Name of the Program: BACHELOR OF COMMERCE BDA)
Course Code: B.Com. BDA 5.1
Name of the Course: INTRODUCTION TO PYTHON

COURSE CREDITS	NO. OF HOURSPER WEEK	TOTAL NO. OF TEACHING HOURS
4 CREDITS	4 HOURS	56 HOURS

Pedagogy: Classroom Lecture, Tutorials, Group discussion, Seminar, Case Studies, Field Work etc.

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

a. Understand Python Programming
b. Apply Control Structures and Functions in Business Decision-Making
c. Analyze Data Structures and Their Role in Business Analytics
d. Evaluate File Handling, Exception Handling, and Data Processing
e. Create Data Analytics Models for Commerce and Management

SYLLABUS:	HOURS
Unit 1: Introduction to Python and Google Colab for Business Applications	**10**

Overview of Python for Commerce & Management, Introduction to Google Colab: Features and Benefits, Writing & Running Python Code in Google Colab, Data Types & Type Conversion Relevant to Business (Integers, Floats, Strings), Operators and Expressions with Business Examples (Profit, Loss, ROI Calculation). **[Theory]**

[Lab Session] Navigating Google Colab (Cells, Markdown, Shortcuts), Writing and Executing Python Scripts in Colab, Business Calculations: Profit Margin, Interest Calculation, Discount Percentage

Unit 2: Control Structures and Functions in Business Scenarios	**12**

Conditional Statements (if, elif, else) for Business Decision Making, Looping (for, while) in Data Processing, Functions: Creating User-defined Functions for Business Analytics, Lambda Functions & Built-in Functions for Quick Calculations, Scope and Lifetime of Variables. **[Theory]**

[Lab Session] Implementing Conditional Statements for Loan Approval Criteria, Writing Loops to Process Sales Data, Creating Functions for Business Calculations (EMI, Depreciation, Taxation)

Mini-Project: Retail Price Optimization using Functions

Unit 3: Data Structures and Business Data Processing	**12**

Lists: Storing & Manipulating Financial Transactions, Tuples: Immutable Business Records, Sets: Unique Customer & Product Data, Dictionaries: Key-Value Storage for Business Analytics, String Manipulation & Formatting in Business Reports **[Theory]**

[Lab Sessions] Storing & Analyzing Sales Data in Lists, Using Dictionaries to Store Customer Information, Extracting Business Insights from String Data (Invoice Processing, Product Names)

Mini-Project: Creating an Inventory Management System	
Unit 4: File Handling, Exception Handling, and Business Data Processing	**10**
Working with CSV Files: Reading & Writing Financial Data, Exception Handling (try-except-finally) for Robust Business Applications, Importing Built-in and User-defined Units, Google Colab Integration: Uploading and Processing Business Data **[Theory]** **[Lab Sessions]** Uploading & Reading Sales Data from CSV in Colab, Implementing Exception Handling for Business Applications, writing a Script to Process Payroll Data with File Handling *Mini-Project: Automating Financial Report Generation*	
Unit 5: Introduction to Data Analytics using Python for Commerce	**12**
Introduction to Pandas: DataFrames for Business Analytics, Using NumPy for Financial Calculations, Data Visualization using Matplotlib & Seaborn, Handling Missing Data in Business Datasets (Dropping, Imputation Techniques), Detecting and Treating Outliers (IQR, Z-score, Winsorization), Introduction to AI/ML Applications in Finance & Marketing. **[Theory]** **[Lab Sessions]** Identifying and Treating Missing Data in Sales/Financial Datasets, Detecting and Handling Outliers in Customer Transaction Data, Analyzing Stock Market Data using Pandas, Processing E-commerce Sales Data using DataFrames, Creating Business Dashboards with Matplotlib *Mini-Project: Sales Forecasting using Historical Data*	
Skill Developments Activities: 1. Write a note on the role of operators in business calculations 2. Summarise the importance of structured data storage in financial analysis 3. Explain the uses of PYTHON in fraud detection and risk management. 4. Write a note on data visualization techniques and their role in decision-making.	

