A.S.D. GOVERNMENT DEGREE COLLEGE FOR WOMEN(A)
JAGANNAICKPUR, KAKINADA

DEPARTMENT OF COMPUTER SCIENCE

BOARD OF STUDIES OF COMPUTER APPLICATIONS

2025-2026

A.S.D. GOVERNMENT DEGREE COLLEGE FOR WOMEN(A)
DEPARTMENT OF COMPUTER APPLICATIONS

I B.Com.(C.A.) – I Semester

FUNDAMENTALS OF INFORMATION TECHNOLOGY & OFFICE AUTOMATION

Course Code: **No. of Hours/Week: 3**

Course Objectives:

- Understand foundational computing concepts including number systems, evolution of computers, and architectural components.
- Explore basic computer organization and network fundamentals, recognizing device functions, system types, and internet components.
- Demonstrate proficiency in word processing and presentation tools, applying formatting techniques and design elements for professional outputs.

Course Outcomes:

Upon successful completion of this course, students will be able to:

CO1: Understand foundational computing concepts including number systems, evolution of computers, and architectural components.

CO2: Explore basic computer organization and network fundamentals, recognizing device functions, system types, and internet components.

CO3: Demonstrate proficiency in word processing and presentation tools, applying formatting techniques and design elements for professional outputs.

CO4: Develop competency in spreadsheet operations, employing formulas, charts, and data handling techniques.

CO5: Apply advanced data modelling and productivity features to analyse and visualize data efficiently using modern tools.

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	2	2	1	-	1	1	2	1	2	2
CO2	2	2	2	-	2	1	3	2	2	2
CO3	2	1	1	1	1	2	3	2	2	3
CO4	2	2	2	1	1	1	3	2	2	3
CO5	2	3	3	1	1	1	3	3	3	3
Average	2	2	1.8	0.6	1.2	1.2	2.8	2	2.2	2.6

The COs are mapped to POs based on the relevance on a scale of 0-3
(1: Slight [Low]; 2: Moderate [Medium]; 3: Substantial [High], '-'/0:No Correlation)

Unit-I: Number Systems, Evolution, Block Diagram and Generations

Number Systems: Binary, Decimal, Octal, Hexadecimal; conversions between number systems.

Evolution of Computers: History from early mechanical devices to modern-day systems. Block Diagram of a Computer: Input Unit, Central Processing Unit, Memory Unit, Output Unit.

Generations of Computers: First to Fifth Generation – Technologies, Characteristics, Examples.

Unit-II: Basic Organization and Network Fundamentals

Computer Organization: Functional components: Input/Output devices, Storage types, Memory Hierarchy.

Types of Computers: Micro, Mini, Mainframe, and Supercomputers.

Networking Fundamentals: Definition, Need for Networks, Key Components: Nodes, Links, Protocols, Networking Devices. Types of Computer Networks: LAN, WAN, MAN.

Network Topologies: Bus. Ring, Star, Mesh.

Internet Basics: History, IP Address, URL, WWW, Web browsers, Search engines, E-mail, Internet Security.

Unit-III: Word Processing and Presentations

Word Processing Basics: Definition, Using Microsoft Word / Google Docs. Templates for resumes, letters, reports. Basic text editing and formatting - Typing and editing text, Font styles, sizes, colours, and effects, Paragraph alignment, indentation, and spacing, Bullets, numbering, and text highlighting, Templates for resumes, letters and reports. Working with Tables and Graphics - Inserting and formatting tables, Adding images, shapes, icons, and SmartArt, Text wrapping and positioning graphics.

Document Layout and Design - Page setup, Headers, footers, and page numbering, Section breaks and columns, Applying themes and styles. Advanced Features - Spell check and grammar tools, Thesaurus, and Mail merge. References and Citations Footnotes, endnotes, and captions, Bibliography and citation tools, Table of contents and index creation.

Presentation Tools: Using PowerPoint/Google Slides – Creating, Saving and Opening presentations, Adding, deleting, and rearranging slides, Slide layouts and design themes, Using templates and master slides, Slide sorter and outline view, Applying transitions and Animations, Design and Layout.

Applications: Creating resumes, Reports, Brochures, and Presentations.

Unit-IV: Spreadsheet Basics

Spreadsheet Concepts: Understanding rows, columns, cells in tools like MS Excel/Google Sheets, Workbook, Worksheet, Cell referencing- Relative, Absolute, Mixed.

Functions and Formulae: Mathematical, Statistical, Logical, Text, Date and Time, Financial.

Lookup and Reference: VLOOKUP, HLOOKUP, XLOOKUP, INDEX, MATCH

Visual representations: Creating a chart, common chart types, Column Chart, Bar Chart, Line Chart, Pie Chart, Scatter Chart, Histogram.

Data Handling: Sorting data, filtering data, Grouping Data, Conditional formatting: Data Bars, Color Scales, Icon Sets, Custom Formulas.

Unit-V: Data Modelling

Data Analysis Tools: Pivot Tables and Pivot Charts, Data Validation (Dropdowns, Input

Messages, Error Alerts), What-If Analysis: Goal Seek, Scenario Manager, Data Tables Charts and Dashboards: Creating Interactive Dashboards, Using slicers with Pivot Tables Combo Charts and Sparklines.

Productivity Tips: Using Named Ranges, Freeze Panes, Split View.

Textbooks:

1. Thareja, R. (Second Edition). Fundamentals of Computers. Oxford University Press.
2. Rajaraman, V. (n.d.). Fundamentals of Computers. PHI Learning.
3. Norton, P. (2017). Introduction to Computers (7th ed.). McGraw Hill Education.
4. Nordell, R., Stewart, K., Easton, A., Graves, P. R., & Triad Interactive, Inc. (2022).
5. Microsoft Office 365: In Practice (1st ed.). New York: McGraw Hill Education.

References Books:

1. Alexander, M., & Kusleika, R. (2022). Microsoft Excel 365 Bible (2nd ed.). Wiley.
2. Lowe, D. (2021). Networking All-in-One For Dummies (8th ed.). Wiley.
3. Microsoft Official Docs and Training: https://learn.microsoft.com
4. Google Workspace Learning Center: https://support.google.com/a/users/

A.S.D. GOVERNMENT DEGREE COLLEGE FOR WOMEN(A)
DEPARTMENT OF COMPUTER APPLICATIONS

I B.Com.(C.A.) - I Semester

FUNDAMENTALS OF INFORMATION TECHNOLOGY & OFFICE AUTOMATION

Course Code: **No. of Hours/Week: 3**

BLUE PRINT

S.No	Unit	Essay Questions 8 marks	Short Questions 4 marks	Marks Allotted
1	**Unit – I** **Number Systems, Evolution, Block Diagram and Generations**	2	2	24
2	**Unit – II** **Basic Organization and Network Fundamentals**	2	2	24
3	**Unit – III** **Word Processing and Presentations**	2	2	24
4	**Unit – IV** **Spreadsheet Concepts**	2	1	20
5	**Unit – V** **Data Analysis Tools**	2	1	20
Total Marks				112

A.S.D. GOVERNMENT DEGREE COLLEGE FOR WOMEN (A)

MODEL QUESTION PAPER

I B.Com.(C.A.) – II Semester

FUNDAMENTALS OF INFORMATION TECHNOLOGY & OFFICE AUTOMATION

Time : 3hrs **Max Marks : 60**

SECTION-A

I. Answer any FIVE of the following questions. **5x4=20**

1. What is Computer? Explain the characteristics of the computer. **(CO1)(L4)**
2. Explain Binary number system with example. **(CO1)(L2)**
3. Explain the types of Computers? **(CO2) (L1)**
4. What is an IP address? Explain. **(CO2)(L2)**
5. Give a brief account on Google Docs. **(CO3)(L2)**
6. Distinguish between animation and transition controls in Power point. **(CO3)(L4)**
7. What is a Cell in spreadsheet? Explain cell referencing. **(CO4)(L4)**
8. Write a short note on Pivot table and Pivot chart. **(CO5)(L2)**

SECTION-B

II. Answer the following questions. **5x8=40**

9. (a) Define Number System. Explain different types of Number systems with illustrations. **(CO1)(L4)**

(Or)

(b) Explain the Block diagram of Computer system with a neat diagram? **(CO1)(L4)**

10. (a) Explain about Computer Memory hierarchy. **(CO2) (L2)**

(Or)

(b) Discuss various network topologies with neat diagrams. **(CO2)(L2)**

11. (a) What is Mail merge in MS-Word? Explain with an example. **(CO3)(L4)**

(Or)

(b) Discuss the features of Google Slides/PowerPoint for creating effective presentations. **(CO3) (L4)**

12. (a) Explain different types of charts in MS-Excel. **(CO4) (L4)**

(Or)

(b) Discuss advanced lookup functions VLOOKUP, HLOOKUP, and XLOOKUP with suitable examples. **(CO4) (L4)**

13.(a) Discuss What-If analysis tools in Excel with examples. **(CO5) (L4)**

(Or)

(b) Explain how dashboards can be created using pivot tables, slicers, and charts. **(CO5) (CO4)**

A.S.D. GOVERNMENT DEGREE COLLEGE FOR WOMEN(A)
DEPARTMENT OF COMPUTER APPLICATIONS

I B.Com.(C.A.) – II Semester

E-COMMERCE AND WEB APPLICATION DEVELOPMENT

Course Code: **No. of Hours/Week: 3**

Course Objectives:

- Understand the evolution, types, and models of e-commerce, including technical, legal, and ethical frameworks. Explore web design technologies and content management systems relevant to e-commerce platforms.
- Apply online marketing principles, SEO techniques, and e-payment systems with attention to logistics and risk management.

Course Outcomes:

CO1: Describe e-commerce models, revenue strategies, and legal considerations including cyber laws and data privacy.

CO2: Implement basic web structures using HTML5 and apply web design principles suitable for digital commerce.
CO3: Create and style dynamic websites using CSS for layout, animation, and visual enhancements.
CO4: Write client-side scripts using JavaScript to enable interactivity, form validation, and event handling.
CO5: Build responsive e-commerce front ends using the Bootstrap framework, incorporating reusable UI components and custom styling.

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	2	2	1	-	1	1	2	1	2	2
CO2	2	2	2	-	2	1	3	2	2	2
CO3	2	1	1	1	1	2	3	2	2	3
CO4	2	2	2	1	1	1	3	2	2	3
CO5	2	3	3	1	1	1	3	3	3	3
Average	2	2	1.8	0.6	1.2	1.2	2.8	2	2.2	2.6

The COs are mapped to POs based on the relevance on a scale of 0-3
(1: Slight [Low]; 2: Moderate [Medium]; 3: Substantial [High], '-'/0:No Correlation)

UNIT-I

Introduction to E-Commerce: Definition, scope, and evolution, Benefits and limitations; **Types of E-Commerce:** B2B, B2C, C2C, C2B, G2C models; **E-Commerce Business Models:** Revenue models

(advertising, subscription, etc.); **Infrastructure for E-Commerce :** Internet, intranet, Extranet; **Payment gateways and digital wallets Legal and Ethical Issues:** Cyber laws and data privacy, Intellectual property, taxation, and security.

