

**S.K.S.D. MAHILA KALASALA (UG&PG)(AUTONOMOUS) :: TANUKU**

**Thrice-Accredited by NAAC with 'B<sup>++</sup>' Grade at 2.82 CGPA**

**I B.A., (Computer Applications), I SEMESTER**

**SUBJECT : COMPUTER APPLICATIONS**

**Paper – I : COMPUTER FUNDAMENTALS AND OFFICE TOOLS**

**W.e.f : 2020-21**

**SYLLABUS**

### **UNIT I:**

**Basics of Computers** :Definition of a Computer - Characteristics and Applications of Computers – Block Diagram of a Digital Computer – Classification of Computers based on size and working – Central Processing Unit – I/O Devices

### **UNIT-II**

Primary, Auxiliary and Cache Memory – Memory Devices. Software, Hardware, Firmware and People ware – Definition and Types of Operating System – Functions of an Operating System – MS-DOS – MS Windows – Desktop, Computer, Documents, Pictures, Music, Videos, Recycle Bin, Task Bar – Control Panel.

### **UNIT-III**

**MS-Word**: Features of MS-Word – MS-Word Window Components – Creating, Editing, Formatting and Printing of Documents – Headers and Footers – Insert/Draw Tables, Table Auto format – Page Borders and Shading – Inserting Symbols, Shapes, Word Art, Page Numbers, Equations – Spelling and Grammar – Thesaurus – Mail Merge

### **UNIT-IV**

**MS-PowerPoint**: Features of PowerPoint – Creating a Blank Presentation - Creating a Presentation using a Template - Inserting and Deleting Slides in a Presentation – Adding Clip Art/Pictures Inserting Other Objects, Audio, Video - Resizing and Scaling of an Object – Slide Transition – Custom Animation. .

**MS-Excel:** Overview of Excel features – Creating a new worksheet, Selecting cells, Entering and editing Text, Numbers, Formulae, Referencing cells – Inserting Rows/Columns–Changing column widths and row heights, auto format, changing font sizes, colors, shading.

S.K.S.D. MAHILA KALASALA (UG&PG)(AUTONOMOUS) :: TANUKU

Thrice-Accredited by NAAC with ‘B<sup>++</sup>’ Grade at 2.82 CGPA



I B.A., (Computer Applications) ,II SEMESTER

SUBJECT : COMPUTER APPLICATIONS

Paper – II : PROGRAMMING IN ‘C’

W.e.f : 2020-21

SYLLABUS

---

**UNIT I:**

**Introduction to Algorithms:** Algorithm - Key features of Algorithms - examples of Algorithms, Flow Charts.

**Introduction to C :** Structure of C Program, Writing the first C Program , Files used in C Program, Compiling and Executing C Programs, Using Comments, Keywords, Identifiers, Basic Data Types in C, Variables, Constants, I/O Statements in C, Operators in C, Type Conversion and Type Casting

**UNIT-II**

**Control and Looping Statements:** Introduction to Decision Control Statements, Conditional Branching Statements, Iterative Statements, Nested Loops, Break and Continue Statement, Goto Statement.

**Functions:** Introduction, using functions – Function declaration/ prototype – Function definition function call – return statement – Passing parameters, Recursive functions.

### **UNIT-III**

**Arrays:** Introduction, Declaration of Arrays , Accessing elements of the Array – Storing Values in Array, One dimensional array -declaration, initialization, Accessing one dimensional array, Passing one dimensional array to function, Two dimensional Arrays- declaration, initialization, Accessing two dimensional arrays, passing two dimensional arrays to functions. **Strings:** Introduction, String and Character functions, String Operations using String functions- strcat() , strcmp() , strcpy() , strlen().

### **UNIT-IV**

**Pointers:** declaring Pointer Variable, Pointer Expressions and Pointer Arithmetic , Passing Arguments to Functions using Pointers, Memory Allocation in C Programs, Drawbacks of Pointers.

**Structures:** Introduction to structures, Arrays of Structures, Nested Structures.

**Union and Enumerated Data Types:** Introduction to Union – accessing union elements, Enumerated Data Types.

S.K.S.D. MAHILA KALASALA (UG&PG)(AUTONOMOUS) :: TANUKU

Thrice-Accredited by NAAC with 'B<sup>++</sup>' Grade at 2.82 CGPA

II B.A., (Computer Applications), III SEMESTER

SUBJECT : COMPUTER APPLICATIONS

Paper – III : DATABASE MANAGEMENT SYSTEM

W.e.f : 2020-21

SYLLABUS

**UNIT I:**

**Introduction:** Data and Information, Characteristics of the Database Approach:

Self-Describing Nature of the a Database System, Insulation between Programs and Data, Data Abstraction, Support of Multiple Views of the data, Sharing of Data and multiuser Transaction Processing, **Actors on the Scene:** Database Administrators, Database Designers, End Users, System Analysts and Application, Advantages of DBMS.

**Data Models, Schemas and Instances:** Categories of Data Models, Schemas, Instances, and Database State.

**DBMS Architecture and Data Independence:** The Three- Schema Architecture, Data Independence.

**Entity Relationship Model:** Introduction, Entity types, Entity sets, Attributes and Keys, Entities and Attributes, Entity Types, Entity Sets, Keys and Value Sets, Relationships, Relationship types, Roles, and Structural Constraints, Relationship Types, Sets and Instances, Relationship Degree, Role Names, and Recursive Relationships, Constraints on Relationship Types, Attributes of Relationship Types, Weak Entity Types, ER Diagrams, Naming Conventions, and Design Issues

**UNIT-II**

**Enhanced Entity-Relationship:** Subclasses, super classes, and inheritance, Specialization and Generalization, Constraints and characteristics of Specialization and Generalization.