Name of the Program: BACHELOR OF COMMERCE BDA)
Course Code: B.Com. BDA 5.2
Name of the Course: MARKETING ANALYTICS

COURSE CREDITS	NO. OF HOURSPER WEEK	TOTAL NO. OF TEACHING HOURS
4 CREDITS	4 HOURS	56 HOURS

Pedagogy: Classroom Lecture, Tutorials, Group discussion, Seminars, Case Studies, Field Work etc.

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

1. Understand the fundamental concepts and applications of Marketing Analytics
2. Demonstrate proficiency in handling and analyzing marketing data using R Programming and BlueSky Statistics
3. Analyze customer behavior and market segmentation using clustering techniques
4. Evaluate the effectiveness of marketing campaigns using A/B Testing, Sentiment Analysis, and Marketing Mix Modeling
5. Develop data-driven marketing recommendations by applying machine learning techniques

SYLLABUS:	HOURS
Unit 1: Introduction to Marketing Analytics & Data Handling	**10**

Role & Importance of Marketing Analytics, Types of Marketing Analytics – Descriptive, Diagnostic, Discovery, Predictive and Prescriptive.

Marketing Data Sources – CRM, Digital Platforms, Transactional Data.

Data Handling & Preprocessing: [Hands on] Using BlueSky Statistics for importing, cleaning, and basic transformations (GUI-based), Exploratory Data Analysis (EDA) using BlueSky Statistics (Summary Statistics, Visualizations).

Unit 2: Consumer Analytics & Market Segmentation	**12**

Customer Segmentation Methods – Demographic, Behavioural, Psychographic, RFM (Recency, Frequency, Monetary) Analysis for Customer Value Assessment, K-Means & Hierarchical Clustering for Segmentation (**Using R**), Churn Analysis Using Logistic Regression (Using BlueSky Statistics),

Lab Sessions: Customer Segmentation using K-Means & Hierarchical Clustering in R (cluster package) using Neural Networks and NLP; Churn Prediction using Logistic Regression in BlueSky Statistics

Unit 3: Digital & Social Media Analytics	**12**

Google Analytics & Social Media Metrics – Bounce Rate, Click-Through Rate, Conversion Rate.

Text Analysis– Word Frequencies, Word Clouds, Keyword Extraction.

Introduction to Sentiment Analysis Using Prebuilt Libraries in R (syuzhet package) – Understanding Positive, Negative, and Neutral Sentiments.

A/B Testing for Marketing Campaigns (Using BlueSky Statistics), Customer Lifetime Value (CLV) Prediction (Using R's caret package). **Lab Sessions:** Generating Word Clouds & Basic Text Analytics in BlueSky Statistics Sentiment Analysis Using syuzhet in R. A/B Testing using BlueSky Statistics for campaign performance evaluation.	
Unit 4: Marketing Mix Modeling & Pricing Analytics	**10**
Marketing Mix Elements & Demand Forecasting, Price Sensitivity & Elasticity Analysis (Using BlueSky Statistics), Regression-Based Marketing Mix Modeling (Using R), Promotion Effectiveness & Time Series Forecasting (Using R's forecast package). **Lab Sessions:** Time Series Forecasting using forecast package in R. Price Elasticity Analysis using BlueSky Statistics	
Unit 5: AI & Machine Learning in Marketing	**12**
AI in Marketing – Chatbots, Personalization, Customer Insights, Recommender Systems & Personalized Marketing (Using R's *recommenderlab* package), Market Basket Analysis & Association Rules (Using BlueSky Statistics), Predicting Customer Purchase Behaviour (Using R's caret package); Application of ML in Marketing Strategies. Lab Sessions: Recommender Systems using *recommenderlab* in R. Market Basket Analysis using Association Rule Mining in BlueSky Statistics.	
Skill Developments Activities: 1. Write a detailed note on how analytics help businesses make data-driven marketing decisions, with real-world examples. 2. Explain association rules and product bundling strategies used by retailers. 3. Compare Regression-Based Marketing Mix Modeling with Time Series Forecasting 4. Illustrate the Concept of Customer Segmentation	