Case study: Study of successful e-businesses

UNIT-II

Technology in E-Commerce: Essentials of web design for business - Content management systems (WordPress, Shopify, Bootstrap); **Online Marketing & SEO:** Digital marketing channels, Search engine optimization basics.; **Digital Payment Systems:** Credit/Debit Cards, Net Banking, Mobile Wallets, UPI, Electronic Fund Transfer (EFT) , Payment Gateways – Blockchain and Cryptocurrencies, Artificial Intelligence and E-Commerce, Future of E-Commerce; **Web**

Designing: Web designing Principles, Introduction to HTML5, HTML Document Structure, Formatting Elements (text and block formatting), Lists, Images, Links and Navigation (External and internal links), Tables, Inline frames, HTML Forms. Embedding multimedia objects.

UNIT III: Cascading Style Sheets

CSS Basics: CSS Rule, Applying CSS Rules (Selectors), Embedding CSS code in HTML page Inline, internal, external style sheets; **CSS Properties:** Font, Colour, Types of CSS Colour values, Background, CSS Box Model, Display properties, Styling Pseudo Elements, Positioning properties, Layering, Styling Lists and tables. CSS Animations: Filters, Transition and transform properties, Navigation Bars, CSS CANVAS.

UNIT IV: Client-Side Scripting using JAVA SCRIPT

JavaScript Basics: Datatypes, Variables, Operators, Control Statements, Functions; **Built in Objects:** Arrays, String, Date, Window, Document, RegEx; **Document Object Modelling:** Introduction to DOM, Form Validation using Java Script, **Event Handling:** Mouse events, form submission events, load and unload events, keyboard events – focus and blur events.

UNIT V: BOOTSTRAP FRAMEWORK for designing CMS

Responsive Webdesign: Grid System, Breakpoints, Containers, Utilities; **Introduction to BOOT STRAP FRAMEWORK:** Benefits, Setup Bootstrap Project; **Bootstrap Components:**

Navigation, Creating navigation bars (navbar), Dropdowns, and Responsive togglers. Buttons Styling buttons with various classes for size, colour, and state. Forms-Styling form elements like inputs, labels, and client side validation. Carousels-Creating image sliders. Alerts: Displaying informative messages; **Customization:** Overriding Bootstrap's default styles using custom CSS

Textbooks:

1. Whiteley, D., 2000. *E-commerce: Strategy, technologies and applications*. McGraw-Hill Education.
2. Turban, Efraim, David King, Jae Kyu Lee, Ting-Peng Liang, and Deborrah Turban. *Electronic Commerce: Concepts, Models, Strategies*. Pearson Education, 2002.
3. Robbins, Jennifer Niederst. *Learning Web Design: A Beginner's Guide to HTML, CSS, JavaScript, and Web Graphics*. 5th ed., O'Reilly Media, 2018.
4. Kogent Learning Solutions Inc. *Web Technologies Black Book*. Dream tech Press, 2009.

5. Diwan, Amit. *Ultimate Bootstrap for Responsive Web Design*. Orange Education Pvt. Ltd., 2024. ISBN: 9789348107251.
6. Hussain, Frahaan, and Kameron Hussain. *Mastering Bootstrap 5: From Basics to Expert Projects*. Sonar Publishing, 2023. ISBN: B0CPW9PRVT.

E-Resources:

1. NPTEL / SWAYAM Online Lectures ::Course: E-Business (NPTEL)
2. https://www.tutorialspoint.com/e_commerce/index.htm
3. https://www.w3schools.com/bootstrap5/
4. https://www.w3schools.com/ (HTML-CSS- JAVASCRIPT)
5. https://developer.mozilla.org/en-US/docs/Learn/CSS
6. https://www.freecodecamp.org/learn/2022/responsive-web-design/
7. https://developer.mozilla.org/en-US/docs/Learn/HTML
8. https://www.freecodecamp.org/learn/2022/responsive-web-design/

A.S.D. GOVERNMENT DEGREE COLLEGE FOR WOMEN(A)
DEPARTMENT OF COMPUTER APPLICATIONS

I B.Com.(C.A.) - II Semester

E-COMMERCE AND WEB APPLICATION DEVELOPMENT

Course Code: **No. of Hours/Week: 3**

BLUE PRINT

S.No	Unit	Essay Questions 8 marks	Short Questions 4 marks	Marks Allotted
1	**Unit – I** **Introduction to E-Commerce**	2	2	24
2	**Unit – II** **Technology in E-Commerce**	2	2	24
3	**Unit – III** **Cascading Style Sheets**	2	2	24
4	**Unit – IV** **Client-Side Scripting using JAVA SCRIPT**	2	1	20
5	**Unit – V** **BOOTSTRAP FRAMEWORK for designing CMS**	2	1	20
Total Marks				112

A.S.D. GOVERNMENT DEGREE COLLEGE FOR WOMEN (A)

MODEL QUESTION PAPER

I B.Com.(C.A.) – II Semester

E-COMMERCE AND WEB APPLICATION DEVELOPMENT

Time : 3hrs **Course:** **Max Marks : 60**

SECTION-A

I. Answer any FIVE of the following questions. **5x4=20**

1. Define E-Commerce list any four types of E-Commerce. **(CO1) (L1)**
2. List any two revenue models in E-Commerce. Explain. **(CO1) (L1)**
3. List any three digital payment methods. Explain. **(CO2) (L2)**
4. Define Search Engine Optimization. Explain. **(CO2) (L2)**
5. What are the CSS properties? Explain. **(CO3) (L1)**
6. Define data types in JavaScript. List any three data types. **(CO4) (L1)**
7. Explain about Built in Objects in JavaScript. **(CO4) (L2)**
8. Define the Bootstrap. Explain its utility classes. **(CO5) (L1)**

SECTION-B

II. Answer the following questions. **5x8=40**

9. (a) Describe the various types of E-Commerce models with examples. **(CO1) (L2)**

(Or)

(b) Describe the infrastructure of E-Commerce? Explain. **(CO1) (L3)**

10. (a) Explain the key components of a digital payment system. **(CO2) (L4)**

(Or)

(b) Explain about Net Banking and Mobile Wallets, UPI. **(CO2) (L4)**

11. (a) Explain the CSS box model and its components with an illustration. **(CO3) (L4)**

(Or)

(b) Explain transition and transform properties of CSS. **(CO3) (L4)**

12. (a) Define JavaScript functions and list the types of functions. **(CO4) (L4)**

(Or)

(b) Define built-in objects in JavaScript with examples. **(CO4) (L4)**

13. (a) Define the Bootstrap framework and list its main benefits. **(CO5) (L3)**

(Or)

(b) Explain about Form-Styling form elements in responsive web designing. **(CO5) (L4)**

A.S.D. GOVERNMENT DEGREE COLLEGE FOR WOMEN(A)
DEPARTMENT OF COMPUTER APPLICATIONS
II B.Com.(C.A.) – III Semester
E Commerce and Web Designing

Course Code: CA24301 **No. of Hours/Week: 3**

Course Objectives:

The course aims to help learners to acquire conceptual knowledge of fundamental concept of E- commerce & Web Designing. Emphasize the importance of various E-commerce & Web Designing. Developing and implementing efficient algorithms.

Course Outcomes:

Upon successful completion of the course, a student will be able to:

CO1: Understand E-Commerce websites and their functionality
CO2: Identify different types of Business
CO3: Analyze e-commerce data to make informed business decisions, including sales racking, customer behavior analysis, and market trend identification.
CO4: Design Websites using HTML
CO5: Apply styles to the websites created using CSS

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	3	2	1	2	2	1	3	2	2	3
CO2	3	2	2	1	1	2	3	2	3	3
CO3	3	-	2	1	1	1	3	3	3	3
CO4	3	1	1	1	2	1	3	3	3	3
CO5	2	-	1	1	2	1	3	3	3	3
Average	2.8	1	1.4	1.2	1.6	1.2	3	2.6	2.8	3

The COs are mapped to POs based on the relevance on a scale of 0-3
(1: Slight [Low]; 2: Moderate [Medium]; 3: Substantial [High], '-'/0:No Correlation)

Unit 1: Basics And Definitions: Definition, E-Commerce with 5-C Model, Additional Terms, Business Models Related To E-Commerce, Advantages And Disadvantages, Web 2.0, Technical And Economic Challenges
Frameworks and Architectures: Actors and Stakeholders, Fundamental Sales Process andHis 7+1 Process Steps Work, Technological Elements, Typical Applications
Case Study: Identify different E-Commerce websites and write their functionality.

Unit 2: B2C Business: B2c Basics, B2c-Business and CRM, B2c Software Systems, Customer Relationship Management (CRM)
B2B Business: B2b Basics, Differences Between B2b And B2c, B2b Software Systems, Supply Chain Management
Case Study: Identify B2B and B2C websites in Unit-I Case Study and differentiate theirfunctionality

Unit 3: Security & Compliance Management: Foundations of Risk Management, Compliance Management, Information Security Management (Ism), Technology
Electronic Payment: Business and Money, the Payment Challenge, Payment Procedures,Receivables Management, Cyber Money

Case Study: Identify different payment methods used in purchasing goods in Amazon,Flipkart etc.. and write their Pros and Cons of each payment method

Unit 4: Introduction to Web Programming: Introduction, creating a website, HTML tags, HTML Elements, HTML attributes, CSS Preview, History of HTML, Differences between old HTML and HTML5, how to check your HTML code

Coding Standards, Block Elements:
HTML coding conventions, Comments, HTML Elements, Should Describe Web Page Content Accurately, Content Model Categories, Block Elements, block quote Element, Whitespace Collapsing, pre-Element, Phrasing Elements, Editing Elements, q and cite Elements, dfn, abbr, and time Elements, Code-Related Elements, br and wbr Elements.
Text Elements, and Character References: sup, sub, s, mark, and small Elements, strong, em, b, u, and i Elements, span Element, Character References, Web Page with Character References, and Phrasing Elements.
HTML forms: HTML form elements, input types, input attributes
Case Study: Create a web page of your department using standard HTML tags, HTML elementsand HTML attributes

Unit 5: Cascading Style Sheet (CSS): CSS Overview, CSS Rules, Types of Style sheets: Inline, Internal, External, Example with Type Selectors and the Universal Selector, CSS Syntax and Style, Class Selectors, ID Selectors, span and div Elements, Cascading, style Attribute, style Container, External CSS Files, CSS Properties, Color Properties, RGB Values for Color, Opacity Values for Color, HSL and HSLA Values for Color, Font Properties, line-height Property, Text Properties, Border Properties,Element Box, padding Property, margin Property,

Case Study: Description of your City or place with the use of CSS and compare it with previous two case studies

Additional Inputs: Java Script: What is DHTML, JavaScript, basics, variables, operators, statements, string manipulations, mathematical functions

Note: Concepts from Additional inputs must be excluded from Examinations

Text Books:

1. Introduction to E-Commerce: Combining Business And Information Technology ByMartin Kutz
2. Lallana, Quimbo, Andam, 4. Cf. Ravi Kalakota and Andrew B. Whinston, Electronic Commerce: A Manager's Guide (USA: Addison Wesley Longman, Inc., 1997), 19-20.