**The relational data model, Relational Constraints:** Introduction, Relational Model Concepts, Domains, Attributes, Tuples and Relations, Characteristics of Relations, Relational Model Notation Relational Constraints and Relational .

**Database Schemas:** Domain Constraints, Key Constraints and Constraints on Null, Relational Databases and Relational Database Schemas, Entity Integrity, Referential Integrity and Foreign Keys .

### **UNIT-III**

**Normal forms based on primary keys:** Introduction to Normalization, First Normal Form, Second Normal Form, Third Normal Form.

**The Relational Algebra:** Basic Relational Algebra Operation, The SELECT Operation, The PROJECT operation, Sequences of Operations and the, RENAME Operation, Set Theoretic Operations, The JOIN Operation, A Complete Set of Relational Algebra Operations, The DIVISION Operation.

**Additional Relational Operations:** Aggregate Functions and Grouping, Recursive Closure Operations, OUTER JOIN and OUTER UNION Operations

### **UNIT-IV:**

**SQL (STRUCTURED QUERY LANGUAGE):** Data Definition, Constraints and Schema changes in SQL, The CREATE TABLE Command and SQL Data Types and Constraints, The DROP SCHEMA and DROP TABLE Command, The ALTER TABLE Command, The SELECT-FROM-WHERE Structure of SQL Queries WHERE-Clause , Aggregate Functions and Grouping, Insert, Delete, and Update Statements in SQL, The INSERT Command, The DELETE Command

**S.K.S.D. MAHILA KALASALA (UG&PG)(AUTONOMOUS) :: TANUKU**

**Thrice-Accredited NAAC with 'B++' Grade at 2.82 CGPA**

**II B.A., (COMPUTER APPLICATIONS) ,IV SEMESTER**

**SUBJECT : COMPUTER APPLICATIONS**

**Paper - IV : Object Oriented Programming using Java**

**W.e.f : 2020-21**

**SYLLABUS**

**UNIT-1:**

**FUNDAMENTALS OF OBJECT ORIENTED PROGRAMMING :**Introduction, Object Oriented paradigm, Basic Concepts of OOP, Benefits of OOP, Applications of OOP, Java features.

**OVERVIEW OF JAVA LANGUAGE:** Simple Java program structure, Java tokens, Implementing a Java Program, Java Virtual Machine, Command line arguments.

**CONSTANTS, VARIABLES & DATATYPES:** Introduction, Constants, Variables, Data Types, Declaration of Variables, Giving Value to Variables, Getting Value of Variables, operators in java .

**UNIT-II:**

**DECISION MAKING & BRANCHING:** Introduction, Decision making with if statement, Simple if statement, if-Else statement, Nesting of if-else statements, else-if ladder, switch statement, conditional operator.

**LOOPING:** Introduction, The While statement, the do-while statement, the for statement

**CLASSES, OBJECTS & METHODS:** Introduction, Defining a class, Adding variables, Adding methods, Creating objects, Accessing class members, Constructors, Method overloading, Static members,;

### **UNIT-III:**

**INHERITANCE:** Extending a class, Overriding methods, Final variables and methods, Final classes, Abstract methods and classes;

**ARRAYS, STRINGS AND VECTORS:** Arrays, One-dimensional arrays, Creating an array, Two – dimensional arrays, Strings

**INTERFACES:** Introduction to Multiple Inheritance, Defining interfaces, Extending interfaces, Implementing interfaces;

**MULTITHREADED PROGRAMMING:** Creating Threads, Extending the Threads, Stopping and Blocking a Thread, Lifecycle of a Thread, Using Thread Methods.

### **UNIT-IV:**

**MANAGING ERRORS AND EXCEPTIONS:** Types of errors : Compile-time errors, Run-time errors, Exceptions, Exception handling, Multiple Catch Statements, Using finally statement,

**APPLET PROGRAMMING:** local and remote applets, Applets and Applications, Building Applet code, Applet Life cycle: Initialization state, Running state, Idle or stopped state, Dead state, Display state.

**PACKAGES:** Java API Packages, Creating Packages, Accessing a Package, Using a Package.

**S.K.S.D. MAHILA KALASALA (UG&PG)(AUTONOMOUS) :: TANUKU**  
**Thrice-Accredited by NAAC with ‘B<sup>++</sup>’ Grade at 2.82 CGPA**  
**II B.A., (Computer Applications),IV SEMESTER**  
**SUBJECT : COMPUTER APPLICATIONS**  
**Paper V:WEB DESIGN**  
**W.e.f : 2020-21**  
**SYLLABUS**

---

**UNIT I:**

**Introduction to HTML:** Introduction to HTML and World Wide Web, Basic html, Document body, text, Hyperlinks, Adding more formatting Lists, Tables, Images, Multimedia Objects, Frames, Forms

**UNIT-II :**

**CSS and Java Script: CSS:** Introduction, Using Styles: Simple Examples, Defining your own Styles, Properties and Values in Styles, Stylesheets-A worked example, Formatting Blocks of Information, Layers. Java Script: Dynamic HTML,

