Semester VI								
Sl. No.	Course Code	Title of the Course	Category of Courses	Teaching Hours/ Week (L + T +	SEE	CIE	Total Marks	Credits
44	COM 6.1	Management Accounting	DSC-18	3+0+2	60	40	100	4
45	COM 6.2	Income Tax Law and Practice-II	DSC-19	3+0+2	60	40	100	4
46	COM 6.3	Fundamentals of Cost Accounting	DSC-20	3+0+2	60	40	100	4
47	COM 6.4	**Marketing Analytics**	DSC-21	3+0+2	60	40	100	3
48	COM 6.5	**Application of Python in Business decisions**	DSC-22	3+0+2	60	40	100	3
49	COM 6.6	**Data Analysis using Tableau**	Vocational-2	3+0+2	60	40	100	4
50	COM 6.7	Internship	**3 Hours per Teacher for a batch of 50 students**	1+0+2		100	100	3
Sub –Total (F)					**360**	**340**	**700**	**25**

Note: The students shall undergo 4 weeks of internship programme in any business organization (Tiny, small, medium or large scale) immediately after completion of the 4th Semester Examination but 45 Days before the end of 6th Semester classes and shall submit internship report to the College. Colleges shall submit internship report marks along with 6th Semester Internal Assessment marks.

- Marks allotted for Internship (100) shall be split into 60 marks for report and 40 marks for Viva-voce. Evaluation of report and conduct of Viva- voce shall be at the institutional level.
- 01 hour of Internship class shall be taken in the classroom for explaining and guiding on internship and 02 hours of Practical class shall be used to monitor the Internship Course.

SEMESTER VI

Name of the Program: Bachelor of Commerce (Data Analytics) Course Code: B.Com. BDA.6.1 Name of the Course: Management Accounting		
Course Credits	**No. of Hours per Week**	**Total No. of Teaching Hours**
4 Credits	**4 Hrs.**	**56 Hrs.**

Pedagogy: Classroom lectures, Case studies, Tutorial Classes, Group discussions, Seminar& fieldwork etc.,

Course Outcomes: On successful completion of the course, the students' will be able to

a) Demonstrate the significance of management accounting in decision making.
b) Analyse and interpret the corporate financial statements by using various techniques.
c) Compare the financial performance of corporates through ratio analysis.
d) Understand the latest provisions in preparing cash flow statement.
e) Understand the concepts of Budgetary Control**.**

Syllabus:	**Hours**
Module No. 1: Introduction to Management Accounting	**10**
Meaning and Definition – Objectives – Nature and Scope– Role of Management Accountant - Relationship between Financial Accounting and Management Accounting - Relationship between Cost Accounting and Management Accounting - Advantages and Limitations of Management Accounting. Management Reporting– Principles of Good Reporting System.	
Module No. 2: Analysis of Financial Statements	**12**
Analysis of Financial Statements: Meaning and Importance of Financial Statement Analysis - Methods of Financial Analysis – Problems on Comparative Statement analysis – Common Size Statement analysis and Trend Analysis.	
Module No. 3: Ratio Analysis	**10**
Meaning and Definition of Ratio and Ratio Analysis – Uses and Limitations of ratios – Classification of Ratios: Turnover ratio - Liquidity ratios - Profitability ratios and Solvency ratios. Problems.	
Module No. 4: Cash flow Analysis	**12**
Meaning and Definition of Cash Flow Statement – Concept of Cash and Cash Equivalents - Uses of Cash Flow Statement – Limitations of Cash Flow Statement– Provisions of Ind. AS-7. Procedure for preparation of Cash Flow Statement – Cash Flow from Operating Activities – Cash Flow from Investing Activities and Cash Flow from Financing Activities – Preparation of Cash Flow Statement according to Ind. AS-7.	
Module No. 5: Budgetary Control	**12**
Introduction – Meaning & Definition of Budget and Budgetary Control – Objectives of Budgetary Control – essential requirements of budgetary control – advantages and disadvantages of budgetary control – Types of budgets- Functional Budgets - Cash budget, sales budget, purchase budget and production budget. Fixed and Flexible budgets - Problems on Flexible budget and Cash budget only.	

Skill Development Activities:

1. Prepare with imaginary figures a Flexible or Cash budget.
2. Prepare with imaginary figures comparative statement and analyse the financial position.
3. Prepare with imaginary figures statements of any one corporate entity, analyse the same by using ratio analysis.
4. Prepare with imaginary figures cash flow statement
5. Prepare a Trend analysis statement for three years with imaginary figures.