References:

1. Web Programming with HTML5,CSS and JavaScript, John Dean, Jones & Bartlett Learning
2. HTML & CSS: The Complete Reference, 5th Edition, Thomas. A. Powell

A.S.D. GOVERNMENT DEGREE COLLEGE FOR WOMEN(A)
DEPARTMENT OF COMPUTER APPLICATIONS
II B.Com.(C.A.) – III Semester

E Commerce and Web Designing

Course Code: CA24301 **No. of Hours/Week: 3**

BLUE PRINT

S.No	Unit	Essay Questions 8 marks	Short Questions 4 marks	Marks Allotted
1	**Unit – I** **Basics And Definitions**	2	2	24
2	**Unit – II** **B2C Business**	2	2	24
3	**Unit – III** **Security & Compliance Management**	2	2	24
4	**Unit – IV** **Introduction to Web Programming**	2	1	20
5	**Unit – V** **Cascading Style Sheet**	2	1	20
Total Marks				112

A.S.D. GOVERNMENT DEGREE COLLEGE FOR WOMEN (A)

KAKINADA

MODEL QUESTION PAPER

II B.Com.(C.A.) – III Semester

E-COMMERCE AND WEB DESIGNING

Time : 3hrs **Course Code: CA24301** **Max Marks : 60**

SECTION-A

I. Answer any FIVE of the following questions. **5x4=20**

1. Write about types of E-Commerce. **(CO1) (L1)**
2. Infer a brief account on Web 2.0. **(CO1) (L2)**
3. Write about the B2B software systems. **(CO2) (L2)**
4. Explain about supply chain management. **(CO2) (L2)**
5. What are the payment challenges involved in electronic payment? **(CO3)(L1)**
6. Write about Information Security Management. **(CO3) (L2)**
7. Explain about the structure of HTML with a neat diagram. **(CO4) (L2)**
8. Interpret the use of inline style sheets with an illustration. **(CO5) (L2)**

SECTION-B

II. Answer the following questions. **5x8=40**

9. (a) Write the definition of E-commerce and explain briefly about 5-C model. **(CO1) (L4)**

(Or)

(b) Determine the 7 steps in the sales process? Explain. **(CO1) (L5)**

10. (a) Explain Customer Relationship Management in detail. **(CO2) (L4)**

(Or)

(b) List out the key characteristics and advantages of the B2C Model. **(CO2) (L4)**

11. (a) Explain information security management in detail. **(CO3) (L4)**

(Or)

(b) Compare and contrast the different types of electronic payment systems. **(CO3) (L4)**

12. (a) Classify formatting tags in HTML with an example. **(CO4) (L4)**

(Or)

(b) Describe various form elements in HTML with syntax. **(CO4) (L4)**

13. (a) Explain about CSS selectors with syntax. **(CO5) (L3)**

(Or)

(b) List various types of Cascading Style Sheets. Explain. **(CO5) (L4)**

A.S.D. GOVERNMENT DEGREE COLLEGE FOR WOMEN(A)
DEPARTMENT OF COMPUTER APPLICATIONS
II B.Com.(C.A.) – III Semester

Digital Marketing

Course Code: CA24302 **No. of Hours/Week: 3**

Course Objectives:

The course aims to identify the impact of digital space and digital marketing in reaching out to customers. Understand the importance of Search Engines and explain the working of Search Engines. Able to Define email Marketing and have knowledge on how Social Media Marketing is to be used by marketers?

Course Outcomes:

Upon successful completion of the course, a student will be able to:

CO1: Evaluate the characteristics and strategies of digital marketing.
CO2: Analyse the Performance of Online Advertising Campaigns.
CO3: Identify and differentiate between various types of emails used in marketing campaigns.
CO4: Create and assess social media marketing strategies, utilizing various tools and platforms
CO5: Apply SEO techniques to optimize web content for search engines

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	3	3	1	-	-	-	1	3	2	3
CO2	3	3	3	1	2	-	3	3	3	3
CO3	3	1	1	2	1	1	3	3	3	3
CO4	3	3	3	2	2	2	-	2	3	3
CO5	2	1	2	-	-	1	2	3	3	3
Average	2.8	2.2	1.8	1	1	0.8	1.8	2.8	2.8	3

The COs are mapped to POs based on the relevance on a scale of 0-3
(1: Slight [Low]; 2: Moderate [Medium]; 3: Substantial [High], '-'/0:No Correlation)

Unit 1: Digital Marketing: Introduction to Digital Marketing. Traditional Vs. Digital Marketing, Technology behind Digital Marketing, Characteristics of Digital Marketing, Digital Marketing Strategy, Understanding Digital Consumer**.**

Case Study: Analyze the change in ranking of your Web Promotion Page

Unit 2: Online Advertising: Introduction, Objective, Where to Advertise, Online AdFormat, Search Engine Ad, Network Advertising, Affiliate Programs, Landing Pages

Case Study: Create Google Add for your college

Unit 3: Email Marketing: Introduction, Types of Email, Email Marketing Campaign Process, Email marketing Tools, Advantages and Disadvantages, Opt-in Email Advertising, Email tracking

Case Study: Analyse the impact of your E-Mail Campaign

Unit 4: Social Media Marketing (SMM):

What is Social Media Marketing, Seven Myths of SMM, Characteristics of Successful Social Media Marketer, Social Media Marketing plan, Social Media marketing Tools, Publishing Blogs, Podcast and Webinars, Social Media Monitoring, **Social Media:** Face book, Twitter, **Crisis Management and Brand Reputation on Social Media,** User-Generated Content (UGC) and Community Management

Case Study:

1. Analyze the performance of your Facebook and Instagram Page
2. Analyze the performance of your YouTube Video
3. Enhancing Customer Engagement for a Local Café through Facebook and Instagram Marketing

Unit 5: Search Engine Optimization (SEO): Understanding SEO, Search Engine Optimization Process – Goals, On-Page Optimization, Off-Page Optimization and Analyze, Search Engine Result Process (SERP), SEO Tools.

Case Study: Analyze the impact of your Twitter Campaign

Additional Inputs: The Digital users in India, POEM Framework, CRO, Sales Funneling

Note: Concepts from Additional inputs must be excluded from Examinations

Textbooks:

1. Digital Marketing by Seema Gupta, McGraw Hill Education
2. Fundamentals of Digital Marketing by Punit Singh Bhatia, Pearson

References:

1. Basics of Digital Marketing - Course (swayam2.ac.in)

A.S.D. GOVERNMENT DEGREE COLLEGE FOR WOMEN(A)
DEPARTMENT OF COMPUTER APPLICATIONS
II B.Com.(C.A.) – III Semester

Digital Marketing

Course Code: CA24302 **No. of Hours/Week: 3**

BLUE PRINT

S.No	Unit	Essay Questions 8 marks	Short Questions 4 marks	Marks Allotted
1	**Unit – I** **Digital Marketing**	2	2	24
2	**Unit – II** **Online Advertising**	2	2	24
3	**Unit – III** **E-mail Marketing**	2	2	24
4	**Unit – IV** **Social Media Marketing**	2	1	20
5	**Unit – V** **Search Engine Optimization**	2	1	20
Total Marks				112

A.S.D. GOVERNMENT DEGREE COLLEGE FOR WOMEN (A)

KAKINADA

MODEL QUESTION PAPER

II B.Com.(C.A.) – III Semester

Digital Marketing

Time : 3hrs **Course Code: CA24302** **Max Marks : 60**

SECTION-A

I. Answer any FIVE of the following questions. **5x4=20**

1. Infer the importance of Digital marketing. **(CO1) (L2)**
2. Explain the digital consumers. **(CO1) (L2)**
3. What are the benefits of using landing pages? **(CO2) (L1)**
4. Write about the Search Engine Ad. **(CO2) (L2)**
5. Classify the types of E-mail marketing. **(CO3) (L4)**
6. Define the process of email marketing campaigns. **(CO3) (L2)**
7. Compare and contrast the use of Facebook and Twitter in SMM. **(CO4) (L4)**
8. Name two common SEO tools and describe their primary functions. **(CO5) (L2)**

SECTION-B

II. Answer the following questions. **5x8=40**

1. (a) Explain the key characteristics of digital Marketing. **(CO1) (L4)**

(Or)

(b) Compare and contrast Traditional Marketing Vs. Digital Marketing. **(CO1) (L5)**

10. (a) Elucidate network advertising. **(CO2) (L2)**

(Or)

(b) What are the key components of affiliate programs? Explain. **(CO2) (L2)**

11. (a) Examine the process of E-mail marketing campaigns. **(CO3) (L4)**

(Or)

(b) Classify the advantages and disadvantages of E-mail marketing. **(CO3) (L4)**

12. (a) What is SMM? Explain seven myths of Social Media Marketing. **(CO4) (L4)**

(Or)

(b) How to publish blogs, podcast and webinars? Explain. **(CO4) (L3)**

13. (a) Compare and contrast the On-Page and Off-Page SEO Techniques. **(CO5) (L5)**

(Or)

(b) Analyse the Search Engine Result Page (SERP) and its components. **(CO5) (L4)**

A.S.D. GOVERNMENT DEGREE COLLEGE FOR WOMEN(A)
DEPARTMENT OF COMPUTER APPLICATIONS
II B.Com.(C.A.) – IV Semester

Database Management System with Oracle

Course Code: CA24401 **No. of Hours/Week: 3**

Course Objective:
To present an introduction to database management systems, with an emphasis on how to organize, maintain and retrieve - efficiently, and effectively - information from a DBMS.

Course Outcomes:
Upon successful completion of the course, a student will be able to:

CO1: Identify key characteristics, advantages, and various applications of database systems

CO2: Apply Codd's rules and key constraints to design and normalize relational database schemas.

CO3: Construct and interpret Entity-Relationship (ER) diagrams and apply basic SQL commands

CO4: Make use of SQL to retrieve and maintain relational database.

