PROGRAM	**Master of Business Administration**
SEMESTER	**II**
COURSE TITLE	**SPSS**
COURSE CODE	**04MB0215**
COURSE CREDITS	**2**
COURSE DURATION	**28 (28 Sessions of 60 minutes each)**

COURSE OUTCOMES:

- Apply software knowledge to manage data and perform visual and descriptive analyses
- Analyze data using bivariate and multivariate statistical tools in SPSS software and interpret the results
- Apply parametric and non-parametric tests to draw meaningful inferences from the data using SPSS software

COURSE CONTENTS:

Unit No	Unit / Sub Unit	Sessions
I	**Creating and Editing a Data file in SPSS** Introduction to SPSS 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, Kurtosis.	8
II	**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.	10

III	**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,	10

	Independent samples: Mann-Whitney U test, Multiple Independent-samples: Kruskal–Wallis Test, Paired-samples: Wilcoxon Signed-rank test.	
	Practical: 1. Exercise on data entry, data import, creating and saving a data file in SPSS. 2. Exercise on data visualization for categorical data- Bar graphs, Line graphs, Pie charts 3. Exercise on data visualization for numerical data- Box plots, Histograms, Scatterplots; editing the charts 4. Exercise on frequencies and descriptive statistics 5. Exercise on Data management and manipulation in SPSS (case summaries, replacing missing values) 6. Exercise on Data management and manipulation in SPSS (Compute, Recode, Select cases) 7. Exercise on Data management and manipulation in SPSS (Sort cases, Merging files: Add cases, Add variables) 8. Computation of correlation coefficient (linear and curvilinear) 9. Fitting of simple linear regression model and prediction 10. Illustration of multiple linear regression using Enter, Stepwise, Remove, Forward, and Backward method of entering independent variables 11. Prediction using multiple linear regression, interpretation of R^2, adjusted R^2 12. One sample t-test 13. Independent-samples t-test 14. Paired-samples t test 15. One-way ANOVA and post-hoc analysis 16. Chi-square test for independence of attributes 17. Chi-square test for goodness of fit 18. Independent samples: Mann-Whitney U test 19. Multiple Independent-samples: Kruskal–Wallis Test 20. Paired-samples: Wilcoxon Signed-rank test	

EVALUATION:

The students will be evaluated on a continuous basis and broadly follow the scheme given below:

	Component	Weightage
A	Continuous Evaluation Component (Assignments / Quizzes /Class Participation etc.) (Practical based)	20% (C.E.C.)
B	Internal Assessment (MCQ)	30% (I.A.)

C	End-Semester Practical Examination	50% (External Assessment) (Practical/Viva)

SUGGESTED READINGS:

Textbooks:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year
T-01	Darren George and Paul Mallery	IBM SPSS Statistics 26 Step by Step: A Simple Guide and Reference	Routledge (Taylor and Francis)	16th edition, 2020
T-02	Daniel J. Denis	SPSS Data Analysis for Univariate, Bivariate, and Multivariate Statistics	John Wiley & Sons	1st, 2019

Reference Books:

Sr. No	Author/s	Name of the Book	Publisher	Edition & Year
R-01	James O Aldrich and James B Cunningham	Using IBM SPSS Statistics: An Interactive Hands-on Approach	Sage Publications, Inc.	2nd, 2016