**JavaScript**-The basics, variables, String manipulation, Mathematical functions, Statements, Operators, Arrays, Functions, Data validation

### **UNIT-III:**

**Building blocks of PHP:** Variables, Data Types, Operators and Expressions, Constants. Flow Control Functions in PHP: Switching Flow, Loops, Code Blocks and Browser Output. Working with Functions: Defining Functions, Calling functions, returning the values from User Defined Functions, Variable Scope, Saving State between Function calls with the Static statement, more about arguments

### **UNIT-IV:**

**Working with Forms:** Creating Forms, Accessing Form - Input with User defined Arrays, Combining HTML and PHP code on a single Page, Redirecting the user, Sending Mail on Form Submission, Working with File Uploads

**Interacting with MySQL using PHP:** MySQL Versus MySQL Function, Connecting to MySQL with PHP, Working with MySQL Data. Creating Database Tables, Creating Menu, Creating Record Addition Mechanism, Viewing Records, Creating the Record Deletion Mechanism, Adding Sub entities to a Record.

**S.K.S.D. MAHILA KALASALA (UG&PG)(AUTONOMOUS) :: TANUKU**  
**Thrice-Accredited by NAAC with 'B<sup>++</sup>' Grade at 2.82 CGPA**  
**III B.A., (Computer Applications),V SEMESTER**  
**SUBJECT : COMPUTER APPLICATIONS**  
**Paper 6C:E-COMMERCE APPLICATION DEVELOPMENT**  
(Skill Enhancement Course (Elective))  
**W.e.f : 2020-21**  
**SYLLABUS**

---

**Unit-1:**

Introduction to E-commerce: Meaning and concept – E-commerce, E-commerce v/s Traditional Commerce, E-Business & E-Commerce, History of E-Commerce, features & benefits of E-Commerce, Impacts, Challenges & Limitations of E-Commerce

**Unit-2:**

Business models of E-Commerce: Business to Business, 2.1.2 Business to customers, 2.1.3 Customers to Customers, Business to Government, Business to Employee, Influencing factors of successful E-Commerce, Architectural framework of Electronic Commerce, Web based E-Commerce Architecture,

**Unit-3:**

Electronic data Interchange: EDI Technology -EDI- Communication EDI Agreements E-Commerce payment system. Digital Economy, EDI – Importance, Internet Commerce

**Unit -4:**

A Page on the web - HTML Basics Client Side scripting -JAVA SCRIPT basics Server side Scripting- PHP basics. Logging in to your press site –word press dashboard creating your first post adding photos and images creating hyper link adding categories and tags

**W.e.f : 2020-21**

**S.K.S.D. MAHILA KALASALA (UG&PG)(AUTONOMOUS) :: TANUKU**

**Thrice-Accredited by NAAC with 'B++' Grade at 2.82 CGPA**



**III B.A(COMPUTER APPLICATIONS) ,(V Semester)**

**SUBJECT : COMPUTER APPLICATIONS**

**Paper (7C): REAL TIME GOVERNANCE SYSTEM**

(Skill Enhancement Course (Elective))

## **SYLLABUS**

---

### **Unit – 1: : Introduction to E-Governance**

Government, Governance and Good Governance- What is E-Governance or Electronic Governance? E-Government and E-Governance, A conceptual

Analysis. Objectives& Components - four phase model Implementing

E-Governance- Issues while implementing E-Governance Opportunities and challenges, Types of E-Governance, What is Real Time Governance (RTG), Real-time Governance Society (RTGS)

### **Unit – 2: E-Governance Infrastructure**

**Data Systems infrastructure:** Executive Information Systems, Management Information Systems, Knowledge Management Systems

**Legal Infrastructural preparedness:** IT Act 2000, Challenges to Indian law and cybercrime scenario in India, Amendments of the Indian IT Act

**Institutional Infrastructural preparedness:** Internet, Intranet, Extranet

**Human Infrastructural preparedness:** Top-level management, Middle-level management, Low-level management

**Unit – 3:**

**E-Governance: Country Experience**

INDIA, US, UK, AUSTRALIA, DUBAI

**E-Governance in India**

Andhra Pradesh, Karnataka, Kerala, Uttar Pradesh, Madhya Pradesh, West Bengal, Gujarat

**Unit – 4: Latest Applications in Real Time Governance**

Agriculture, Rural Development, Health care, Education, Tourism, Commerce and Trade

**S.K.S.D. MAHILA KALASALA (UG&PG)(AUTONOMOUS) :: TANUKU**  
**Thrice-Accredited by NAAC with 'B++' Grade at 2.82 CGPA**  
**I B.COM (VOCATIONAL) ,(I Semester)**  
**SUBJECT : COMMERCE**

**Paper – I: INFORMATION TECHNOLOGY**

**w.e.f : 2020– 21**

**SYLLABUS**

---

**Unit-I:**

**Introduction:** Computer Definition - Characteristics and Limitations of Computer Hardware— Generations of Computer, Classification of Computers, Applications of Computer, Basic Components of PC, Computer Architecture - Primary and Secondary Memories- Input and Output Devices- Operating System- Function of Operating System- Types of Operating System- Languages and its Types