CO5: Demonstrate various constructs in PL/SQL

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	3	2	2	1	-	1	3	2	2	3
CO2	3	3	3	2	1	1	3	3	2	3
CO3	3	2	3	2	-	2	3	3	2	3
CO4	3	3	3	1	1	1	3	3	3	3
CO5	2	2	2	1	1	2	3	2	3	3
Average	2.8	2.4	2.6	1.4	0.6	1.4	3	2.6	2.4	3

The COs are mapped to POs based on the relevance on a scale of 0-3
(1: Slight [Low]; 2: Moderate [Medium]; 3: Substantial [High], '-'/0:No Correlation)

Unit I: Overview of Database Systems: Introduction: Database system, Characteristics (Database Vs File System), Database Users, Advantages of Database systems, Database applications.

Data Models: Introduction; types of data models, Concepts of Schema, Instance and data independence; Three tier schema architecture for data independence; Database system structure, environment, Centralized and Client Server architecture for the database.

Case Study:

1. Describe the differences between Database systems and File based systems
2. Study about database models and their advantages and disadvantages

Unit II: Relational Model: Introduction to relational model, Codd's rules, concepts of domain, attribute, tuple, relation, constraints (Domain, Key constraints, integrity constraints) and their importance, concept of keys (super key, candidate key, primary key, surrogate key, foreign key)

Normalization: Purpose of Normalization or schema refinement, concept of functional dependency, normal forms based on functional dependency (1NF, 2NF and 3 NF), Boyce-Codd normal form (BCNF)

Case Study:

Describe Relational model and normalization for database design

Unit III: Entity Relationship Model: Introduction, Representation of entities, attributes, entity set, relationship, relationship set, constraints, sub classes, super class, inheritance, specialization, generalization using ER Diagrams

BASIC SQL: Database schema, data types, DDL operations (create, alter, drop, rename), DML operations (insert, delete, update), basic SQL querying (select and project) using where clause, arithmetic & logical operations, aggregation, grouping, ordering.

Case Study:

1. Examine issues in data storage and query processing using SQL.
2. Create, maintain and manipulate a relational database using SQL

Unit IV: SQL: Nested queries/ sub queries, implementation of different types of joins, SQL functions (Date, Numeric, String, Conversion functions), Creating tables with relationship, implementation of key and integrity constraints, views, relational set operations, Transaction Control Language: commit, Rollback, Save point, DCL: Grant, Revoke

Case Study:

Try to convert some sample data to information and show how it can you be used in decision making.

Unit V: PL/SQL: Introduction, Structure, Control Structures, Cursors, Procedure, Function, Packages, Exception Handling, Triggers.

Case Study:

Use Triggers and apply them in real time databases

Additional Inputs: Transaction Management and Concurrency Control: What is transaction, ACID Properties, Concurrency control

Note: Concepts from Additional inputs must be excluded from Examinations

Textbooks

1. Database Management Systems, 3rdEdition, Raghurama Krishnan, Johannes Gehrke, TMH
2. Database System Concepts,5thEdition, Silberschatz, Korth, TMH
3. Godeon C. EVEREST, Database Management-McGraw Hill Book Company.
4. MARTIN, Database Management-Prentice Hall of India, New Delhi.

References

1. David Kuklinski, Osborne, Data management system McGraw Hill Publication.
2. Shirley Neal And Kenneth LC Trunik Database management system in Business-PHI.
3. Navathe, Database Management System.
4. S. Sumathi, S. Esakkirajan, Fundamentals of Relational Database Management System

A.S.D. GOVERNMENT DEGREE COLLEGE FOR WOMEN (A)

DEPARTMENT OF COMPUTER APPLICATIONS

II B.Com.(C.A.) – IV Semester

Database Management System with Oracle

Course Code: CA24401 **No. of Hours/Week: 3**

BLUE PRINT

S.No	Unit	Essay Questions 8 marks	Short Questions 4 marks	Marks Allotted
1	**Unit – I Overview of Database Management System**	2	2	24
2	**Unit – II Relational Model**	2	2	24
3	**Unit – III Entity Relationship Model**	2	2	24
4	**Unit – IV Structured query Language**	2	1	20
5	**Unit – V PL/SQL**	2	1	20
Total Marks				112

A.S.D. GOVERNMENT DEGREE COLLEGE FOR WOMEN (A)
KAKINADA
MODEL QUESTION PAPER
II B.Com.(C.A.) – IV Semester
Database Management System with Oracle

Time : 3hrs **Course Code: CA24401** **Max Marks : 60**

SECTION-A

I. Answer any FIVE of the following questions. **5x4=20**

1. Explain about the structure of database system. **(CO1) (L2)**
2. What are the advantages of database system? **(CO1) (L1)**
3. Write about Codd's rules. **(CO2) (L2)**
4. What is the need for schema refinement? Explain. **(CO2) (L3)**
5. List out different types of Entity sets. Explain. **(CO3) (L2)**
6. Explain the specialization and generalization with ER-diagram. **(CO3) (L2)**
7. Explain about numeric functions in SQL. **(CO4) (L2)**
8. Infer a short account on Cursors. **(CO5) (L2)**

SECTION-B

II. Answer the following questions. **5x8=40**

9. a) Explain the Database Management system structure with a neat sketch. **(CO1) (L4)**

(or)

b) What is data model in DBMS? Explain various types of Data models. **(CO1) (L4)**

10. a) List out the various types of Constraints in DBMS. Explain. **(CO2) (L4)**

(or)

b) Explain briefly about Normal forms in database management system. **(CO2) (L4)**

11. a) What are the basic building blocks of ER-Model? Explain with an example. **(CO2) (L4)**

(or)

b) Explain about DDL commands in SQL with suitable examples. **(CO3) (L4)**

12. a) What are the different types of joins? Explain. **(CO4) (L2)**

(or)

b) Write about relational set operations in SQL with illustrations. **(CO4) (L4)**

13. a) Explain about Exception handling in PL/SQL. **(CO5) (L4)**

(or)

b) Write about triggers in detail with an example. **(CO5) (L3)**

A.S.D. GOVERNMENT DEGREE COLLEGE FOR WOMEN(A)
DEPARTMENT OF COMPUTER APPLICATIONS
III B.Com.(C.A.) – V Semester

BUSINESS ANALYTICS

Course Code: CA23501 **No. of Hours/Week: 3**

Course Objective:
This course introduces the fundamentals of Business Analytics, covering key concepts in descriptive analytics, OLAP, business intelligence, and data mining. Students will gain practical insights into using analytical tools and techniques to support data-driven decision-making.

Course Outcomes:
Upon successful completion of the course, a student will be able to:
CO1: Explain the fundamental concepts of Business Analytics, its components, tools, and real-world applications across sectors.
CO2: Apply descriptive analytics and statistical methods such as mean, median, mode, variance, and standard deviation to analyse business data.
CO3: Demonstrate the use of OLAP and OLTP systems, their operations, and tools to support business decision-making.
CO4: Analyze the architecture, components, and tools of Business Intelligence and evaluate their roles in enhancing business operations and management decision-making.
CO5: Illustrate data mining and machine learning concepts, models, and their deployment in solving real-time business problems.

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	3	2	2	1	-	1	3	2	2	3
CO2	3	3	3	1	1	1	3	3	2	3
CO3	3	2	3	1	-	2	3	3	2	3
CO4	3	3	3	1	1	1	3	3	3	3
CO5	2	2	2	1	1	2	3	2	3	3
Average	2.8	2.4	2.6	1	0.6	1.4	3	2.6	2.4	3

The COs are mapped to POs based on the relevance on a scale of 0-3
(1: Slight [Low]; 2: Moderate [Medium]; 3: Substantial [High], '-'/0:No Correlation)

Unit 1: Introduction to Business Analytics

Definition, Components of Business Analytics, Types of Business Analytics methods, Benefits of Business Analytics, Business Analytics Tools, Applications of Business Analytics, Trends in Business Analytics.

Case Study:
1. Retail Analytics
2. Marketing Analytics

Unit 2: Descriptive Analytics, Statistics
Types of Statistics, Types of Data, Measure of Central Tendency: Mean, Median, Mode, Standard Deviation, Variance

Case Study:
1. Financial Analytics
2. Social Media and Web Analytics

Unit 3: OLAP, OLAP Operations
What is a Data Warehouse? Difference between **OLTP (operational systems)** and **Data Warehousing (analytical systems)** Roll Up, Drill Down, Slice and Dice, Pivot, Types of OLAP, OLAP Tools, OLTP, Characteristics of OLTP, OLTP advantages and disadvantages

Case Study: Working with any one of the OLAP Tools

Unit 4: **Concept of Business Intelligence for Management**
Architecture and Components of Business Intelligence, Business Intelligence for Management, Operational BI, what is Business Intelligence, Benefits of BI, Roles and Responsibilities of BI, Overview of Popular BI Tools in Market

Case Study: Real-Time Credit and Debit Card Fraud Detection, an HPE Shadow base

Unit 5: Introduction to Data Mining

Data Mining Concept, Concepts of data mining model with its development and deployment in business scenario, Types of Data Mining Models, Machine Learning: definition, How ML works, Features and Importance of ML, Machine Learning Concepts: Classification of ML

Case Study: Healthcare Analytics

Additional Inputs: Star Schema vs Snowflake Schema, Fact and Dimension Tables

Note: Concepts from Additional inputs must be excluded from Examinations

Textbooks:

1. Module 5, Business Data Analytics by IBM
2. Essentials of Business Analytics: An introduction to methodology and its applications by Bhima Sankaram P, Sridhar S

References:

1. http://www.developer.android.com
2. http://developer.android.com/about/versions/index.html
3. http://developer.android.com/training/basics/firstapp/index.html
4. http://docs.oracle.com/javase/tutorial/index.htm (Available in the form of free downloadable ebooks also).