Name of the Program: BACHELOR OF COMMERCE (BDA)
Course Code: B.Com. BDA5.3
Name of the Course: INCOME TAX-1

COURSE CREDITS	NO. OF HOURSPER WEEK	TOTAL NO. OF TEACHING HOURS
4 CREDITS	4 HOURS	56 HOURS

Pedagogy: Classroom Lecture, Tutorials, Group discussion, Seminar, Case Studies, Field Work etc.

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

a) Understand the basic concepts of Income Tax as per Income Tax Act 1961.
b) Understand the provisions for determining the residential status of an Individual.
c) Comprehend the meaning of Salary, Perquisites, allowances and Profit in lieu of salary, and various retirement benefits.
d) Compute the income from house property for different categories of house property.
e) Comprehend the assessment procedure and to know the power of income tax authorities.

SYLLABUS:	**HOURS**
Unit-1 : Basic Concepts of Income Tax	**08**
Introduction – Meaning of tax- types of taxes and canons of taxation- Important definitions- assessment year, previous year including exceptions, assesses, person, income, casual income, Gross total income, Total income, Agricultural income, Tax Rates (Old and New Regimes). Exempted incomes of individuals under section 10.	
Unit- 2: Assessment Procedure and Income Tax Authorities	**08**
Meaning of Assessment - Types of Assessment– BDA Assessment- Self Assessment – Best Judgement Assessment- Summary Assessment – Scrutiny Assessment – Income Escaping Assessment - Permanent Account Number -Meaning, Procedure for obtaining PAN and transactions where quoting of PAN is compulsory. Income Tax Authorities their Powers and functions. CBDT, CIT and AO.	
Unit-3: Residential Status and Incidence of Tax	**10**
Introduction – Residential status of an individual. Determination of residential status of an individual. Incidence of tax or Scope of Total income. Problems on computation of Gross total Income of an individual (excluding deductions U/S 80).	
Unit- 4: Income from Salary	**18**
Introduction - Meaning of Salary - Basis of charge – Definitions – Salary, allowances, Perquisites and profits in lieu of salary - Provident Fund - Retirement Benefits – Gratuity, pension and Leave salary. Deductions U/S 16 and Problems on Computation of Taxable Salary.	
Unit- 5: Income from House Property	**12**
Introduction - Basis of charge - Deemed owners -House property incomes exempt from tax, Vacancy allowance and unrealized rent. Annual Value – Determination of Annual Value - Deductions U/S 24 from Net Annual Value - Problems on Computation of Income from House Property.	

Skill Development Activities:

1) List out any 6 Incomes exempt from tax under section 10 of an Individual.
2) Draw an organization chart of Income Tax Authorities.
3) Prepare the chart of perquisites received by an employee in an organization.
4) Prepare the chart of Computation of Income under House Property.

Name of the Program: BACHELOR OF COMMERCE (BDA)
Course Code: B.Com BDA5.4
Name of the Course: GOODS AND SERVICES TAX

COURSE CREDITS	NO. OF HOURS PER WEEK	TOTAL NO. OF TEACHING HOURS
4 CREDITS	4 HOURS	56 HOURS

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) Comprehend the concepts of Goods and Services tax.
b) Understand the fundamentals of GST.
c) Understand the GST Registration Process.
d) Analyze the GST Procedures in Business.
e) Know the GST Assessment and it computation