**Unit II:**

**MS word:** Word Processing – Features-Advantages and Applications- Parts of Word Window-Toolbar-Creating, Saving, Closing, Opening and Editing of a Document- Moving and Copying a Text-Formatting of Text and Paragraph- Bullets and Numbering-Find and Replace - Insertion of objects-Headers and Footers- Page Formatting- Auto Correct-Spelling and Grammar- Mail Merge- Macros

**Unit-III**

**MS-EXCEL:** Features - Spread Sheet-Workbook - Cell-Parts of a window- Saving, Closing, Opening of a Work Book - Editing - Advantages - Formulas- Types of Function-Templates - Macros - Sorting- Charts - Filtering - Consolidation - Grouping- Pivot Table

**MS Power point:** Introduction - Starting - Parts-Creating of Tables- Create Presentation - Templates-Auto Content Wizard-Slide Show-Editing of Presentation- Inserting Objects and charts

#### **Unit-IV**

**MS Access:** Orientation to Microsoft Access - Create a Simple Access Database - Working with Table Data - Modify Table Data - Sort and Filter Records - Querying a Database -Create Basic Queries - Sort and Filter Data in a Query - Perform Calculations in a Query - Create Basic Access Forms - Work with Data on Access Forms - Create a Report - Add Controls to a Report - Format Reports

**S.K.S.D. MAHILA KALASALA (UG&PG)(AUTONOMOUS) :: TANUKU**

**Thrice-Accredited by NAAC with 'B<sup>++</sup>' Grade at 2.82 CGPA**

**I B.COM ( VOCATIONAL ) ,II SEMESTER**

**SYLLABUS**  
**SUBJECT: COMMERCE**

**Paper - II : E-COMMERCE AND WEB DESIGNING**

---

**UNIT I:**

w.e.f. : 2020–2021

**Introduction:** Meaning, Nature, Concepts, Advantages, Disadvantages and reasons for Transacting Online, Types of E-Commerce, e-commerce Business Models (Introduction , Key Elements of a Business Model And Categorizing Major E-Commerce Business Models), Forces Behind e-commerce.

Technology used in E-commerce: The dynamics of World Wide Web and Internet (Meaning, Evolution And Features); Designing, Building and Launching e-commerce website (A systematic approach involving decisions regarding selection of hardware, software outsourcing Vs. in-house development of a website).

**UNIT II:**

**E-payment System:** Models and methods of e-payments (Debit Card, Credit Card, Smart Cards, e- money), Digital Signatures (Procedure, Working And Legal Position), Payment Gateways, Online Banking (Meaning, Concepts, Importance, Electronic Fund Transfer, Automated Clearing House, Automated Ledger Posting), Risks Involved in e-payments.

**UNIT III:**

**On-line Business Transactions:** Meaning, Purpose, Advantages and Disadvantages of Transacting Online, E- Commerce Applications in Various Industries Like {Banking, Insurance, Payment of Utility Bills, Online Marketing, E-Tailing (Popularity, Benefits, Problems and Features), Online Services. (Financial, Travel and Career), Auctions, Online Portal, Online Learning, Publishing and Entertainment} Online Shopping (Amazon, Snap Deal, Alibaba, Flipkart, etc.).

**UNIT IV:**

**Website designing:** Designing a home page, HTML document, Anchor tag  
Hyperlinks, Head and body section, Header Section, Title, Prologue, Links,  
Colorful Pages, Comment, Body Section, Heading Horizontal Ruler, Paragraph,  
Tabs, Images And Pictures, Lists and Their Types, Nested Lists, Table  
Handling. Frames: Frameset Definition, Frame Definition, Nested Framesets,  
Forms and Form Elements. DHTML and Style Sheets: Defining Styles, elements  
of Styles, linking a style sheet to a HTML Document, Inline Styles, External  
Style Sheets, Internal Style Sheets & Multiple Style Sheets.  
Security and Encryption: Need and Concepts, E-Commerce Security  
Environment: (Dimension, Definition and Scope Of E-Security), Security  
Threats in The E-Commerce Environment

**S.K.S.D. MAHILA KALASALA (UG&PG)(AUTONOMOUS) :: TANUKU**

**Thrice-Accredited by NAAC with 'B<sup>++</sup>' Grade at 2.82 CGPA**

**II B.COM(VOCATIONAL),(III SEMESTER)**

**SUBJECT : COMMERCE**

**Paper – III (3C): PROGRAMMING WITH C & C++**

**W.e.f : 2020-21**

**SYLLABUS**

**UNIT I:**

**Introduction and Control Structures:** History of 'C' - Structure of C program – C character set, Tokens, Constants, Variables, Keywords, Identifiers – C data types - C operators - Standard I/O in C -Applying if and Switch Statements. **Loops** : Use of While, Do While and For Loops - Use of Break and Continue Statements

**UNIT-II:**

**Arrays:** Array Notation and Representation - Manipulating Array Elements - Using Multi Dimensional Arrays. **Strings and Functions:** Declaration and Initialization of String Variables - String Handling Functions -Defining Functions - Function Call - Call By Value, Call By Reference – Recursion.

**UNIT III:**

**Principles of Object Oriented Programming:** Procedure Oriented Programming, Object Oriented Programming, Basic concepts of Object Oriented Programming, Applications of C++, A simple C++ Program, An example with Class, Structure of C++ Program, Creating source file, Compiling and Linking.