A.S.D. GOVERNMENT DEGREE COLLEGE FOR WOMEN(A)
DEPARTMENT OF COMPUTER APPLICATIONS
III B.Com.(C.A.) – V Semester

BUSINESS ANALYTICS

Course Code: CA23501 **No. of Hours/Week: 3**

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S. No	Unit	Essay Questions 8 marks	Short Questions 4 marks	Marks Allotted
1	**Unit – I** **Introduction to Business Analytics**	2	2	24
2	**Unit – II** **Descriptive Analytics, Statistics**	2	2	24
3	**Unit – III** **OLAP, OLAP Operations**	2	2	24
4	**Unit – IV** **Concept of Business Intelligence for Management**	2	1	20
5	**Unit – V** **Introduction to Data Mining**	2	1	20
Total Marks				112

A.S.D. GOVERNMENT DEGREE COLLEGE FOR WOMEN(A), KAKINADA

MODEL QUESTION PAPER
III B.Com.(CA) - V SEMESTER
BUSINESS ANALYTICS

Time : 3hrs **Course Code: CA23501** **Max Marks : 60**

SECTION-A

I. Answer any FIVE of the following questions. **5x4=20**

1. List and explain any two types of Business Analytics methods. **(CO1)(L1)**
2. Define any four tools used in Business Analytics. **(CO1)(L1)**
3. Define Mean, Median, and Mode. **(CO2)(L1)**
4. Define OLAP and list any two operations. **(CO3)(L1)**
5. Define Business Intelligence and its role in management. **(CO4)(L1)**
6. Explain the concept of Operational BI. **(CO4)(L1)**
7. List and explain any two types of data mining models. **(CO5)(L1)**
8. What is Machine Learning? **(CO5)(L1)**

SECTION-B

II. Answer the following questions. **5x8=40**

9. (a) Explain the components of Business Analytics with examples. **(CO1)(L4)**

(Or)

(b) Explain the benefits of implementing Business Analytics in an organization. **(CO1)(L4)**

10. (a) Classify the types of data and statistics used in Business Analytics. **(CO2)(L4)**

(Or)

(b) Discover use of variance and standard deviation in understanding data distribution. **(CO3)(L4)**

11. (a) Explain various OLAP operations with real-life examples. **(CO3)(L4)**

(Or)

(b) Demonstrate the advantages and disadvantages of OLTP systems. **(CO3)(L4)**

12. (a) Describe the architecture and components of a BI system. **(CO4)(L4)**

(Or)

(b) Explain popular BI Tools in Market briefly. **(CO4)(L4)**

13. (a) Explain the development and deployment process of a data mining model. **(CO5)(L4)**

(Or)

(b) List and Explain Types of Data Mining Models. **(CO5)(L4)**

A.S.D. GOVERNMENT DEGREE COLLEGE FOR WOMEN(A)
DEPARTMENT OF COMPUTER APPLICATIONS
III B.Com.(C.A.) – V Semester

Course: MOBILE APPLICATION DEVELOPMENT USING ANDROID

Course Code: CA23502 **No. of Hours/Week: 3**

Course Objective:

To enable students to understand Android architecture, design and develop interactive mobile applications using Android SDK and implement common APIs.

Course Outcomes:

Upon successful completion of the course, a student will be able to:

CO1: Understand the history, architecture, components, and lifecycle of Android applications.

CO2: Gain knowledge of designing Android apps using core components like intents, services, and manifest.

CO3: Design user-friendly Android interfaces using Views, Layouts, and UI elements.

CO4: Understand Android app testing, preferences, and resource management.

CO5: Explore Android APIs for storage, databases, networking, location, and connectivity.

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	3	2	1	-	-	1	3	2	2	2
CO2	3	2	2	-	-	2	3	2	3	3
CO3	3	-	-	-	-	1	3	3	3	3
CO4	3	1	1	-	-	1	3	3	3	3
CO5	2	-	-	-	-	1	3	3	3	3
Average	2.8	1	0.8	-	-	1.2	3	2.6	2.8	2.8

The COs are mapped to POs based on the relevance on a scale of 0-3

(1: Slight [Low]; 2: Moderate [Medium]; 3: Substantial [High], '-'/0:No Correlation)

Unit 1: Introduction to Android

Overview, History, Features of Android, The Android Platform, Understanding the Android Software Stack – Android Application Architecture –The Android Application Life Cycle – The Activity Life Cycle, Creating Android Activity -Views- Layout Android SDK, Android Installation, building you First Android application, Understanding Anatomy of Android Application, Android Manifest file.

Case Study:

1. Give a brief description of Android Architecture and its parts.
2. List out the challenges we face while using Android.\
3. List the new features of Android in the latest version.

Unit 2: Android Application Design Essentials

Anatomy of Android applications, Android terminologies, Creating User Interfaces with basic views- Application Context, Activities, Services, Intents, linking activities with Intents, Receiving and Broadcasting Intents, Android Manifest File and its common settings, Using Intent Filter, Permissions.

Case Study: Present an idea that you would like to convert into an application in the future.

Unit 3: Android User Interface Design Essentials

User Interface Screen elements, Designing User Interfaces with Layouts, Drawing and Working with Animation. Layouts, Recycler View, List View, Grid View and Web view
Input Controls: Buttons, Checkboxes, Radio Buttons, Toggle Buttons, Spinners, Input Events, Menus, Toast, Dialogs, Styles and Themes, Creating lists, and Custom lists.

Case Study: Present detail report on the features of Check Boxes, Radio Buttons and Toggle Buttons.

Unit 4: Testing Android applications

Publishing Android application, Using Android preferences, Managing Application resources in a hierarchy, working with different types of resources.

Case Study: List out the special features of Android with its counterparts.

Unit 5: Using Common Android APIs

Internal Storage, External Storage, SQLite Databases, managing data using SQLite, Sharing Data between Applications with Content Providers, Using Android Networking APIs, Using Android Web APIs, JSON Parsing, Using Android Telephony APIs, Deploying Android Applications to the World. Google Maps, Using GPS to find the current location, Sensors, and Bluetooth / Wi-Fi Connectivity.

Case Study:

1. List out the points to keep in mind to make you application more attractive.
2. List the controls that make you application attractive.

Textbooks:

1. Reto Meier, "Professional Android 2 Application Development", Wiley India Pvt Ltd
2. Mark L Murphy, "Beginning Android", Wiley India Pvt Ltd
3. "Android Application Development All in one for Dummies" by Barry Burd, Edition: I
4. "Android", Dixit, Prasanna Kumar Vikas Publications, New Delhi 2014, ISBN: 9789325977884

References:

1. Maclean David, Komatineni Satya,Allen Grant,"Pro Android 5", Apress Publications-2015, ISBN: 978-1-4302-4680-0
2. " Android Programming for Beginners" by Horton, John, Packet Publication, 2015ISBN: 978-1-78588-326-2
3. Lauren Darcey and Shane Conder, "Android Wireless Application Development", Pearson Education, 2nd ed. (2011)

A.S.D. GOVERNMENT DEGREE COLLEGE FOR WOMEN(A)
DEPARTMENT OF COMPUTER APPLICATIONS
III B.Com.(C.A.) – V Semester

MOBILE APPLICATION DEVELOPMENT USING ANDROID

Course Code: CA23502 **No. of Hours/Week:3**

BLUE PRINT

S.No	Unit	Essay Questions 8 marks	Short Questions 4 marks	Marks Allotted
1	**Unit – I** **Introduction to Android**	2	2	24
2	**Unit – II** **Android Application Design Essentials**	2	2	24
3	**Unit – III** **Android User Interface Design Essentials**	2	2	24
4	**Unit – IV** **Testing Android applications**	2	1	20
5	**Unit – V** **Using Common Android APIs**	2	1	20
Total Marks				112

A.S.D. GOVT. DEGREE COLLEGE FOR WOMEN(A), KAKINADA
MODEL QUESTION PAPER
III B.Com.(C.A.) – V Semester

MOBILE APPLICATION DEVELOPMENT USING ANDROID

Time: 3hrs **Course Code: CA23502** **Max Marks : 60**

SECTION-A

I. Answer any FIVE of the following questions. **5x4=20**

1. List the features of Android. **(CO1) (L1)**
2. Define Android Software Stack. **(CO1) (L1)**
3. Define Activity, Service, and Internet. **(C2) (L1)**
4. List different attributes of Frame layout. **(CO2) (L1)**
5. Describe with example Checkbox & Radio button. **(CO3) (L1)**
6. Differentiate between List View and Recycler View. **(CO3) (L1)**
7. What is the importance of resource hierarchy. **(CO4) (L1)**
8. Explain JSON parsing in Android. **(CO5) (L1)**

SECTION-B

II. Answer the following questions. **5x8=40**

9. (a) Explain Android Application Architecture and Life Cycle in detail. **(CO1) (L4)**

(Or)

(b) Describe how to build a simple Android application with steps. **(CO1) (L4)**

10. (a) Explain the use of Activities, Intents, and Services with examples. **(CO2) (L4)**

(Or)

(b) Discuss various components of Android Application Design. **(CO2) (L4)**

11. (a) Explain Android Layouts and how they affect UI design. **(CO3) (L4)**

(Or)

(b) Discuss the use of Menus, Dialogs, and Custom Lists. **(CO3) (L4)**

12. (a) Describe the Android application publishing process. **(CO4) (L4)**

(Or)

(b) Explain resource management and preferences with examples. **(CO4) (L4)**

13. (a) Explain Android Networking and Web APIs with code snippets. **(CO5) (L4)**

(Or)

(b) Describe using Google Maps, Sensors, and Bluetooth/Wi-Fi in Android. **(CO5) (L4)**

DEPARTMENT OF COMPUTER APPLICATIONS

MINOR SYLLABUS

A.S.D. GOVERNMENT DEGREE COLLEGE FOR WOMEN(A)
DEPARTMENT OF COMPUTER APPLICATIONS
B.Com.(CA) - Minor
II Year – III Semester

Database Management Systems

Course Code: M-CA24301 **No. of Hours/Week: 3**

Course Objective:

To present an introduction to database management systems, with an emphasis on how to organize, maintain and retrieve - efficiently, and effectively - information from a DBMS.

Course Outcomes:

At the end of the course the student will be able to

CO1: Understand DBMS concepts, data models and Architecture.
CO2: Understand ER concepts and ER mapping to relational model
CO3: Improve the database design by normalization.
CO4: Make use of SQL to retrieve and maintain relational database.
CO5: Illustrate various constructs in PL/SQL.

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	3	2	2	1	-	1	3	2	2	3
CO2	3	3	3	2	1	1	3	3	2	3
CO3	3	2	3	2	-	2	3	3	2	3
CO4	3	3	3	1	1	1	3	3	3	3
CO5	2	2	2	1	1	2	3	2	3	3
Average	2.8	2.4	2.6	1.4	0.6	1.4	3	2.6	2.4	3

The COs are mapped to POs based on the relevance on a scale of 0-3
(1: Slight [Low]; 2: Moderate [Medium]; 3: Substantial [High], '-'/0:No Correlation)

UNIT- I

Overview of Database Systems: Introduction: Database system, Characteristics (Database Vs File System), Database Users, Advantages of Database systems, Database applications.

Data Models: Introduction; types of data models, Concepts of Schema, Instance and data independence; Three tier schema architecture for data independence; Database system structure, environment, Centralized and Client Server architecture for the database.

Case Study:

1. Describe the differences between Database systems and File based systems
2. Study about database models and their advantages and disadvantages

UNIT- II

Relational Model: Introduction to relational model, Codd's rules, concepts of domain, attribute, tuple, relation, constraints (Domain, Key constraints, integrity constraints) and their importance, concept of keys (super key, candidate key, primary key, surrogate key, foreign key), relational Algebra & relational calculus.

