



Shiksha Mandal's

G. S. College of Commerce, Wardha

(Autonomous)

B. Com. (Major in Computer Application)

Semester VI



ASP.NET Programming (BCCA 6.1)

Teaching Hours:
60 (Theory + Practical)

Total Credits: 4

Total Marks:
40 + 30 + 30 = 100

Group: Major Core

Objectives:

1. To understand basic concepts of Web Form in ASP.Net.
2. To analyze the use of validation controls, state management techniques, and navigation tools in ASP.NET.
3. To explore the use of ADO.NET for connecting ASP.NET applications to SQL Server
1. To evaluate advanced ASP.NET features in developing, securing, and deploying web applications.

Learning Outcomes: After learning this course, students will be able to –

1. **Understand** the fundamentals of architecture, lifecycle, AJAX Controls with event-driven programming.
2. **Create** efficient and user-centric multi-page web applications.
3. **Apply** concepts of CRUD operations, for displaying data using ASP.NET data controls.
4. **Evaluate** the integration of authentication, error handling, data access in real-world ASP.NET business applications.

Unit

Content

- | Unit | Content |
|------|--|
| I | Introduction to ASP.NET and Web Forms: Introduction to web development: static vs. dynamic websites, Overview of ASP.NET framework and architecture, ASP.NET lifecycle and features, Understanding Web Forms: Page lifecycle, structure, Server controls: Label, TextBox, Button, CheckBox, RadioButton, DropDownList, AJAX Controls, jQuery - Event-driven programming in ASP.NET |
| II | Validation controls: RequiredFieldValidator, RangeValidator, CompareValidator, CustomValidator, State Management and Navigation: Client-side vs. server-side state management, ViewState, Session, Cookies, Application state, Caching, Asynchronous Communication, Master pages and themes for consistent layout, Navigation controls: Menu, SiteMapPath, TreeView. Creating multi-page business applications |
| III | Database Connectivity with ADO.NET: Introduction to ADO.NET and data providers, Connecting ASP.NET with SQL Server, Performing CRUD operations (Create, Read, Update, Delete), Using DataReader, DataSet, DataAdapter, Data controls: GridView, DetailsView, FormView, Repeater, Creating a simple online business application (e.g., product catalog) |
| IV | Advanced Features and Business Applications: Authentication and authorization (Forms authentication), Configuration, Debugging and Error Handling , File upload and email features, Introduction to Entity Framework basics, E-commerce application basics: user registration, product listing, shopping cart (conceptual demo), Hosting ASP.NET websites on IIS, Case Study: Building a small commerce portal for a store or service provider |

Books Recommended:

1. **“Beginning ASP.NET for Visual Studio”** by Imar Spaanjaars
2. **“Professional ASP.NET 4.5 in C# and VB”** by Jason N. Gaylord et al.
3. **Online Resources:** Microsoft Learn: <https://learn.microsoft.com/aspnet>
TutorialsPoint ASP.NET Guide: <https://www.tutorialspoint.com/asp.net>
4. **Suggested Tools and Technologies:** Microsoft Visual Studio (Community Edition), SQL Server Express or LocalDB, Internet Information Services (IIS) Express and Bootstrap for basic UI enhancements (optional)