SYLLABUS:	**HOURS**
Unit-1: Introduction to GST	**10**
Introduction-Meaning and Definition of GST, Objectives, Features, Advantages and Disadvantages of GST, Taxes subsumed under GST, Structure of GST (Dual Model) - CGST, SGST and IGST. GST Council, Composition, Powers and Functions. CGST Act-2017-Features and Important definitions	
Unit-2: GST Registration and Taxable Event	**10**
Registration under GST provision and process. Amendment and cancellation of registration, Taxable-event- Supply of goods and services - Meaning, Scope and types – composite supply, Mixed supply. Determination of time and place of supply of goods and services. Levy and collection of tax. List of exempted goods and services-Problems.	
Unit-3: Input Tax Credit	**12**
Input Tax Credit - Eligible and Ineligible Input Tax Credit; Apportionments of Credit and Blocked Credits; Tax Credit in respect of Capital Goods; Recovery of Excess Tax Credit; Availability of Tax Credit in special circumstances; Transfer of Input tax, Reverse Charge Mechanism, tax invoice, Problems on input tax credit	
Unit-4: GST Assessment	**12**
Tax Invoice, Credit and Debit Notes, Returns, Audit in GST, Assessment: Self- Assessment, Summary and Scrutiny. Special Provisions. Taxability of E-Commerce, Anti-Profiteering, and Avoidance of dual control- issues in filing of returns, monthly collection targets, GST Council meetings.	
Unit-5: Valuations of Goods and Services Under GST	**08**
Introduction to Valuation under GST, Meaning and Types of Consideration: a) Consideration received through money b) Consideration not received in money c) Consideration received fully in money. Valuation rules for supply of goods andservices:1) General Valuation Rules; 2) Special Valuation Rules; Other cases for valuation of supply, imported services, imported goods, valuation for discount. Transaction Value: Meaning and conditions for transaction value, inclusive transaction value, and exclusive discount excluded from transaction value. Problems on GST.	

Skill Development Activities:

1. Prepare a tax invoice under the GST Act.
2. Write the procedure for registration under GST.
3. Prepare a chart showing rates of GST.
4. List out the exempted Goods and Services under GST.

Name of the Program: BACHELOR OF COMMERCE (BDA)
Course Code: B.Com BDA 5.5
Name of the Course: COSTING METHODS

COURSE CREDITS	NO. OF HOURSPER WEEK	TOTAL NO. OF TEACHING HOURS
4 CREDITS	4 HOURS	56 HOURS

Pedagogy: Classroom Lecture, Tutorials, Group discussion, Seminar, Case Studies, Field Work etc.

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

a. Understand the various methods of costing applicable to different industries.
b. Determine the cost under different methods of costing.
c. Analyze the Steps involved in different methods of Costing
d. Understand the Meaning and Steps in Activity Based Costing

SYLLABUS:	**HOURS**
Unit-1: Job Costing and Batch Costing	**08**
Job Costing: Meaning, Features, Objectives, Applications, Advantages and Disadvantages, Job cost sheet- Simple problems. **Batch Costing:** Meaning, difference between Job and Batch costing; Process of accumulation and calculation; Determination of EBQ- problems	
Unit- 2: Contract Costing	**14**
Contract Costing: Meaning, features of Contract costing, Applications of Contract Costing, Differences between Job costing and Contract costing; Terms used in Contract Costing; Treatment of profit on incomplete contracts-Problems on Preparation of Contract account and Contractee's account (excluding Trial Balance and Balance Sheet problems).	
Unit-3: Process Costing	**14**
Process costing: Meaning, features and applications of Process Costing; Differences between Job Costing and Process Costing; Treatment of process losses and gains in Process accounts; preparation of Process Accounts - Problems	
Unit- 4: Operating Costing	**12**
Introduction to Operating Costing; Application of Operating Costing; Cost components and Cost units for different services - Transport Services, Hospital and Educational institutions; Problems on preparation of Operating Cost Statement for Transport service only	
Unit- 5 : Recent Trends in Costing	**08**
Target Costing, Zero based budgeting, Responsibility Accounting, Product Life cycle costing, Focus Costing, Lean Costing (Meaning and features only)	

Skill Development Activities:

1. Prepare and Job Cost Sheet with imaginary figures.
2. Prepare the methods of calculating notional profits for contracts at different stages of Completion with imaginary figures.
3. List any five organizations using Process Costing.
4. Identify the costs associated with Life cycle costing