Normalization: Purpose of Normalization or schema refinement, concept of functional dependency, normal forms based on functional dependency (1NF, 2NF and 3 NF), Boyce-codd normal form (BCNF)

Case Study:

Describe Relational model and normalization for database design

UNIT - III:

Entity Relationship Model: Introduction, Representation of entities, attributes, entity set, relationship, relationship set, constraints, sub classes, super class, inheritance, specialization, generalization using ER Diagrams, Reducing ER diagrams to tables

BASIC SQL: Database schema, data types, DDL operations (create, alter, drop, rename), DML operations (insert, delete, update), basic SQL querying (select and project) using clause, arithmetic & logical operations, aggregation, grouping, ordering.

Case Study:

1. Examine issues in data storage and query processing using SQL.
2. Create, maintain and manipulate a relational database using SQL

UNIT - IV

SQL: Nested queries/ sub queries, implementation of different types of joins, SQL functions (Date, Numeric, String, Conversion functions), Creating tables with relationship, implementation of key and integrity constraints, views, relational set operations, Transaction Control Language: commit, Rollback, Savepoint , DCL :Grant, Revoke

Case Study:

1. Try to convert some sample data to information and show how it can be used in decision making.

UNIT –V

PL/SQL: Introduction, Structure, Control Structures, Cursors, Procedure, Function, Packages,Exception Handling, Triggers.

Case Study:

Use Triggers and apply them in real time databases

Additional Inputs: Transaction Management and Concurrency Control: What is transaction, ACID Properties, Concurrency control

Note: Concepts from Additional inputs must be excluded from Examinations

Textbooks:

1. Database Management Systems, 3rdEdition, Raghurama Krishnan, Johannes Gehrke, TMH
2. Database System Concepts,5th Edition, Silberschatz, Korth, TMH
3. Database Management Systems, 3rd Edition, Raghurama Krishnan, Johannes Gehrke, TMH
4. Database System Concepts,5th Edition, Silberschatz, Korth, TMH

References:

1. David Kuklinski, Osborne, Data management system McGraw Hill Publication.
2. Paneerselvam:Database Management system,PHI.Godeon C. EVEREST, Database Management-McGraw Hill Book Company.
3. MARTIN,Database Management-Prentice Hall of India, New Delhi.
4. Navathe, Database Management System.

A.S.D. GOVERNMENT DEGREE COLLEGE FOR WOMEN(A)

DEPARTMENT OF COMPUTER APPLICATIONS

B.Com.(CA) - Minor

II Year – III Semester

Database Management Systems

Course Code: M-CA24301 **No. of Hours/Week: 3**

BLUE PRINT

S.No	Unit	Essay Questions 8 marks	Short Questions 4 marks	Marks Allotted
1	**Unit – I Overview of Database Management System**	2	2	24
2	**Unit – II Relational Model**	2	2	24
3	**Unit – III Entity Relationship Model**	2	2	24
4	**Unit – IV Structured query Language**	2	1	20
5	**Unit – V PL/SQL**	2	1	20
Total Marks				112

A.S.D. GOVERNMENT DEGREE COLLEGE FOR WOMEN (A), KAKINADA
MODEL QUESTION PAPER
B.Com.(CA) - Minor
II Year - III Semester
Database Management Systems

Time : 3hrs **Course Code: M-CA24301** **Max Marks : 60**

SECTION-A

I. Answer any FIVE of the following questions. **5x4=20**

1. Explain about the structure of database system. **(CO1) (L2)**
2. What are the advantages of database system? **(CO1) (L1)**
3. Write about Codd's rules. **(CO2) (L2)**
4. What is the need for schema refinement? Explain. **(CO2) (L3)**
5. List out different types of Entity sets. Explain. **(CO3) (L2)**
6. Explain the specialization and generalization with ER-diagram. **(CO3) (L2)**
7. Explain about numeric functions in SQL. **(CO4) (L2)**
8. Infer a short account on Cursors. **(CO5) (L2)**

SECTION-B

II. Answer the following questions. **5x8=40**

9. a) Explain the Database Management system structure with a neat sketch. **(CO1) (L4)**
   (or)
   b) What is data model in DBMS? Explain various types of Data models. **(CO1) (L4)**

10. a) List out the various types of Constraints in DBMS. Explain. **(CO2) (L4)**
   (or)
   b) Explain briefly about Normal forms in database management system. **(CO2) (L4)**

11. a) What are the basic building blocks of ER-Model? Explain with an example. **(CO2) (L4)**
   (or)
   b) Explain about DDL commands in SQL with suitable examples. **(CO3) (L4)**

12. a) What are the different types of joins? Explain. **(CO4) (L2)**
   (or)
   b) Write about relational set operations in SQL with illustrations. **(CO4) (L4)**

13. a) Explain about Exception handling in PL/SQL. **(CO5) (L4)**
   (or)
   b) Write about triggers in detail with an example. **(CO5) (L3)**

A.S.D. GOVERNMENT DEGREE COLLEGE FOR WOMEN(A)
DEPARTMENT OF COMPUTER APPLICATIONS
B.Com.(CA) - Minor
II Year – IV Semester

OPERATING SYSTEMS

Course Code: M-CA24402 **No. of Hours/Week: 3**

Course Objective:

To provide knowledge about the services and functions rendered by operating systems and inculcate knowledge on Process Scheduling and Memory Management.

Course Outcomes:

Upon the successful completion of the course, the student will be able to

CO1: Interpret the basic structure of OS and architectural components.

CO2: Compare and contrast various Process scheduling algorithms.

CO3: Analyse various mechanisms of Synchronization and the principles of deadlock.

CO4: Make use of paging and segmentation in Memory management.

CO5: Demonstrate file operations and file system implementation.

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	2	-	-	1	2	-	2	1	2	3
CO2	3	2	1	2	1	-	3	2	3	3
CO3	3	2	2	-	1	2	3	3	3	3
CO4	2	2	1	-	2	2	3	2	2	2
CO5	3	3	2	1	1	2	3	2	3	3
Average	2.6	1.8	1.2	0.8	1.4	1.2	2.8	2	2.6	2.8

The COs are mapped to POs based on the relevance on a scale of 0-3

(1: Slight [Low]; 2: Moderate [Medium]; 3: Substantial [High], '-'/0:No Correlation)

Unit I

Introduction: What is Operating System? ,History and Evolution of OS, Basic OS Functions,Computer System Architecture, Operating System Structure, Types of Operating Systems– Multiprogramming Systems, Batch Systems, Time Sharing Systems; Operating Systems for Personal Computers, Workstations and Hand-held Devices, Process Control & Real time Systems..

System Structures: Operating System Services, User Operating System Interface, System Calls, Types of System Calls, Overview of UNIX Operating System.

Case Study:

1. Understanding and listing the basic differences between UNIX OS and Windows OS in usage,user interface, features etc.

Unit II

Process Management: Process Concept, Operation on Processes, Communication in Client-Server Systems.

Process Scheduling: Basic Concepts, Scheduling Criteria, Scheduling Algorithms

Case Study:

1. Present your understanding on how CPU Scheduling is different in WINDOWS compared to UNIX/LINUX.

Unit III

Synchronization: Process Synchronization, Semaphores: Usage, Implementation, TheCritical Section Problem, Classic problems of synchronization.
Deadlocks: Introduction, Deadlock Characterization, Necessary and Sufficient conditions for Deadlock, Deadlock Handling Approaches: Deadlock prevention, Deadlock Avoidance and Deadlock detection and Recovery.

Case Study:

1. Present your understanding of Deadlocks and new methodologies available in new Operating Systems released in the market.

Unit IV

Memory Management: Overview, Swapping, Contiguous Memory Allocation, Paging, Paging Examples, Segmentation, Page Replacement Algorithms

Case Study:

1. Present a paper on new methods used in Memory management in the present day Operating Systems

Unit V

Files and Directories: Files, Directory Structure, File Operations, File SystemImplementation: File Allocation Methods

Case Study:

1. Present a Paper on how UNIX treats regular files and directories differently from other operating systems.

Text Books:

1. Operating System Concepts: Abraham Silberschatz, Peter B. Galvin, Greg Gagne, 8th Edition, Wiley.

Reference Books:

1. Principles of Operating Systems by Naresh Chauhan, OXFORD University Press.
2. Tanenbaum A S, Woodhull A S, Operating System Design and Implementation,3rd edition, PHI 2006.

A.S.D. GOVERNMENT DEGREE COLLEGE FOR WOMEN (A)
DEPARTMENT OF COMPUTER APPLICATIONS

B.Com.(CA) - Minor

II Year – IV Semester

Operating Systems

Course Code: M-CA24402 **No. of Hours/Week: 3**

BLUE PRINT

S.No	Unit	Essay Questions 8 marks	Short Questions 4 marks	Marks Allotted
1	**Unit – I** **Introduction to Operating Systems**	2	2	24
2	**Unit – II** **Process Management**	2	2	24
3	**Unit – III** **Synchronization**	2	2	24
4	**Unit – IV** **Memory Management**	2	1	20
5	**Unit – V** **Files and Directories**	2	1	20
Total Marks				112

A.S.D. GOVERNMENT DEGREE COLLEGE FOR WOMEN (A)

MODEL QUESTION PAPER

B.Com.(CA) - Minor

II Year – IV Semester

OPERATING SYSTEMS

Time : 3hrs **Course Code: M-CA24402** **Max Marks : 60**

SECTION-A

I. Answer any FIVE of the following questions. **5 X 4=20**

1. Explain the structure of Operating system with a neat sketch. **(CO1) (L2)**
2. Explain time sharing and distributed operating systems. **(CO1) (L2)**
3. Discuss about the process synchronization. **(CO2) (L4)**
4. Infer the Process state diagram with a neat sketch. **(CO2) (L2)**
5. Give the necessary conditions for deadlock. **(CO3) (L1)**
6. What is critical section? Explain. **(CO3) (L2)**
7. Write about the segmentation. **(CO4) (L1)**
8. List out the File attributes. Explain. **(CO5) (L2)**

SECTION-B

II. Answer the following questions. **5 X 8=40**

9. a) Elucidate the functions of Operating System. **(CO1) (L4)**

(or)

b) List out the types of Operating Systems. Explain. **(CO1) (L2)**

10. a) Compare and contrast FCFS and SJF Process Scheduling Algorithm with illustrations. **(CO2) (L5)**

(or)

b) Explain about Communication in Client-Server system. **(CO2) (L2)**

11. a) Explain about semaphores in process synchronization. **(CO3) (L4)**

(or)

b) What are the methods for handling deadlock? Explain. **(CO3) (L4)**

12. a) Elaborate various page replacement algorithms. **(CO4) (L4)**

(or)

b) Write about memory management in detail. **(CO4) (L2)**

13. a) Compare and contrast various File allocation methods with an example. **(CO5) (L4)**

(or)

b). List various types of Directory structures. Explain. **(CO5) (L4)**

A.S.D. GOVERNMENT DEGREE COLLEGE FOR WOMEN(A),
DEPARTMENT OF COMPUTER APPLICATIONS

B.Com.(CA) - Minor

II Year – IV Semester

Python Programming

Course Code: M-CA24401 **No. of Hours/Week: 3**

Course Objective:
To present an introduction to Python Programming, to write clear and correct Python code using appropriate syntax and semantics.