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R Programming (BCCA 6.2)			
Teaching Hours: 60 (Theory + Practical)	Total Credits: 4	Total Marks: 40 + 30 + 30 = 100	Group: Major Core
Objectives: <ol style="list-style-type: none">1. To understand the concepts of R and RStudio.2. To analyze key data structures, functions, and data handling techniques.3. To explore techniques for data wrangling and statistical analysis using R.4. To evaluate various data visualization techniques and statistical methods in R.			
Learning Outcomes: After learning this course, students will be able to – <ol style="list-style-type: none">1. Understand the fundamentals of R programming and recall key concepts for script execution in R and RStudio.2. Analyze effective data manipulation and programming.3. Apply statistical tests and models for data transformation, merging.4. Evaluate business data with the use of forecast package for Business applications and reporting.			
Unit	Content		
I	Fundamentals of R Programming: Introduction to R and RStudio, Installing R and setting up the environment, R syntax, variables and data types, Operators and expressions, Input and output in R, Writing and executing R scripts, Control structures: if, else, ifelse, switch, loops (for, while, repeat)		
II	Data Structures and Functions: Vectors, Matrices, Arrays, Lists and Data Frames, Indexing and subsetting data, Factors and date/time data types, Importing and exporting data: CSV, Excel, Text files, User-defined functions and built-in functions, Error handling and debugging		
III	Data Manipulation and Statistical Analysis: Using dplyr and tidyr for data wrangling, Sorting, filtering, summarizing, grouping data, Merging and joining datasets, Descriptive statistics (mean, median, variance, standard deviation), Probability distributions (Normal, Binomial, Poisson), Hypothesis testing: t-test, chi-square test, Correlation and simple linear regression		
IV	Data Visualization and Commerce Applications: Data visualization using base R and ggplot2, Types of charts: bar, line, histogram, boxplot, scatter plot, Customizing plots: colors, labels, legends, Time series basics and forecasting using forecast package, Business applications: Sales and financial data analysis, Import and analysis of Tally/Excel reports, Customer segmentation basics (clustering introduction), Business reporting with RMarkdown		
Books Recommended:			
<ol style="list-style-type: none">1. R for Data Science” by Hadley Wickham & Garrett Grolemund2. “The Art of R Programming” by Norman Matloff Online resources: r4ds.hadley.nz, cran.r-project.org			



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B. Com. (Major in Computer Application)

Semester VI



Language Framework (BCCA 6.3.1)

Teaching Hours: 60 (Theory + Practical)	Total Credits: 4	Total Marks: 40 + 30 + 30 = 100	Group: Major Electives
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Objectives:

1. To **understand** the core concepts of web development frameworks, including Bootstrap.
2. To **analyze** the components and features of the Bootstrap framework.
3. To **explore** the functionalities of jQuery, including adding it to web pages, applying various effects.
4. To **evaluate** the functionality of jQuery UI interactions, widgets, and AJAX effects to enhance the interactivity and responsiveness of web applications.

Learning Outcomes: After learning this course, students will be able to –

1. **Understand** the fundamentals for building responsive and interactive web applications.
2. **Create** efficient and responsive web designs.
3. **Apply** jQuery techniques to enhance web pages by integrating effects, handling events, manipulating CSS classes, and traversing and filtering DOM elements.
4. **Evaluate** the effectiveness of jQuery UI interactions, widgets and effects in enhancing user experience and interactivity on web pages.

Unit	Content
I	Introduction to Framework, Objective, Types, Purpose. HTML and Bootstrap: Introduction to Bootstrap, jQuery, ajax, WordPress.
II	Bootstrap framework contents, forms, Components, helpers, utilities, grid, layouts Bootstrap as a module, JavaScript, JSON components, Colour modes, CSS variable
III	jQuery, Adding jQuery to Web Pages, Various effects of jQuery, jQuery events, get, set, CSS classes, jQuery: Traversing, Siblings, Filtering, Editor
IV	jQuery UI and AJAX: Interactions, Draggable, Droppable, Resizable, Selectable, Sortable jQuery Widgets: Button, Menu, Checkbox radio, Progress bar, Slider, Tabs. jQuery Effects and utilities.

Books Recommended:

1. **Learning JQuery** : Venkat Subramaniam, Karl Swedberg.
2. **Bootstrap 5 Foundations** : Daniel Charles Foreman, Daniel Foreman.
3. **JavaScript for Modern Web Development**: Abhilasha Sinha, Ranjit Battewad, Alok Ranjan
4. **Website**: <https://www.w3schools.com/jquery/>



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Semester VI



Cloud Computing (BCCA 6.3.2)

Teaching Hours: 60 (Theory + Practical)	Total Credits: 4	Total Marks: 40 + 30 + 30 = 100	Group: Major Electives
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Objectives:

1. To understand evolution and benefits of Cloud Computing and its service models.
2. To analyze clear understanding of cloud infrastructure and services.
3. To explore various cloud platforms and commerce applications.
4. To evaluate various cloud security practices, future trends, and practical cloud implementations to determine their effectiveness in real-world applications.