Books for Reference:

- Charles T. Horngren, Gary L. Sundem, Dave Burgstahler, Jeff O. Schatzberg, Introductionto Management Accounting, Pearson Education.
- Khan, M.Y. and Jain, P.K. Management Accounting. McGraw Hill Education.
- Arora, M.N. Management Accounting, Vikas Publishing House, New Delhi
- Maheshwari, S.N. and S.N. Mittal, Management Accounting. Shree Mahavir Book Depot,New Delhi.

Name of the Program: Bachelor of Commerce (Data Analytics) Course Code: B.Com. BDA.6.2 Name of the Course: Income Tax Law & Practice – II		
Course Credits	**No. of Hours per Week**	**Total No. of Teaching Hours**
4 Credits	**4 Hrs.**	**56 Hrs.**

Pedagogy: Classroom lectures, Case studies, Tutorial classes, Group discussions, Seminar & field work etc.,

Course Outcomes: On successful completion of the course, the students will be able to

a) Understand the procedure for computation of income from business and other Profession.
b) Understand the provisions for computation of capital gains.
c) Learn to compute the taxable income from other sources.
d) Learn the computation of total income of an Individual.
e) Understand the provisions relating to Set Off and Carry Forward of Losses

Syllabus:	**Hours**
Module No. 1: Profits and Gains of Business and Profession	**16**
Introduction-Meaning and definition of Business, Profession and Vocation. - Expenses Expressly allowed - Expenses Expressly Disallowed - Allowable losses - Expressly disallowed expenses and losses, Expenses allowed on payment basis. Problems on computation of income from business of a sole trading concern - Problems on computation of income from profession: Medical Practitioner - Advocate and Chartered Accountants.	
Module No. 2: Capital Gains	**12**
Introduction - Basis for charge - Capital Assets - Types of capital assets – Transfer - Computation of capital gains – Short term capital gain and Long term capital gain - Exemptions under section 54, 54B, 54EC, 54D and 54F. Problems covering the above sections.	
Module No. 3: Income from other Sources	**10**
Introduction - Incomes taxable under Head income other sources – Securities - Types of Securities - Rules for Grossing up. Ex-interest and cum-interest securities. Bond Washing Transactions - Computation of Income from other Sources.	
Module No. 4: Set Off and Carry Forward of Losses and Deductions from Gross Total Income.	**10**
Meaning- Provisions of Set off and Carry Forward of Losses (Theory only) **Deductions** under Sections 80C, 80CCC, 80CCD, 80CCG, 80D, 80DD, 80DDB, 80E, 80G, 80GG, 80TTA, 80 TTB and 80U as applicable to Individuals.	
Module No. 5: Computation of Total Income and Tax Liability	**08**
Computation of Total Income and tax liability of an Individual assessee under Old Regime.	

Skill Development activities:

1. Mention the procedure involved in the computation of income from profession.
2. List out the different types of capital assets and identify the procedure involved in the computation of tax for the same.
3. List out the steps involved in the computation of income tax from other sources and critically examine the same.
4. List any 6 deductions available under section 80
5. Prepare a format for computation of taxable income and tax liability of an individual assessee

Books for Reference:

- Mehrotra H.C and T.S.Goyal, Direct taxes, Sahithya Bhavan Publication, Agra.
- Vinod K. Singhania, Direct Taxes, Taxman Publication Private Ltd, New Delhi
- Gaur and Narang, Law and practice of Income Tax, Kalyani Publication, Ludhiana.
- Bhagawathi Prasad, Direct Taxes.

Name of the Program: Bachelor of Commerce (Data Analytics) Course Code: B.Com. BDA.6.3 Name of the Course: Cost Accounting		
Course Credits	**No. of Hours per Week**	**Total No. of Teaching Hours**
4 Credits	**4 Hrs.**	**56 Hrs.**

Pedagogy: Classroom lectures, Case studies, Tutorial classes, Group discussions,Seminar & fieldwork etc.,

Course Outcomes: On successful completion of the course, the students will be able to

a) Demonstrate an understanding of the concepts of costing and cost accounting.
b) Classify, allocate apportion overheads and calculate overhead absorption rates.
c) Demonstrate the ability to calculate labour cost.
d) Demonstrate the ability to prepare a cost sheet.
e) Prepare material-related documents, understand the management of stores and issue procedures