Course Outcomes:

Upon successful completion of the course, the student will be able to:

CO1: Classify the fundamental concepts of Python programming, including syntax, data types, and control structures.

CO2: Demonstrate a clear understanding of functions and OOP concepts in Python.

CO3: Analyse the usage of Lists, Tuples and Dictionaries.

CO4: Apply Python programming techniques to solve real-world problems using NumPy and Pandas' libraries.

CO5: Elucidate GUI programming using matplotlib and database connectivity through MySQL in Python.

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	3	3	1	3	-	2	3	2	2	3
CO2	3	3	1	1	-	1	3	3	3	3
CO3	3	2	1	1	1	-	3	3	2	3
CO4	3	2	-	1	2	2	3	3	3	3
CO5	2	1	-	-	2	1	3	3	3	3
Average	2.8	2.2	0.6	1.2	1	1.2	3	2.8	26	3

The COs are mapped to POs based on the relevance on a scale of 0-3
(1: Slight [Low]; 2: Moderate [Medium]; 3: Substantial [High], '-'/0:No Correlation)

UNIT- I

Getting Started with Python: Introduction to Python, Python Keywords, Identifiers, Variables, Comments, Data Types, Operators, Input and Output, Type Conversion, Debugging. Flow of Control, Selection, Indentation, Repetition, Break and Continue Statement, Nested Loops.
Strings- String Operations, Traversing a String, String handling Functions.

Case Study:

1. Study the features that make Python different from Procedural Languages.

Unit-II

Functions: Functions, Built-in Functions, User Defined Functions, recursive functions, Scope of a Variable **Python and OOP:** Defining Classes, Defining and calling functions passing arguments, Inheritance, polymorphism, Modules – date time, math, Packages. **Exception Handling-** Exception in python, Types of Exception, User-defined Exceptions.

Case Study:

1. Present a report of how Exception handling is different from JAVA Exceptional Handling.

Unit-III

List: Introduction to List, List Operations, Traversing a List, List Methods and Built-in Functions. **Tuples and Dictionaries,** Introduction to Tuples, Tuple Operations, Tuple Methods and Built-in Functions, Nested Tuples. Introduction to Dictionaries, Dictionaries are Mutable, Dictionary Operations, Traversing a Dictionary, Dictionary Methods and Built-in functions.

Case Study:

1. What are the special features of dictionaries and try to analyze the same features in anyother language.

Unit-IV

Introduction to NumPy, Array, NumPy Array, Indexing and Slicing, Operations on Arrays, Concatenating Arrays, Reshaping Arrays, Splitting Arrays, Statistical Operations on Arrays. **Data Handling using Pandas**, Introduction to Python Libraries, Series, Data Frame, Importing and Exporting Data between CSV Files and Data Frames, Pandas Series Vs NumPy ndarray.

Case Study:

1. Present a paper on advanced features of NumPy and Pandas.

Unit-V

Plotting Data using Matplotlib: Introduction, Plotting using Matplotlib –Line chart, Bar chart, Histogram, Scatter Chart, Pie Chart.

GUI Programming and Database Connectivity Using Python. Graphical User Interfaces. Usingthe Tkinter Module, Creating Label, Text, Buttons, info Dialog Boxes, Radio button, Check button, Getting Input, Importing MySQL for Python, connecting with a database, Forming a query in MySQL, Passing a query to MySQL.

Case Study:

1. Present a paper on the features and advantages of MySQL compared to other commercial Databases.

Additional Inputs: File Handling: Opening and Closing Files, Reading from files, writing to files, working with csv files

Note: Concepts from Additional inputs must be excluded from Examinations

Textbooks:

1. Mark Lutz, Learning Python,5th Ed. O'REILLY
2. Core Python Programming by Dr. R. Nageswara Rao
3. Problem Solving and Python Programming by E. Balaguru Swamy

References:

1. Python programming: using problem solving approach by Reema Thareja.
2. Albert Lukaszewski, MySQL for Python, Packet Publishing

A.S.D. GOVERNMENT DEGREE COLLEGE FOR WOMEN(A)
DEPARTMENT OF COMPUTER APPLICATIONS

B.Com.(CA) - Minor

II Year – IV Semester

Python Programming

Course Code: M-CA24401 **No. of Hours/Week: 3**

BLUE PRINT

S.No	Unit	Essay Questions 8 marks	Short Questions 4 marks	Marks Allotted
1	**Unit – I** **Introduction to Python**	2	2	24
2	**Unit – II** **Functions**	2	2	24
3	**Unit – III** **Lists, Tuples and Dictionaries**	2	2	24
4	**Unit – IV** **Introduction to NumPy**	2	1	20
5	**Unit – V** **Plotting Data using Matplotlib**	2	1	20
Total Marks				112

A.S.D. GOVERNMENT DEGREE COLLEGE FOR WOMEN (A)

MODEL QUESTION PAPER

B.Com.(CA) - Minor

II Year – IV Semester

PYTHON PROGRAMMING

Time : 3hrs **Course Code: M-CA24401** **Max Marks : 60**

SECTION-A

I. Answer any FIVE of the following questions. **5x4=20**

1. Explain about data types in Python. **(CO1) (L2)**
2. Infer a brief account on string operations. **(CO1) (L2)**
3. Demonstrate the benefits of inheritance with example. **(CO2) (L2)**
4. What is a Class? How to define a Class in Python? **(CO2) (L1)**
5. List various operations performed on Tuples. **(CO3) (L1)**
6. List out the any four built-in functions. Explain in detail. **(CO3) (L2)**
7. How to reshape an array in Python? **(CO4) (L1)**
8. Infer a short note on Matplotlib library. **(CO5) (L2)**

SECTION-B

II. Answer the following questions. **5x8=40**

9. a) Explain Loop control statements in Python. **(CO1) (L2)**

(or)

b) List various Operators in Python. Explain briefly. **(CO1) (L4)**

10. a) Explain briefly about the principles of OOP. **(CO2) (L4)**

(or)

b) Determine the significance of user defined functions in Python with an example. **(CO2) (L5)**

11. a) Explain about the List methods with illustrations in Python. **(CO3) (L4)**

(or)

b) Distinguish between Tuples and Dictionaries. **(CO3) (L4)**

12. a) Explain about Indexing and Slicing arrays with an example.**(CO4)(L4)**

(or)

b) Analyse importing and exporting data between CSV file using pandas with an example. **(CO4) (L4)**

13. a) List different visualization methods available in Matplotlib library. Explain. **(CO5) (L4)**

(or)

b). Summarize the process of connecting with a database by importing MySQL in Python. **(CO5)(L2)**

A.S.D. GOVERNMENT DEGREE COLLEGE FOR WOMEN(A)
DEPARTMENT OF COMPUTER APPLICATIONS
B.Com.(CA) - Minor
III Year – V Semester

WEB PROGRAMMING

Course Code: COM23501 **No. of Hours/Week: 3**

Course Objective:

To introduce students to the fundamentals of website development by understanding HTML5 structure.

Course Outcomes:

Upon the successful completion of the course, the student will be able to

CO1: Understand the Web Design Process.

CO2: Apply the HTML tags, elements and attributes
CO3: Apply different types of HTML elements
CO4: Use of organizational elements, tables and images
CO5: Use of audio, video files

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	2	-	-	1	2	-	2	1	2	3
CO2	3	2	1	2	1	-	3	2	3	3
CO3	3	2	2	-	1	2	3	3	3	3
CO4	2	2	1	-	2	2	3	2	2	2
CO5	3	3	2	1	1	2	3	2	3	3
Average	2.6	1.8	1.2	0.8	1.4	1.2	2.8	2	2.6	2.8

The COs are mapped to POs based on the relevance on a scale of 0-3
(1: Slight [Low]; 2: Moderate [Medium]; 3: Substantial [High], '-'/0:No Correlation)

Unit 1: Introduction to Web Programming: Introduction, creating a website, HTML tags, HTML Elements, HTML attributes, CSS Preview, History of HTML, Differences between old HTML and HTML5, how to check your HTML code
Case Study: Create a web page of your department using standard HTML tags, HTML elements and HTML attributes

Unit 2: Coding Standards, Block Elements:
HTML coding conventions, Comments, HTML Elements, Should Describe Web Page Content Accurately, Content Model Categories, Block Elements, blockquote Element, Whitespace Collapsing, pre Element, Phrasing Elements, Editing Elements, q and cite Elements, dfn, abbr, and time Elements, Code-Related Elements, br and wbr Elements.
Text Elements, and Character References: sup, sub, s, mark, and small Elements, strong, em, b, u, and i Elements, span Element, Character References, Web Page with Character References, and Phrasing Elements.
Case Study: Create a web page related to famous water reservoir/ famous tourist spots near by your location using block elements, text elements and character references

Unit 3: Cascading Style Sheet(CSS) : CSS Overview, CSS Rules, Example with Type Selectors and the Universal Selector, CSS Syntax and Style, Class Selectors, ID Selectors, span and div Elements, Cascading, style Attribute, style Container, External CSS Files, CSS Properties, Color Properties, RGB Values for Color, Opacity Values for Color, HSL and HSLA Values for Color, Font

Properties, line-height Property, Text Properties, Border Properties, Element Box, padding Property, margin Property

Case Study: Description of your City or place with the use of CSS and compare it with previous two case studies

Unit 4: Organizing a Page's, Content with Lists, Figures, and Various, Organizational Elements: List, Descendant selector, Figure with picture and caption, Organizational elements, Navigation bar, Header and Footer, User agent stylesheet, Child selector, CSS inheritance **Tables and CSS Layout:** Data tables vs Layout tables, Table elements, Format table **Links and Images:** Implement a link with the a element, different types of href attribute Values, relative URLs, Implement a link that jumps to a particular location within a web page, element's target attribute, Understand the concepts behind GIF, JPEG, and PNG bitmap image formats, implement bitmap image elements within a web page, implement SVG image elements within a web page

Case Study: Create a web page related to your department time table and images of any activity

Unit 5: Image Manipulations, Audio and Video: Position an image, how to display a shortcut icon in a browser's tab area, iframe, Create an image sprite file

Introduction to JavaScript: Button control with an event Handler, Syntax rules for functions, variables, identifiers, and assignments, Document Object Model(DOM), form with a text control and a button, event-handler attributes, rollover using mouse events

