships. It is an integration of
	economics, mathematical economics and statistics with an objective to provide numerical
	Values to the parameters of economic relationships.
	After completing this course, students should have developed a clear understanding of:
	1. The fundamental concepts of econometrics.
	2. Specification of the model.
	3. Multiple Linear Regression.
	4. Multicollinearity.
	5. Helefoscedasticity.
	6. Autocorrelation.
STSACOR141	Learning objectives include:
	1. Study of theoretical concepts of Bivariate Normal and Multivariate Normal and
	ividitionilal Distributions along with their properties.
	2. Analyze multivariate data using principal component and discriminant analysis. 3. Non-
	Wallis test atc. and ability to use them indiciously for the testing of given data
STSADSFORT	Familiarity with:
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interpolation, differentiation, integration, the solution of linear and nonlinear equations. 2. Monte Carlo Simulation: uses probability distribution for modelling a stochastic or a random variable. Different probability distributions are used for modelling input variables such as normal, lognormal, uniform, and triangular. From probability distribution of input variable, different paths of outcome are generated.
variable, different paths of outcome are generated.

Course	Expected outcome
STSACOR02T	Developed a clear understanding of:
	1. Concepts of sequence and series of Real numbers.
	2. Vector Spaces
	3. Algebra of Matrices and Determinants of Matrices
	4. Theory of Equations
STSACOR04T	Familiarity with:
	1. Properties of real valued functions
	2. Reimann Integration
	3. Sequence and Series of functions .
	4. Quadratic Forms , Eigenvalues , Eigenvectors
STSACOR07T	Familiarity with:
	1. Simple Random Sampling scheme
	2 Stratified Random Sampling
	3 Systematic Sampling
	4. Ratio and Regression methods of estimation in simple random sampling.
	5. Cluster Sampling
STSACOR10T	Introduction to:
	1. Perspective of Quality control
	2. Control charts for Variable and control charts for Attribute
	3.Acceptance sampling plan for Attributes
STEADSE02T	Developed a clear idea on:
JIJADJLUZI	1 Weak Law of large numbers and their annlications
	2 Standard Error of Statistics and Variance Stabilization
	3 Asymptototic property of estimators : ARE CAN BAN estimators properties of
	MLE.
	4. Chi Square tests of goodness of fit. Chi square test of Association . Chi Square test of
	Homogeneity
	5.Yate's correction in a 2x2 contingency table
STSACOR13T	Developed clear understanding of:
	1. Experimental designs : Role, Historic Perspective ,Terminologies
	2. Basic Designs : CRD, RBD, LSD
	3. Factorial Experiments : concept of 2 <sup>n</sup> factorial experiments : Design and Analysis
	4. Total and partial confounding for 2 <sup>n</sup> (n≤5) factorial experiments
STSADSE04T	Developed a clear understanding of:
	1. Demographic events and processes.
	2. Measurements of Mortality : CDR, SDR, IMR
	3.Measurements of Fertility : CBR,GFR,SFR, TFR,GRR,NRR
	4. Estimation : Population Estimation, Projection and Forecasting