Syllabus:	**Hours**
Module No. 1: Introduction to Cost Accounting	**12**
Introduction- Meaning and definition- Objectives, Importance and Uses of Cost Accounting, Difference between Cost Accounting and Financial Accounting; Various Elements of Cost and Classification of Cost; Cost object, Cost unit, Cost Centre; Cost reduction and Cost control. Limitations of Cost Accounting. Cost Sheet - Meaning and Cost heads in a Cost Sheet, Presentation of Cost Information in Cost Sheet. Problems on Cost Sheet, Tenders and Quotations.	
Module No. 2: Material Cost	**12**
Materials: Meaning, Importance and Types of Materials – Direct and Indirect Materials Procurement-Procedure for procurement of materials and documentation involved in materials accounting; Material Storage: Duties of Store keeper; Pricing of material issuesPreparation of Stores Ledger Account under FIFO, LIFO, Simple Average Price and Weighted Average Price Methods – Problems. Materials control. - Technique of Inventory Control - Problems on Level Setting and EOQ.	
Module No. 3: Labour Cost	**8**
Labour Cost: Meaning and Types of labour cost –Attendance procedure-Time keeping and Time booking and Payroll Procedure; Idle Time- Causes and Treatment of Normal and Abnormal Idle time, Over Time-Causes and Treatment (theory only). Labour Turnover: Meaning, Reasons and Effects of labour turnover Methods of Wage Payment: Time rate system and piece rate system; Incentive schemes - Halsey plan, Rowan plan –problems based on calculation of wages and earnings only.(No Cost sheet related problems)	
Module No. 4: Overheads	**14**
Overheads: - Meaning and Classification of Overheads; Accounting and Control of Manufacturing Overheads: Collection, Allocation, Apportionment, Re-apportionment and Absorption of Manufacturing Overheads; Problems on Primary and Secondary overheads distribution using Reciprocal Service Methods (Repeated Distribution Method and Simultaneous Equation Method); Absorption of Overheads: Meaning and Methods of Absorption of Overheads (Concept only); Problems on calculation of Machine Hour Rate.	
Module No. 5: Marginal Costing	**10**
Meaning and Definition – Need for Marginal Costing - Advantages & Limitations. Preparation of Marginal Cost statement. Break–even Analysis: Meaning, Calculation of P/V ratio, Calculation of Break-Even point, Calculation of margin of safety, Preparation of Break-Even Chart.	

Skill Development activities:

1. Mention the causes of labour turnover in manufacturing organisations.
2. Name any five documents used for material accounting
3. Prepare a dummy Payroll with imaginary figures.
4. List out the various overhead items under Factory, administrative, Selling & distribution overheads (six items each).
5. Prepare a cost sheet with imaginary figures.

Books for Reference:

- Jain, S.P. and K.L. Narang. Cost Accounting: Principles and Methods. Kalyani Publishers
- Arora, M.N. Cost Accounting – Principles and Practice, Vikas Publishing House, New Delhi.
- Maheshwari, S.N. and S.N. Mittal. Cost Accounting: Theory and Problems. Shri Mahavir Book Depot, New Delhi.
- Iyengar, S.P. Cost Accounting, Sultan Chand & Sons
- Charles T. Horngren, Srikant M. Datar, Madhav V. Rajan, Cost Accounting: A Managerial Emphasis, Pearson Education.
- Jawahar Lal, Cost Accounting., McGraw Hill Education
- Madegowda J, Cost Accounting, HPH.
- Rajiv Goel, Cost Accounting, International Book House

Name of the Program: Bachelor of Commerce (Data Analytics) Course Code: B.Com. BDA.6.4 Name of the Course: Marketing Analytics		
Course Credits	**No. of Hours per Week**	**Total No. of Teaching Hours**
3 Credits	**4 Hrs.**	**56 Hrs.**

Pedagogy: Classroom lectures, Case studies, Tutorial classes, Group discussions,Seminar & fieldwork etc.,

Course Outcomes: On successful completion of the course, the students' will be able to

1. Concepts of Marketing Analytics
2. How to install R and its libraries
3. Perform the Descriptive statistics using R
4. Apply regression model for prediction
5. Define the application of marketing analytics in marketing