Learning Outcomes: After learning this course, students will be able to –

1. **Understand** the impact of cloud computing models, and how it differs from traditional computing.
2. **Analyze** various cloud infrastructure components and services to understand their roles and applications in modern business environments.
3. **Apply** cloud-based tools and platforms to real-world business scenarios.
4. **Evaluate** cloud security measures, emerging computing trends in business scenarios.

Unit	Content
I	Introduction to Cloud Computing: Definition, characteristics, and evolution of cloud computing, Benefits of cloud computing for business and commerce, Service Models: IaaS, PaaS, SaaS, Deployment Models: Public, Private, Hybrid, Community, Virtualization and its role in cloud computing, Cloud vs traditional computing
II	Cloud Infrastructure s Services: Cloud architecture overview, Storage as a Service (Dropbox, Google Drive, OneDrive), Computing services: AWS EC2, Azure VMs, Cloud databases: Google Firebase, AWS RDS, Google Sheets as DB, Introduction to APIs and web services in cloud, Case Study: Cloud usage in small and medium businesses (SMBs)
III	Cloud Platforms and Commerce Applications: Google Workspace: Docs, Sheets, Forms, Drive, Gmail integration, Microsoft 365: Excel, Teams, SharePoint for business collaboration, Accounting C ERP on cloud: Zoho Books, QuickBooks Online, Tally Prime Cloud, E-commerce and cloud integration (Shopify, WooCommerce with cloud), CRM on cloud: Zoho CRM, Salesforce basics, Case Study: Cloud use inonline retail and digital payments
IV	Security, Trends and Practical Implementations: Cloud security basics: confidentiality, integrity, availability, Authentication C access control (OAuth, 2FA), Backup and disaster recovery on the cloud, Future trends: Serverless computing, Edge computing, Green cloud, Setting up and managing a simple cloud project (e.g., shared data system for a business). Introduction to cloud certifications (AWS Cloud Practitioner, Google Cloud Digital Leader)

Books Recommended:

1. “Cloud Computing: Concepts, Technology s Architecture” by Thomas Erl
2. “Cloud Computing: Principles and Paradigms” by Rajkumar Buyya
3. AWS Academy, Google Cloud Skills Boost – free online modules
4. Websites: aws.amazon.com/training, cloud.google.com/training, learn.microsoft.com



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Semester VI



Public Finance: Theory and Practices (BCCA 6.4.1)

Teaching Hours: 60

Total Credits: 4

Total Marks:
70+30=100

Group: Minor

Objectives:

1. To provide students with the knowledge and understanding of basic concepts of public finance.
2. To provide the students an in-depth knowledge on various concepts and application regard to public expenditure.
3. To provide knowledge on the various sources of finance and the changing trends with regard to the same in India's journey of Economic reforms.
4. To enable the students to understand and apply the Tools of public finance for optimum allocation of resources through budget.

Learning outcome:

1. The knowledge on the basic concepts of public finance with enable the students to understand the role of government in shaping the Socio-Economic growth path of the country.
2. The knowledge gain will provide analytical ability to the students on the principles and guidelines followed by the government in framing and implementation of policies related to public expenditure.
3. Students will be able to evaluate the impact of public revenue in the current scenario and the imperative need of economic reforms towards growth and development.
4. Students will be able to analyze the finer nuances in budget making and the role-playing activity as crucial members in finance ministry will provide them with an opportunity in designing an ideal budget document.

