COURSE TITLE	**SPSS**
COURSE CODE	**04BB0534**
COURSE CREDITS	**2**

Course Outcomes: After completion of this course, student will be able to:

1. Apply software knowledge to manage data and perform visual and descriptive analyses
2. Analyze data using bivariate and multivariate statistical tools in SPSS software and interpret the results
3. Apply parametric and non-parametric tests to draw meaningful inferences from the data using SPSS software
4. Explain the basic concepts of statistical analysis and the purpose of using SPSS in data-driven decision-making.
5. Diagnose data quality issues such as missing values or outliers in datasets and use SPSS tools to clean and prepare data for analysis.

Pre-requisite of course:1. The students must be aware about spreadsheet applications and basic operations of spreadsheets. 2. The students must be aware about basic statistical calculations. 3. The students must be aware about basic concepts of research methodology.

Teaching and Examination Scheme

Theory Hours	Tutorial Hours	Practical Hours	ESE	IA	CSE	Viva	Term Work
2	0	0	0	100	0	0	0

Contents : Unit	Topics	Contact Hours
1	**Creating and Editing a Data file in SPSS:** Introduction to SPSS, S interface, Data view Vs Variable view, Measurement scales (nominal, ordinal, scale),, , Entering data (by variable and by case/record), importing data (from excel/csv),, Editing data (inserting a new variable or case, copy-pasting data), , Graphs and Charts Introduction to Chart Builder, Bar graphs, Line graphs, Pie charts, Box plots, Histograms, Scatterplots, , editing the charts (adding title, changing font, changing axis values etc.), printing the output, Descriptive Statistics Frequencies,, Visual display of frequencies (bar chart, histogram),, Measures of Central Tendency, Measures of Variability, Skewness, and Kurtosis.	7

MR. PARAS CHANDULAL RUGHANI
Digitally signed by (Name of HOD)

DR. SANJEET SINGH
Digitally signed by (Name of Dean/ Principal)

Contents : Unit	Topics	Contact Hours
2	**Managing Data using SPSS:** Case summaries, Replacing missing values, Computing new variables, Recoding variables, Select cases, Sort cases, Merging files (adding cases, adding variables), , Correlation: Product-moment correlation coefficient, linear Vs curvilinear correlation, partial correlation., , Simple Linear Regression: Simple linear regression equation and predicted values, amount of variance explained, testing for a curvilinear relationship., , Multiple Regression Analysis: Multiple regression equation, Different methods of entering independent variables, (Enter, Stepwise, Remove, Forward, Backward), , R squared and variance explained, Residual plot, Predicted values.	12
3	**Inferential Statistics using SPSS:** Parametric tests: One sample t-test, independent-samples t-test, Paired-samples t test., One-way ANOVA and post-hoc analysis, , non-parametric tests: Chi-square test for independence of attributes,, Chi-square test for goodness of fit, independent samples: Mann-Whitney U test, , Multiple Independent-samples: Kruskal– Wallis Test, Paired-samples: Wilcoxon Signed-rank test	11
Total Hours		**30**

Textbook :

1 IBM SPSS Statistics 26 Step by Step: A Simple Guide and Reference, , Darren George and Paul Mallery, Routledge (Taylor and Francis), , 2022

2 SPSS Data Analysis for Univariate, Bivariate, and Multivariate Statistics, Daniel J. Denis, John Wiley & Sons, , 2019

References:

1 Using IBM SPSS Statistics: An Interactive Hands-on Approach, Using IBM SPSS Statistics: An Interactive Hands-on Approach, , Using IBM SPSS Statistics: An Interactive Hands-on Approach, Using IBM SPSS Statistics: An Interactive Hands-on Approach, , James O Aldrich and James B Cunningham, Sage Publications, Inc., , 2016

Suggested Theory Distribution:

The suggested theory distribution as per Bloom's taxonomy is as follows. This distribution serves as guidelines for teachers and students to achieve effective teaching-learning process

Distribution of Theory for course delivery and evaluation

Remember / Knowledge	Understand	Apply	Analyze	Evaluate	Higher order Thinking / Creative
0.00	0.00	35.00	35.00	30.00	0.00

MR. PARAS CHANDULAL RUGHANI
Digitally signed by (Name of HOD)

DR. SANJEET SINGH
Digitally signed by (Name of Dean/ Principal)

Instructional Method:

1 THEORY

Supplementary Resources:

1 https://www.ibm.com/spss

MR. PARAS CHANDULAL RUGHANI

Digitally signed by (Name of HOD)

DR. SANJEET SINGH

Digitally signed by (Name of Dean/ Principal)