## UNIT IV:

**Classes and Objects:** Tokens, Keywords, Declaration of Variables, Dynamic initialization of variables, Specifying a Class, Defining member functions, Constructors and Destructors, Inheritance and types of Inheritance.



S.K.S.D. MAHILA KALASALA (UG&PG)(AUTONOMOUS) :: TANUKU

Thrice-Accredited by NAAC with 'B<sup>++</sup>' Grade at 2.82 CGPA

## II B.Com (VOCATIONAL), (IV SEMESTER)

SUBJECT: COMMERCE

Paper IV- DATABASE MANAGEMENT SYSTEM

w.e.f. : 2020-2021

## SYLLABUS

---

**Unit-I: Overview of Database Management System:** Introduction, Data and Information, Database, Database Management System, Objectives of DBMS, Evolution of Database Management Systems, Classification of Database Management System

### Unit-II: .

**File-Based System:** File based System, Drawbacks of File-Based System , DBMS Approach, Advantages of DBMS, Data Models, Components of Database System, Database Architecture, DBMS Vendors and their products.

**Entity-Relationship Model:** Introduction, The Building Blocks of an Entity-Relationship, Classification of Entity Sets, Attribute Classification, Relationship Degree, Relationship Classification, Generalization and Specialization, aggregation and composition, CODD'S Rules, Relational Data Model, Concept of, Relational Integrity.

**Unit-III: Structured Query Language:** Introduction, History of SQL Standard, Commands in SQL, Data types in SQL, Data Definition Language (DDL), Selection Operation Projection Operation, Aggregate Functions, Data Manipulation Language, Table Modification, Table Truncation, Imposition of Constraints, Set Operations.

#### **Unit -IV:**

**PL/SQL:** Introduction, Structure of PL/SQL, PL/SQL Language Elements ,Data Types, Control Structure,, Steps to Create a PL/SQL Program, Iterative Control ,Cursors , Steps to Create a Cursor , Procedure, Function ,Packages ,Exceptions Handling, Database Triggers, Types of Triggers.

**W.e.f : 2020-21**

**S.K.S.D. MAHILA KALASALA (UG&PG)(AUTONOMOUS) :: TANUKU**

**Thrice-Accredited by NAAC with 'B++' Grade at 2.82 CGPA**



## III B.Com(VOCATIONAL), (V SEMESTER)

### SUBJECT : COMMERCE

#### Paper (9C): REAL TIME GOVERNANCE SYSTEM

(Skill Enhancement Course (Elective))

### SYLLABUS

---

#### Unit – 1 : Introduction to E-Governance

Government, Governance and Good Governance- What is E-Governance or Electronic Governance? E-Government and E-Governance, A conceptual Analysis.

Objectives& Components - four phase model Implementing E-Governance- Issues while implementing E-Governance Opportunities and challenges, Types of E-Governance, What is Real Time Governance (RTG), Real-time Governance Society (RTGS)

#### Unit – 2: E-Governance Infrastructure

**Data Systems infrastructure:** Executive Information Systems, Management Information Systems, Knowledge Management Systems

**Legal Infrastructural preparedness:** IT Act 2000, Challenges to Indian law and cybercrime scenario in India, Amendments of the Indian IT Act

**Institutional Infrastructural preparedness:** Internet, Intranet, Extranet

**Human Infrastructural preparedness:** Top-level management, Middle-level management ,Low-level management

#### Unit – 3:

##### E-Governance: Country Experience

INDIA, US , UK , AUSTRALIA, DUBAI

##### E-Governance in India

Andhra Pradesh, Karnataka, Kerala, Uttar Pradesh, Madhya Pradesh, West Bengal, Gujarat

**Unit – 4: Latest Applications in Real Time Governance**

Agriculture, Rural Development, Health care, Education, Tourism, Commerce and Trade

**S.K.S.D. MAHILA KALASALA (UG&PG)(AUTONOMOUS) :: TANUKU**

**Thrice-Accredited NAAC with 'B<sup>++</sup>' Grade at 2.82 CGPA**

**III B.Com(VOCATIONAL) ,(V SEMESTER)**

**SUBJECT : COMMERCE**

**Paper – 8C: E-Commerce Application Development**

**w.e.f : 2020– 21**

**SYLLABUS**

**Unit-1:**

Introduction to E– commerce: Meaning and concept – E– commerce ,E– commerce v/s Traditional Commerce E– Business & E– Commerce , History of E– Commerce, features & benefits of E– Commerce ,Impacts, Challenges & Limitations of E– Commerce

**Unit-2:**

Business models of E – Commerce: Business to Business,2.1.2 Business to customers, 2.1.3Customers to Customers ,Business to Government ,Business to Employee, Influencing factors of successful E– Commerce, Architectural framework of Electronic Commerce, Web based E Commerce Architecture,

**Unit-3:**

Electronic data Interchange: EDI Technology -EDI- Communication EDI Agreements E– Commerce payment system. Digital Economy, EDI – Importance, Internet Commerce

**Unit -4:**

A Page on the web - HTML Basics Client Side scripting -JAVA SCRIPT basics Server side Scripting- PHP basics. Logging in to your press site –word press dashboard creating your first post adding photos and images crating hyper link adding categories and tags

**S.K.S.D. MAHILA KALASALA (UG&PG)(AUTONOMOUS) :: TANUKU**  
**Thrice-Accredited by NAAC with 'B<sup>++</sup>' Grade at 2.82 CGPA**

**I B.Sc., (M.P.Cs,/M.S.Cs,/M.C.Cs)(I Semester)**  
**SUBJECT : COMPUTER SCIENCE**

**Paper – I: PROBLEM SOLVING IN ‘C’**  
**w.e.f : 2020– 21**

**SYLLABUS**

---

**UNIT I**

**General Fundamentals:** Introduction to computers: Block diagram of a computer, characteristics and limitations of computers, applications of computers, types of computers, computer generations.