Case Study: Create a webpage involving audio and video of your college day activities

Additional Inputs: Implement an audio player using the audio element, Handle different audio file formats, Cover a web page's background with an image, web fonts, implement a video player using the video element, Center a web page's content, Cover a web page's background with a color gradient

Note: Concepts from Additional input must be excluded from Examinations

Textbooks:

1. Web Programming with HTML5, CSS and JavaScript, John Dean, Jones & Bartlett Learning

Reference Books:

1. **HTML & CSS:** Complete Reference, 5th Edition, Thomas. A. Powell

A.S.D. GOVERNMENT DEGREE COLLEGE FOR WOMEN (A)
DEPARTMENT OF COMPUTER APPLICATIONS
B.Com.(CA) - Minor
III Year – V Semester

WEB PROGRAMMING

Course Code: COM23501 **No. of Hours/Week: 3**

BLUE PRINT

S.No	Unit	Essay Questions 8 marks	Short Questions 4 marks	Marks Allotted
1	**Unit – I** **Introduction to Web Programming**	2	2	24
2	**Unit – II** **Coding Standards, Block Elements**	2	2	24
3	**Unit – III** **Cascading Style Sheet (CSS)**	2	2	24
4	**Unit – IV** **Organizing a Page's, Content with Lists, Figures, and Various, Organizational Elements**	2	1	20
5	**Unit – V** **Image Manipulations, Audio and Video**	2	1	20
Total Marks				112

A.S.D. GOVERNMENT DEGREE COLLEGE FOR WOMEN (A)

MODEL QUESTION PAPER

B.Com.(CA) - Minor

III Year – V Semester

WEB PROGRAMMING

Time : 3hrs **Course Code: COM23501** **Max Marks : 60**

SECTION-A

I. Answer any FIVE of the following questions. **5 X 4=20**

1. Define HTML and list any four basic HTML tags. **(CO1) (L1)**
2. Explain the difference between HTML and HTML5 with two examples. **(CO1) (L1)**
3. List any four phrasing elements used in HTML. **(CO1) (L1)**
4. What are HTML comments? Write the syntax with an example. **(CO2) (L1)**
5. Explain the concept of CSS cascading and specificity with an example. **(CO3) (L1)**
6. List the different types of lists available in HTML. **(CO4) (L1)**
7. Write about Navigation bar, Header and Footer. **(CO4) (L1)**
8. What is an image sprite and how is it beneficial? **(CO5) (L1)**

SECTION-B

II. Answer the following questions. **5 X 8=40**

9. a) Discuss the process of Creating a Website with an Example. **(CO1) (L4)**

   (or)

   b) Explain about History of HTML. **(CO1) (L4)**

10. a) Explain whitespace collapsing in HTML with an example. **(CO2) (L4)**

    (or)

    b) Write HTML code using <abbr>, <dfn>, and <time> to describe an event. **(CO2) (L4)**

11. a) Explain Class Selectors, ID Selectors in CSS. **(CO3) (L4)**

    (or)

    b) Analyse the structure of a CSS rule and its components using examples. **(CO3) (L4)**

12. a) Compare absolute, relative, and fragment URLs with examples in HTML. **(CO4) (L4)**

    (or)

    b) Discuss the concept GIF, JPEG, and PNG image formats in web development. **(CO4) (L4)**

13. a) Explain about how to display a shortcut icon in a browser's tab area. **(CO5) (L4)**

    (or)

    b) Explain about Document Object Model (DOM). **(CO5) (L4)**

A.S.D. GOVERNMENT DEGREE COLLEGE FOR WOMEN(A)
DEPARTMENT OF COMPUTER APPLICATIONS
B.Com.(CA) - Minor
III Year – V Semester

WEB DEVELOPMENT USING PHP & MYSQL

Course Code: COM23502 **No. of Hours/Week: 3**

Course Objective:

This course equips students with practical skills in server-side web development using PHP, focusing on dynamic content generation, form handling, file operations, and database integration with MySQL. It emphasizes code reusability, object-oriented programming, and modern frameworks like Laravel.

Course Outcomes:

CO1: Write simple programs in PHP.
CO2: Understand how to use regular expressions, handle exceptions, and validate data.
CO3: Apply In-Built functions and Create User defined functions in PHP programming.
CO4: Write PHP scripts to handle HTML forms.
CO5: Know how to use PHP with MySQL DB and can write database driven web pages.

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	2	-	-	1	2	-	2	1	2	3
CO2	3	2	1	2	1	-	3	2	3	3
CO3	3	2	2	-	1	2	3	3	3	3
CO4	2	2	1	-	2	2	3	2	2	2
CO5	3	3	2	1	1	2	3	2	3	3
Average	2.6	1.8	1.2	0.8	1.4	1.2	2.8	2	2.6	2.8

The COs are mapped to POs based on the relevance on a scale of 0-3
(1: Slight [Low]; 2: Moderate [Medium]; 3: Substantial [High], '-'/0:No Correlation)

Unit I: Using PHP: PHP Basics: Accessing PHP, Creating Sample Application, Embedding PHP in HTML, Adding Dynamic Content, Identifiers, Variables, Constants, Operators, Data types, Accessing Form Variables, Variable handling Functions, Making Decisions with Conditions, Repeating actions through Iterations, Breaking Out of a Control Structure **Storing and Retrieving Data:** Processing Files, opening a File, writing to a File, closing a File, reading from a File, Other File Functions, Locking Files.
CASE STUDY: Web Based Social Network Application Development

Unit II: Arrays: Arrays basics, Types, Operators, Array Manipulations.
String Manipulation and Regular Expressions: Strings Basics, Formatting Strings, Joining and Splitting Strings with String Functions, Comparing Strings, Matching and Replacing Substrings with String Function, Introducing Regular Expressions, Find, Replace, Splitting in regular Expressions
CASE STUDY: Retail E-commerce Application Development for Apparels & Garments

Unit III: Reusing Code and Writing Functions: The Advantages of Reusing, Using require () and include () Using Functions in PHP, Scope, Passing by Reference Versus Passing by Value, keyword, Recursion.

Object-Oriented PHP: OOP Concepts, Creating Classes, Attributes, and Operations in PHP, Implementing Inheritance in PHP, Understanding Advanced Object-Oriented Functionality in PHP.
Error and Exception Handling: Error and Exception Handling, Exception Handling Concepts.
CASE STUDY: e-Commerce Application for Manufacturing Industry

Unit IV: Using MySQL: Relational Database Concepts, Web Database Architecture, Introducing MySQL's Privilege System, Creating Database Tables, Understanding MySQL, Identifiers, Database

Operations, querying a Database, Understanding the Privilege System, Making Your MySQL Database Secure, Optimization, Backup, Restore.
CASE STUDY: Custom CMS Website Development

Unit V: Introduction of Laravel PHP Framework: Why Lavarel, setting up Lavarel Development Environment, Routing and Controllers: introduction to MVC, the HTTP verbs, and REST, Route Definitions, Route Groups, Signed Routes, Views, Controllers, Route Model Binding, Redirects, Custom Responses
Case Study: E-commerce Business Solution delivered for Groceries Vendor

Textbooks:

1. Luke Welling, Laura Thomson, "PHP and MySQL Web Development", 5th Edition
2. Matt Stauffer, "Lavarel: Up & Running", 2nd Edition
3. Julie C. Meloni, SAMS Teach yourself PHP MySQL and Apache, Pearson Education (2007).
4. Steven Holzner, PHP: The Complete Reference, McGraw-Hill
5. Robin Nixon, Learning PHP, MySQL, JavaScript, CSS & HTML5, Third Edition O'reilly, 2014
6. Xue Bai Michael Ekedahl, The web warrior guide to Web Programming, Thomson (2006).

Reference Books:

1. http://www.codecademy.com/tracks/php
2. http://www.w3schools.com/PHP
3. http://www.tutorialpoint.com
4. Other web sources suggested by the teacher concerned and the college librarian including reading material

A.S.D. GOVERNMENT DEGREE COLLEGE FOR WOMEN (A)
DEPARTMENT OF COMPUTER APPLICATIONS
B.Com.(CA) - Minor
III Year – V Semester

WEB DEVELOPMENT USING PHP & MYSQL

Course Code: COM23502 **No. of Hours/Week: 3**

BLUE PRINT

S.No	Unit	Essay Questions 8 marks	Short Questions 4 marks	Marks Allotted
1	**Unit – I** **Using PHP,Storing and Retrieving Data**	2	2	24
2	**Unit – II** **Arrays, String Manipulation and Regular Expressions**	2	2	24
3	**Unit – III** **Reusing Code and Writing Functions**	2	2	24
4	**Unit – IV** **Using MySQL**	2	1	20
5	**Unit – V** **Introduction of Laravel PHP Framework**	2	1	20
Total Marks				112

A.S.D. GOVERNMENT DEGREE COLLEGE FOR WOMEN (A)

MODEL QUESTION PAPER

B.Com.(CA) - Minor

III Year – V Semester

WEB DEVELOPMENT USING PHP & MYSQL

Time : 3hrs **Course Code: COM23501** **Max Marks : 60**

SECTION-A

I. Answer any FIVE of the following questions. **5 X 4=20**

1. List and explain any four PHP data types with examples. **(CO1) (L1)**
2. List and explain any four Operators in PHP. **(CO1) (L1)**
3. Define Arrays in PHP. List types of arrays with syntax. **(CO2) (L2)**
4. Write about Joining and Splitting Strings with String Functions. **(CO2) (L1)**
5. What is Error and Exception Handling and Explain. **(CO3) (L4)**
6. Explain about Web Database Architecture. **(CO4) (L1)**
7. Write about Signed Routes and Views. **(CO5) (L1)**
8. Write about Route model binding. **(CO5) (L1)**

SECTION-B

II. Answer the following questions. **5 X 8=40**

9. a) Explain how PHP is embedded in HTML to create dynamic content. **(CO1) (L4)**

(or)

b) Explain about Breaking out of control structure. **(CO1) (L4)**

10. a) Explain about regular expressions in string pattern matching. **(CO2) (L4)**

(or)

b) Demonstrate String Manipulation and Comparing Strings in PHP. **(CO2) (L4)**

11. a) Describe the concept of Advanced Object-Oriented Functionality in PHP. **(CO3) (L4)**

(or)

b) Explain a PHP class with basic attributes and methods for user authentication. **(CO3) (L4)**

12. a) Describe the architecture of web-based database systems. **(CO4) (L4)**

(or)

b) Explain the importance of database optimization and Backup, Restore. **(CO4) (L4)**

13. a) Describe the purpose of route model binding in Laravel. **(CO5) (L4)**

(or)

b) Define Route. Explain Route group and Signed Route. **(CO5) (L4)**