Unit	Content
I	Introduction to Public Finance <ol style="list-style-type: none">1. Meaning, Concept, Nature & Scope of Public Finance2. Importance of Public Finance3. Tools of Public Finance4. Principle of Maximum Social Advantage.5. Finance Commission- Meaning, role, 15th Finance Commission: Allocation of resources between center and States.
II	Public Expenditure <ol style="list-style-type: none">1. Meaning & Concept of Public expenditure.2. Principles and classification of Public Expenditure.3. Causes of Increasing Public Expenditure4. Effect of Public Expenditure5. Role of Public Expenditure in a Developing Economy
III	Public Revenue <ol style="list-style-type: none">1. Meaning & Concept of Public Revenue, Sources of Public Revenue, importance of public revenue.2. Direct taxes and Indirect Taxes- Meaning, merits, demerits3. Cannons of Taxation.4. Taxation System in India–Progressive, Regressive and Proportional–Meaning, merits, demerits Reforms in Tax Structure in India; Goods & Service Tax:- Concept, Characteristics and Need for GST in India.



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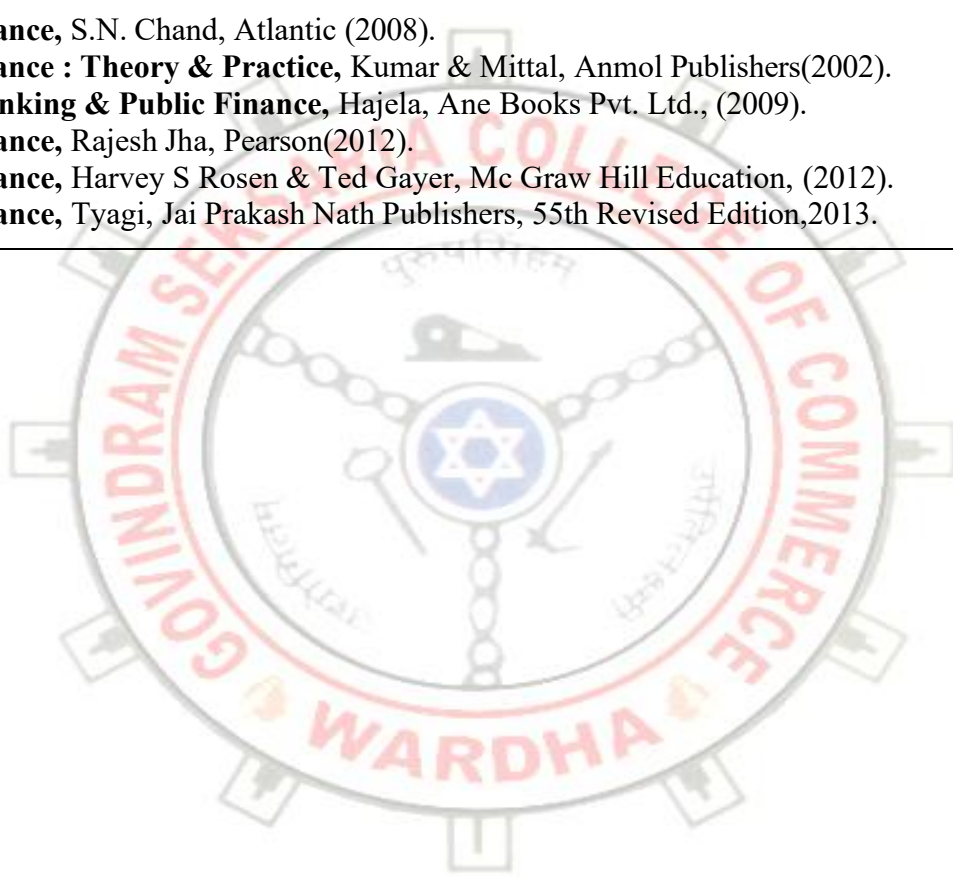
Semester VI