**Introduction to Algorithms and Programming Languages:** Algorithm – Key features of Algorithms, Flow Charts, Programming Languages – Generations of Programming Languages – Structured Programming Language- Design and Implementation of Correct, Efficient and Maintainable Programs.

**UNIT II**

**Introduction to C:** Introduction – Structure of C Program – Writing the first C Program – File used in C Program – Compiling and Executing C Programs – Using Comments – Keywords – Identifiers – Basic Data Types in C – Variables – Constants – I/O Statements in C- Operators in C- Programming Examples.

**Decision Control and Looping Statements:** Introduction to Decision Control Statements– Conditional Branching Statements – Iterative Statements – Nested Loops – Break and Continue Statement – Goto Statement

**UNIT III**

**Functions:** Introduction – using functions – Function declaration/ prototype – Function definition – function call – return statement – Passing parameters – Scope of variables – Storage Classes – Recursive functions.

**Arrays:** Introduction – Declaration of Arrays – Accessing elements of the Array – Storing Values in Array– Operations on Arrays – one dimensional, two dimensional and multi-dimensional arrays, character handling and strings.

## UNIT IV

**Structure, Union, and Enumerated Data Types:** Introduction – Nested Structures – Arrays of Structures

– Structures and Functions– Union – Arrays of Unions Variables – Unions inside Structures –

Enumerated Data Types.

**Pointers:** Understanding Computer Memory – Introduction to Pointers – declaring Pointer Variables –

Pointer Expressions and Pointer Arithmetic – Null Pointers - Passing Arguments to Functions using

Pointer – Pointer and Arrays – Memory Allocation in C Programs –

Memory Usage – Dynamic Memory Allocation – Drawbacks of Pointers

**Files:** Introduction to Files – Using Files in C – Reading Data from Files – Writing Data to Files – Detecting

the End-of-file – Error Handling during File Operations – Accepting Command Line Arguments.

Thrice-Accredited by NAAC with 'B<sup>++</sup>' Grade at 2.82 CGPA

I B.Sc., (M.P.Cs./M.S.Cs./M.C.Cs)(II Semester)

SUBJECT : COMPUTER SCIENCE

Paper – II: DATA STRUCTURES USING 'C'

w.e.f : 2020– 21

## SYLLABUS

---

### UNIT – I:

**Introduction to Data Structures:** Introduction to the Theory of Data Structures, Data Representation, Abstract Data Types, Data Types, Primitive Data Types, Data Structure and Structured Type, Atomic Type, Difference between Abstract Data Types, Data Types, and Data Structures.

**Principles of Programming and Analysis of Algorithms:** Software Engineering, Program Design, Algorithms, Different Approaches to Designing an Algorithm, Complexity, Big 'O' Notation, Algorithm Analysis, Recursion

### UNIT – II:

**Arrays:** Introduction to Linear and Non- Linear Data Structures, One- Dimensional Arrays, Array Operations, Two- Dimensional arrays, Multidimensional Arrays, Pointers and Arrays, an Overview of Pointers

**Linked Lists:** Introduction to Lists and Linked Lists, Dynamic Memory Allocation, Basic Linked List Operations, Doubly Linked List, Circular Linked List, Linked List versus Arrays

### UNIT – III:

**Stacks:** Introduction to Stacks, Stack as an Abstract Data Type, Representation of Stacks through Arrays, Representation of Stacks through Linked Lists, Applications of Stacks, Stacks and Recursion

**Queues:** Introduction, Queue as an Abstract data Type, Representation of Queues, Circular Queues, Double Ended Queues- Dequeues, Priority Queues, Application of Queues

### UNIT – IV:

**Binary Trees:** Introduction to Non- Linear Data Structures, Introduction Binary Trees, Types of Trees, Basic Definition of Binary Trees, Properties of Binary Trees, Representation of Binary Trees, Operations on a Binary Search Tree, Binary Tree Traversal, Applications of Binary Tree

**Searching and sorting:** Sorting – An Introduction, Bubble Sort, Insertion Sort, Merge Sort, Quick sort Searching – An Introduction, Linear or Sequential Search, Binary Search

**Graphs:** Introduction to Graphs, Terms Associated with Graphs, Sequential Representation of Graphs, Linked Representation of Graphs, Traversal of Graphs, Spanning Trees, shortest path Application of Graphs.

**S.K.S.D. MAHILA KALASALA (UG&PG)(AUTONOMOUS) :: TANUKU**  
**Thrice-Accredited by NAAC with 'B++' Grade at 2.82 CGPA**

**II B.Sc., (M.P.Cs/M.S.Cs/M.C.Cs),(III SEMESTER)**  
**SUBJECT : COMPUTER SCIENCE**  
**PAPER III : DATABASE MANAGEMENT SYSTEM**  
**w.e.f : 2020– 21**

**SYLLABUS**

**UNIT – I:**

**Overview of Database Management System:** Introduction to data, information, database, database management systems, Objectives of DBMS, Evaluation of DBMS, file-based system, Drawbacks of file-Based System, database approach, Classification of Database Management Systems, advantages of database approach, Various Data Models, Components of Database Management System, Database architecture, three schema architecture of data base, costs and risks of database approach.