Syllabus:	**Hours**
Module No. 1: INTRODUCTION TO MARKETING ANALYTICS AND DATA MINING	**12**
Introduction to Marketing Analytics, Need of Marketing Analytics, Benefits of Marketing Analytics, Data mining –Definition, Classes of Data mining methods – Grouping methods, Predictive modeling methods, Linking methods to marketing applications. Process model for Data mining – CRISP DM.	
Module No. 2: INTRODUCTION TO R	**8**
About R, Data types and Structures, Data coercion, Data preparation: Merging, Sorting, Splitting, Aggregating, Introduction to R Libraries – How to install and invoke, Introduction to R Graph – Basic R charts – Different types of charts.	
Module No. 3: DESCRIPTIVE ANALYTICS	**12**
Exploratory Data Analysis using summary table and various charts to find the insights, slicing and dicing of the Customer data. Inferential Statistics: T-Test, ANOVA, Chi-Square using marketing data and exploring relationship (Correlation)	
Module No. 4: PREDICTION AND CLASSIFICATION MODELLING USING R	**12**
Introduction to Prediction and Classification modelling, data splitting for training and testing purposes, Prediction modelling: Predicting the sales using Moving Average Model and Regression Model (Simple and Multiple Regression model), Classification modelling: Customer churn using Binary logistic regression and decision tree.	
Module No. 5: APPLICATION OF ANALYTICS IN MARKETING	**12**
Association Rules – Market Basket Analysis for Product Bundling and Promotion, RFM (Recency Frequency Monetary) Analysis, Customer Segmentation using K-Means Cluster Analysis, Key Driver Analysis using Regression Model.	

Skill Development activities:

1. Write the process for Data Mining
2. Write the steps for installing R software and libraries
3. Explain the difference between t-test and ANOVA
4. Write the steps in applying binary logistics regression using R studio
5. Explain the Key Driver Analysis using the Regression Model.

Books for Reference:

- Marketing Analytics: Data-Driven Techniques with Microsoft® Excel® Published by John Wiley & Sons, Inc
- Marketing Data Science, Thomas W. Miller Published by Pearson
- Marketing Metrics, Neil T Bendle, Paul W. Farris, Phillip E. Pfeifer published by Pearson
- Marketing Analytics, Mike Grigsby published by Kogan Page

Name of the Program: Bachelor of Commerce (Data Analytics) Course Code: B.Com. BDA.6.5 NAME OF THE COURSE: Application of Python In Business Decisions		
Course Credits	**No. of Hours per Week**	**Total No. of Teaching Hours**
3 Credits	**4 Hrs.**	**56 Hrs.**

Pedagogy: Classroom lectures, tutorials, Group discussion, Seminar, Case studies& field work etc.,

Course Outcomes: On successful completion of the course,the students will be able to

a) Set up a Python environment, Apply Python syntax rules and structure to write basic programs.
b) Recognize the significance of Python libraries like NumPy and Pandas in data analytics.
c) Interpret visualizations to draw meaningful insights from data.
d) Apply basic statistical techniques to summarize and analyze data.
e) Prepare data, perform feature selection, and build multiple linear regression models.

SYLLABUS:	**HOURS**
Module- 1: Introduction to Python.	**12**

Introduction to Python:
Overview of Python: history, features, and applications. Setting up the Python environment.
Python Basics: Python syntax and structure: statements, comments, indentation**.** Using Python as a calculator: arithmetic operations, variables, and data types.
Data Types and Variables: Understanding data types: integers, floats, strings, Booleans. Declaring and using variables in Python. Type conversion and basic operations.

Module -2: Python for Data Analytics	**12**

Introduction to Python libraries for data analytics (NumPy, Pandas). Loading and manipulating data using Pandas Data Frames. Basic data analysis operations: filtering, sorting, aggregating.

Data Importing and Cleaning: Reading data from various sources: CSV, Excel, and databases. Data cleaning techniques: handling missing values, duplicates, and outliers.

Module. 3: Exploratory Data Analysis (EDA)	**12**

Introduction to EDA and its importance in data analysis. Visualising data distributions, relationships, and patterns. Using Pandas and Matplotlib/Seaborn for EDA. (**Practical sessions to be conducted using Real-time examples)**

Module.4: Basic Statistical Techniques	**12**

Measures of central tendency: mean, median, mode. Measures of dispersion: range, variance, standard deviation. Correlation and covariance. Linear Regression (**Practical sessions to be conducted using Real time examples**).

Module.5: Multiple Linear Regression	**08**

Introduction to Multiple Linear Regression, Moving from SLR to MLR, Recognizing Multicollinearity problems, Reading and understanding the data, Data Preparation, Building Model, Residual Analysis and Prediction, Variable Selection using Recursive Feature Elimination (**Practical sessions to be conducted using Real time examples**)

Skill Development Activities:

Apply Python programming and data analysis skills to analyze a dataset predict the model using Multiple Linear Regression. The steps you should follow are as follows.

