

CERTIFICATE COURSE IN R PROGRAMMING

SYLLABUS

DEPARTMENT: DEPARTMENT OF STATISTICS

NAME OF COURSE: CERTIFICATE COURSE IN R PROGRAMMING

COURSE CODE: CCPCC02

TOTAL HOURS: 40

UNIT-I (10 HOURS)

- (i) Introduction to R, R as calculator, Statistical software and a programming language.
- ii) R Preliminaries, getting help, data input methods (direct and importing from other spread sheet applications like Excel)
- iii) Data Accessing and Indexing.
- iv) Graphics in R, built in functions.
- v) Saving Storing and Retrieving work.

UNIT- II (10 HOURS)

- i) Descriptive Statistics: diagrammatic representation of univariate and bivariate data. (box plots, stem & leaf diagrams, bar plots, pie diagram scatter plots).
- ii) measure of central tendency (mean, median and mode), partition values measures of dispersion (range, mean deviation and inter quartile range).
- iii) Summaries of a numerical data, skewness & kurtosis.
- iv) Random sampling with and without replacement.
- v) Correlation and Regression.

UNIT -III (10 HOURS)

- i) Probability distributions: R as a set of statistical tables – cumulative distribution.
- ii) Probability density function, quantile function and simulate from the distribution
- iii) Plotting probability curves for standard distributions.

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UNIT -IV (10 HOURS)

- i) Statistical inference – large and small sample tests.
- ii) Chi-square tests.
- iii) Plot to check normality.
- iv) Anova (one-way and two-way)