**UNIT – II:**

**Entity-Relationship Model:** Introduction, the building blocks of an entity relationship diagram, classification of entity sets, attribute classification, relationship degree, relationship classification, reducing ER diagram to tables, enhanced entity-relationship model (EER model), generalization and specialization, IS A relationship and attribute inheritance, multiple inheritance, constraints on specialization and generalization, advantages of ER modelling.

**Relational Model:** Introduction, CODD Rules, relational data model, concept of key, relational integrity, relational algebra, relational algebra operations, advantages of relational algebra, limitations of relational algebra, relational calculus, tuple relational calculus, domain relational Calculus (DRC), Functional dependencies and normal forms up to 3rd normal form.

**UNIT – III:**

**Structured Query Language:** Introduction, History of SQL Standard, Commands in SQL, Data Types in SQL, Data Definition Language, Selection Operation, Projection Operation, Aggregate functions, Data Manipulation Language, Table Modification Commands, Join Operation, Set Operations, View, Sub Query.

**UNIT – IV:**

**PL/SQL:** Introduction, Shortcomings of SQL, Structure of PL/SQL, PL/SQL Language Elements, Data Types, Operators Precedence, Control Structure, Steps to Create a PL/SQL, Program, Iterative Control, Procedure, Function, Database Triggers, Types of Triggers.

**S.K.S.D. MAHILA KALASALA (UG&PG)(AUTONOMOUS) :: TANUKU**

**Thrice-Accredited by NAAC with 'B<sup>++</sup>' Grade at 2.82 CGPA  
II B.Sc., (M.P.Cs, M.S.Cs, M.C.Cs) ,(IV SEMESTER)  
SUBJECT : COMPUTER SCIENCE**

**Paper – IV: Object Oriented Programming using Java  
w.e.f : 2020– 21  
SYLLABUS**

**UNIT I:**

**Introduction to Java:** Features of Java, The Java virtual Machine, Parts of Java

**Naming Conventions and Data Types:** Naming Conventions in Java, Data Types in Java, Literals

**Operators in Java:** Operators, Priority of Operators.

**Control Statements in Java:** if... else Statement, do... while Statement, while Loop, for Loop, switch Statement, break Statement, continue Statement, return Statement.

**Input and Output:** Accepting Input from the Keyboard, Reading Input with Java.util.Scanner Class, Displaying Output with System.out.printf(), Displaying Formatted Output with String.format().

**Arrays:** Types of Arrays, Three Dimensional Arrays (3D array), array name. length, Command Line Arguments

**UNIT II:**

**Strings:** Creating Strings, String Class Methods, String Comparison, Immutability of Strings.

**Introduction to OOPs:** Problems in Procedure Oriented Approach, Features of Object-Oriented Programming System (OOPS).

**Classes and Objects:** Object Creation, Initializing the Instance Variables, Access Specifiers, Constructors.

**Methods in Java:** Method Header or Method Prototype, Method Body, Understanding Methods, Static Methods, Static Block, The keyword 'this', Instance Methods, Recursion.

**Inheritance:** Inheritance, The keyword 'super', The Protected Specifier, Types of Inheritance.

**Interfaces:** Interface, Multiple Inheritance using Interfaces.

**UNIT III:**

**Polymorphism:** Polymorphism with Variables, Method overloading, method overriding, Final Methods, final Class.

**Type Casting:** Types of Data Types, Casting Primitive Data Types.

**Abstract Classes:** Abstract Method and Abstract Class.

**Packages:** Package, Different Types of Packages, The JAR Files, Creating Sub Package in a Package, Access Specifiers in Java.

**Exception Handling:** Errors in Java Program, Exceptions, throws Clause, Types of Exceptions, Re – throwing an Exception.

#### **UNIT – IV**

**Threads:** Single Tasking, Multi-Tasking, Uses of Threads, Creating a Thread and Running it, Terminating the Thread, Single Tasking Using a Thread, Multi-Tasking Using Threads, Thread Class Methods, Thread Priorities, Applications of Threads, Thread Life Cycle.

**Applets:** Applets, types of applets, Creating an Applet, Uses of Applets, <APPLET> tag, Applet life cycle.

**Java Database Connectivity:** Database Servers, Database Clients, JDBC (Java Database Connectivity), Working with Oracle Database, Stages in a JDBC Program, Registering the Driver, Connecting to a Database, Preparing SQL Statements, Using JDBC– ODBC Bridge Driver to Connect to Oracle Database.

**S.K.S.D. MAHILA KALASALA (UG&PG)(AUTONOMOUS) :: TANUKU**

**Thrice-Accredited by NAAC with ‘B<sup>++</sup>’ Grade at 2.82 CGPA**

II B.Sc., (M.P.Cs./M.S.Cs./M.C.Cs) (IV SEMESTER)

SUBJECT : COMPUTER SCIENCE

Paper – V:OPERATING SYSTEMS

w.e.f : 2020– 21

SYLLABUS

**UNIT – I:**

**Operating System**-What is Operating System? History and Evolution of OS, Basic OS functions, Resource Abstraction, 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.