IV	<p>Public Debts & Government Budget</p> <ol style="list-style-type: none">1. Meaning and Concept of Public Debt, Characteristics and role of Public Debts, Types of Public Debts, Objectives of Public Debts2. Effects of Public Debts3. Meaning, Role & Objectives of the Budget4. Overview of Recent Budget of India, Case study of India's National Electric Mobility Mission Plan (Budget drafting: Role play/Classroom activity for students)5. Gender Budger:- Meaning, Importance
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Books Recommended:

1. **Public Finance**, S.N. Chand, Atlantic (2008).
2. **Public Finance : Theory & Practice**, Kumar & Mittal, Anmol Publishers(2002).
3. **Money, Banking & Public Finance**, Hajela, Ane Books Pvt. Ltd., (2009).
4. **Public Finance**, Rajesh Jha, Pearson(2012).
5. **Public Finance**, Harvey S Rosen & Ted Gayer, Mc Graw Hill Education, (2012).
6. **Public Finance**, Tyagi, Jai Prakash Nath Publishers, 55th Revised Edition,2013.





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Cyber Law (BCCA 6.4.2)			
Teaching Hours: 60	Total Credit: 04	Total Marks: 70+30=100	Group: Minor
Objectives: <ol style="list-style-type: none">1. To introduce learners to the investment environment and structure of financial markets.2. To develop analytical skills for evaluating securities using fundamental and technical tools.3. To equip learners with portfolio construction and evaluation techniques.4. To promote understanding of investment strategies and risk management practices.			
Learning Outcomes: After learning this subject, the learner will be able to – <ol style="list-style-type: none">1. Understand the scope and importance of cyber law in a digital economy.2. Know various types of cybercrimes and relevant legal provisions.3. Interpret the key provisions of the IT Act, 2000.4. Understand the significance of cybersecurity, digital signatures, and privacy laws.			
Unit	Content		
I	Introduction to Cyber Law and the legal framework in India – Meaning, scope, objectives, and evolution of Cyber Law in India and abroad. Understanding legal challenges in cyberspace. Key definitions under the IT Act – computer, data, access, electronic record, and digital signature. Overview of important amendments including the IT Amendment Act of 2008. Role and powers of authorities under the Act – Adjudicating Officers, CERT-In (Indian Computer Emergency Response Team).		
II	Concept of Cybercrime – Meaning, classification, and characteristics. Detailed understanding of different types of cybercrimes including hacking, phishing, email spoofing, identity theft, cyber stalking, cyber bullying, online defamation, cyber terrorism, pornography, child abuse, and financial frauds. Legal remedies and punishments under the IT Act, 2000 and relevant sections of the Indian Penal Code. Case Studies on cybercrime cases in India and their implications.		
III	Legal recognition of electronic commerce and e-governance under the IT Act. Introduction to e-contracts – their nature, types (click-wrap, shrink-wrap, browse-wrap), and enforceability under Indian law. Digital signatures – working mechanism, legal validity, and use in authenticating e-records. Role and responsibilities of Certifying Authorities in issuing digital certificates. Introduction to the Public Key Infrastructure (PKI) system. Powers and functioning of the Cyber Appellate Tribunal. Legal provisions and significance of e-governance initiatives in India		
IV	Concept and importance of cybersecurity in the digital age: Understanding common cyber threats like malware, ransomware, spyware, social engineering, and denial-of-service attacks. Best practices and strategies for ensuring cybersecurity. Concept of data privacy and data protection, Provisions related to data protection under the IT Act. Overview of the Personal Data Protection Bill, 2019. Concept of cyber ethics – digital etiquette, responsible online behavior, and ethical dilemmas in cyberspace. Role of education and awareness in promoting ethical cyber practices.		



