



COURSE CURRICULUM

Course Title: QUANTITATIVE TECHNIQUES

Course Code: TTA 902

Credit Units: 04

L	T	P/S	SW/F W	TOTAL CREDIT UNITS
3	1	-	-	04

Course Objectives:

The objective of the course is to give a conceptual introduction to the field of Statistics (collecting, analyzing, presenting and interpreting data) and its many applications in area of experimental as well as observational research in hospitality and tourism management. The course is application oriented and the mathematical prerequisite is knowledge of algebra.

Pre-requisites: Nil

Student Learning Outcomes:

- Understanding the different types of statistical tool and techniques in research
- Importance of statistics in research

Course Contents/Syllabus:

	Weightage (%)
Module I	20
Descriptors/Topics Introduction Role of Statistics in Research, Designing a plan for data collection, Exploring and Modeling the Data, Data Structures, Univariate, bivariate and multivariate data, Scales of Measurement, Qualitative and Quantitative data, time series and cross sectional data, Computer and Statistical analysis. Grouping and Displaying Data to Convey Meaning: Frequency distributions Dot plot, histogram, ogive, Stem-and-Leaf Display. Cross tabulation, Scatter Diagrams, Trend line.	
Module II	20
Descriptors/Topics Summary Statistics & Corelation: Measures of Central Tendency and Dispersion. Distribution shape, Five-Number Summery, Box Plot. Dispersion: Range, Quartile deviation, Standard Deviation, Variance, Coefficient of Variation.	

Karl Pearson's Coefficient of Correlation, Spearman Rank Correlation, Simple Linear Regression Least Square Method	
Module III	20
Descriptors/Topics Probability & Probability Distributions Basic terminology, three types of probability, probability rules. Probability Distributions, Random variables, Expected value and variance in decision making, Binomial Distribution, Poisson Distribution, Normal Distribution, Normal Approximation of Binomial Probabilities	
Module IV	20
Descriptors/Topics Statistical Inference Sampling and Sampling Distribution, Estimation: Point Estimates, Interval estimation for Mean and Proportion (σ known and σ unknown case), Determining the sample size in estimation. Testing Hypotheses: Developing Null and Alternative Hypothesis, Type I and Type II errors, One Sample Tests for Mean and Proportion, Two Sample Tests for Mean and Proportion and Inferences about population variances. Anova, Chi Squard Test.	
Module V	20
Descriptors/Topics Regression and Time Series Simple Linear Regression Model, Least squares Method, Coefficient of Determination, Model Assumptions, Testing for Significance, Using Regression equation for estimation and prediction, interpreting computer solution, residual analysis. Multiple Regression, Multiple Coefficient of Determination, Model Assumptions, Testing for Significance, Using Estimated Regression Equation for Estimation and Prediction. Logistic Regression. Components of Time Series, Smoothing Methods, Trend-Seasonal Analysis	

Pedagogy for Course Delivery:

- Case study
- PPT

Lab/ Practicals details, if applicable: NA

List of Experiments:

Assessment/ Examination Scheme:

Theory L/T (%)	Lab/Practical/Studio (%)	End Term Examination
100%	-	100%

Theory Assessment (L&T):

Continuous Assessment/Internal Assessment					End Term Examination
Components (Drop down)	Class Test	Assignment	Viva	Attendance	External Exam
Weightage (%)	15	05	05	05	70

- Internal Components includes: Case study/ Presentations/ Fieldwork/ Viva voce
- At least two internal components must be included

Text & References

- Quantitative Techniques , C. R. Kothari, Vikas Publishing House
- A Textbook of Quantitative Techniques, N. P. Bali, P. N. Gupta, C. P. Gandhi, Firewall Media.
- Quantitative Methods:Theory and Applications, J K Sharma, Macmillan Publication House.