(Practical record book to be used)

1.Data Preparation

2. Data Exploration and Cleaning

3.Exploratory Data Analysis

4.Descriptive Statistics

5.Multiple Linear Regression

6.Model Evaluation and Prediction

Books for Reference:

- Gowrishankar S and Veena A - Introduction to Python Programming – CRC Press
- Paul Barry- 'Head-First Python' – 2nd edition
- Zed A. Shaw - 'Learn Python the Hard Way' – 3rd edition
- Dr. R. Nageswara Rao – 'Core Python Programming' 2nd (Kindle Edition)(2018), Dreamtech Press.
- U. Dinesh Kumar Manaranjan Pradhan – ' Machine Learning using Python' (2019), - Wiley
- Yashavant Kanetkar, Adithya Kanetkar 'Let Us Python' (2019) – BPB Publication
- Allen Downey & Jeffrey Elkner – 'Learning with Python' (2015) – Dreamtech Press
- Luca Massaron John Paul Mueller – 'Python for Data Science' (2019) – Dummies

Name of the Program: Bachelor of Commerce (Data Analytics) Course Code: B.Com. BDA.6.6 (Vocational Course) Name of the Course: Data Analysis using Tableau		
Course Credits	**No. of Hours per Week**	**Total No. of Teaching Hours**
4 Credits	**4 Hrs.**	**56Hrs.**

Pedagogy: Classroom lectures, Case studies, Tutorial classes, Group discussions,Seminar & fieldwork etc.,

Course Outcomes: On successful completion of the course, the students will be able to

a) Understand the foundational principles of data visualization.
b) Utilize Tableau's features to connect to various data sources and build visualizations.
c) Construct meaningful dashboards tailored to specific business needs.
d) Implement advanced visualization techniques, calculations, and parameters to extract deeper insights.
e) Share, publish, and apply Tableau skills in real-world data analytics scenarios relevant to commerce.

Syllabus:	**Hours**
Module No. 1: Introduction to Data Visualization and Tableau	**8**
Understanding Data Visualization- Importance and principles of data visualization-Types of visual representations (charts, graphs, dashboards, etc.)- Role of data visualization in data analytics. Introduction to Tableau- History and importance of Tableau in the industry, Tableau Desktop, Tableau Server, and Tableau Public: A brief overview, Installing and setting up Tableau Desktop.	
Module No. 2: Getting Started with Tableau	**12**
Tableau Interface - Overview of the Tableau Desktop interface- Connecting to data sources: spreadsheets, databases, and web data connectors. Basic Visualization Techniques-Drag-and-drop features-Creating basic charts: bar, line, pie, scatter plots, and histograms-Dashboard and story creation basics.	
Module No. 3: Deep Dive into Data Visualization with Tableau	**8**
Advanced Visualization Techniques- Maps and geographical data representation - Heat maps, tree maps, and bubble charts- Dual-axis and combined charts. Working with Filters, Sorting, and Groups - Using filters for insights-Sorting data for better analysis-Creating and using groups and sets.	
Module No. 4: Calculations, Parameters, and Advanced Dashboard Design	**14**
Calculated Fields and Parameters- Creating calculated fields- Aggregations and calculations for deeper insights-Introduction to parameters and their applications. Advanced Dashboard Design-Best practices for dashboard design-Incorporating interactivity: actions, filters, and highlighting-Tooltips, visual grouping, and formatting for better visualization.	
Module No. 5: Sharing, Publishing, and Real-World Applications	**14**
Publishing and Sharing in Tableau-Introduction to Tableau Server and Tableau Public-Sharing dashboards and reports-Best practices for sharing sensitive data. Real-World Applications and Case Studies-Using Tableau in e-commerce- Financial data visualization using Tableau-Analyzing customer feedback and market research data.	

Skill Development activities:

1. Write the Role of data visulazation in analytics
2. Write the different types of charts available in Tableau
3. Write the steps for performing filter and sorting using tableau
4. Write the steps in performing dashboard using tableau
5. Steps in analysing customer feedback and market research data.

Books for Reference:

- "Tableau Your Data! Fast and Easy Visual Analysis with Tableau Software" by Daniel G. Murray
- "Tableau 10 Business Intelligence Cookbook" by Donabel Santos
- Tableau Official Documentation and Tutorials