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Semester VI



Books Recommended:

1. **Cyber Laws** – Dr. R.K. Suri & T.N. Chhabra, Bharat Law House Pvt. Ltd.
2. **Cyber Law & Information Technology** – Talwant Singh, Himalaya Publishing House
3. **Information Technology Law and Practice** – Vakul Sharma, Universal Law Publishing
4. **Cyber Law: Simplified** – Vivek Sood, Tata McGraw-Hill Education
5. **Cyber Law and E-Commerce** – Prof. P.M. Bakshi, Sultan Chand & Sons
6. **The Indian Cyber Law** – Suresh T. Vishwanathan, Bharat Law House Pvt. Ltd.
7. **IT Act, 2000 with Rules and Amendments** – Government of India Publication





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Semester VI



Service Sector Management (BCCA 6.4.3)			
Teaching Hours: 60	Total Credits: 4	Total Marks: 70+30 =100	Group: Minor
Objectives: <ol style="list-style-type: none">To understand the fundamental concepts of Service Sector Management.To apply the concept of Information Technology in the Banking and Insurance Sector.To Analyse the importance of Service Quality Management.To evaluate the impact of Distribution and Advertising in the Service Industry and the Future of Service Management.			
Learning Outcome: After learning this subject, students will be able to: <ol style="list-style-type: none">Understand the Concept of Service Sector Management, Recognising the Role of Services in the Economy, Exploring Opportunities, Evaluating Government Reforms and Analyzing Global Trends in the Service Sector.Apply the comprehensive significance and Role of the IT Sector, Banking Sector and Insurance Sector.Analyze Service Quality Management and its Models, Tools and Techniques.Evaluate the impact and challenges of Distribution and Advertising in the Service Industry, Understanding customers' needs and expectations, and the Future of Service Management.			
Unit	Content		
I	Unit I: Introduction to Service Sector Management: Service Sector Management: Meaning, Nature and Scope. Understanding Services: Definition and Characteristics of Services, Forms of Service Sector (Hospitality, Healthcare, Education, Retail, IT, Finance, Transport, Aviation, BPO, KPO, Information Technology, Banking, Insurance), The Role of Services in the Economy. Challenges faced in Service Sector Management. Opportunities in Service Sector Management. Government's reforms in Service Sector Management.		
II	Unit II: Information Technology, Banking and Insurance Sector: IT Sector: Role and Importance of the IT Sector in Service industries, Challenges and Opportunities in the IT sector. Banking Sector: The Role of Banking Sector in the Economy, Challenges faced by Banking Sector, Recent Trends in Banking Sector. Insurance Sector: Importance of the Insurance industry in the service sector, Challenges and Opportunities in the Insurance Sector.		
III	Unit III: Service Quality Management: Introduction to Service Quality: Definition of service quality, Impact of service quality on customer satisfaction and business profitability. Service Quality Models: 1. SERVQUAL Model (Measuring the gap between customer expectations and perceptions.) 2. The Kano Model of customer satisfaction. 3. The Gap Model of Service Quality (Five Gaps theory). 4. Customer Satisfaction Index (CSI). Measuring Service Quality: Methods of measuring service quality. Tools and Techniques for Service Quality Improvement: 1. Six Sigma and Lean Management for quality improvement 2. Total Quality Management (TQM) in the service industry 3. Benchmarking service quality against industry standards, 4. PDCA (Plan-Do-Check-Act) cycle for continuous improvement.		



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Semester VI



IV Unit IV: Distribution and Advertising in the Service Industry and Future of Service

Management:

Planning and managing service delivery. Challenges in the distribution of services. Advertising and Sales Promotion in the Service Industry. Understanding customers' needs and Expectations. The impact of distribution and advertising in the service industry on the economy.

Future of Service Management: The Role of Artificial Intelligence and Automation in Service Delivery, Changing Customer Expectations in the Digital Era, Ethical and Social Issues in Service Management.

Books Recommended:

1. **Service Sector Management**, Sanjay Patnakar, Himalaya Publications.
2. **Managing Services**, Christopher H. Lovelock, Prentice Hall.
3. **Total Quality Management**, JE Ross, Prentice Hall
4. **Total Quality Management**, DH Besterfield, CB Michna: Prentice Hall
5. **Services Marketing**, Ravi Shankar, TMH
6. **Services Marketing**, S M Jha; Himalaya Publications.