**UNIT – II:**

**Process Scheduling Algorithms.**

Processor and User Modes, Kernels, System Calls and System Programs, System View of the Process and Resources, Process Abstraction, Process Hierarchy, Threads, Threading Issues, Thread Libraries; Process Scheduling, Non-Pre-emptive and Pre-emptive Scheduling Algorithms.

**UNIT – III:**

**Process Management:** Deadlock, Deadlock Characterization, Necessary and Sufficient Conditions for Deadlock, Deadlock Handling Approaches: Deadlock Prevention, Deadlock Avoidance and Deadlock Detection and Recovery. Critical Section, Semaphores, Methods for Inter- process Communication; Process Synchronization, Classical Process Synchronization Problems: Producer-Consumer, Reader-Writer.

**UNIT – IV:**

**Memory Management:** Physical and Virtual Address Space; Memory Allocation Strategies– Fixed and -Variable Partitions, Paging, Segmentation, Virtual Memory.

**File and I/O Management, OS Security:** File Operations, File Allocation Methods, Pipes, Buffer, Shared Memory, Authentication and Internal Access Authorization

W.E.F : 2020–21

S.K.S.D. MAHILA KALASALA (UG&PG)(AUTONOMOUS) :: TANUKU

Thrice-Accredited by NAAC with 'B<sup>++</sup>' Grade at 2.82 CGPA

III B.Sc.(M.P.Cs,/M.S.Cs,/M.C.Cs) (V SEMESTER)

SUBJECT: COMPUTER SCIENCE

Paper 6 A – Web Interface Designing Technologies

(Skill Enhancement Course (Elective))

SYLLABUS

---

### **UNIT I**

-

**HTML:** Introduction to web designing, difference between web applications and desktop applications, introduction to HTML, HTML structure, how to create program using html, elements, attributes, headings, paragraphs, hyperlinks, HTML formatting tags, Comments, images, file paths, layout, tables, lists, HTML frames.

### **UNIT II**

-

**HTML forms:** HTML form elements, input types, input attributes, how to create form, multimedia objects.

**CSS:** CSS introduction, syntax, Types of css, advantages and disadvantages of css, Formatting blocks of information, css properties and values (font, color and background, text, border),Tooltips,CSS Forms

-

### **UNIT III**

-

**Client side Validation:** Introduction to JavaScript - JavaScript, basics, variables, string manipulations, mathematical functions, statements, operators, arrays, functions, regular expressions, exception handling.

**DHTML with JavaScript** - Data validation, messages and confirmations, the status bar, different frames, rollover buttons, moving images.

### **UNIT IV**

**XML:** Introduction to Xml, advantages, document type definition (DTD)

**Word press:** Introduction to word press, features, advantages and dis advantages of word press installing and configuring word press, understanding admin panel, working with posts and pages.

Working with themes-parent and child themes, protecting word press website from hackers

**S.K.S.D. MAHILA KALASALA (UG&PG)(AUTONOMOUS) :: TANUKU**

**III B.Sc.,(M.P.Cs/M.S.Cs/M.C.Cs) (V SEMESTER)**

**SUBJECT: COMPUTER SCIENCE**

**Paper-7A : Web Applications Development using PHP & MySQL**

## SYLLABUS

---

### **Unit-1:**

The Building blocks of PHP: Variables, Data Types, Operators and Expressions, Constants. Flow Control Functions in PHP: Switching Flow, Loops, Code Blocks and Browser Output. Working with Functions: What is function?, Calling functions, Defining Functions, Returning the values from User-Defined Functions.

### **Unit-2:**

**Working with Arrays:** What are Arrays? Creating Arrays, Some Array-Related Functions. Working with Objects: Creating Objects, Object Instance Working with Strings, Dates and Time: Formatting strings with PHP, Investigating Strings with PHP, Manipulating Strings with PHP, Using Date and Time Functions in PHP.

**Working with Forms:** Creating Forms, Accessing Form Input with User defined Arrays, Combining HTML and PHP code on a single Page.

### **Unit-3:**

**Working with Cookies and User Sessions:** Introducing Cookies, Setting a Cookie with PHP, Session Function Overview, Starting a Session, Working with session variables, passing session IDs in the Query String, Destroying Sessions and Unsetting Variables.

**Working with Files and Directories:** Including Files with include(), Validating Files, Creating and Deleting Files, Opening a File for Writing, Reading or Appending, Reading from Files. Working with Directories, Open Pipes to and from Process Using popen(), Running Commands with exec(), Running Commands with system().

### **Unit-4:**

**Working with Images:** Understanding the Image-Creation Process, Necessary Modifications to PHP, Drawing a New Image, Getting Fancy with Pie Charts, Modifying Existing Images.

**Interacting with MySQL using PHP:** MySQL Versus MySQLi Functions, Connecting to MySQL with PHP, Working with MySQL Data. Planning and Creating Database Tables, Creating Record Addition Mechanism, Viewing Records, Creating the Record Deletion Mechanism,

Thrice-Accredited by NAAC with 'B<sup>++</sup>' Grade at 2.82 CGPA

I B.Sc., (MBCs & BZCs) (I Semester)

**SUBJECT : COMPUTER SCIENCE**

**Paper – I: PROBLEM SOLVING USING 'C'**

**w.e.f : 2020– 21**

## **SYLLABUS**

---

### **Unit – I : General Fundamentals :**

**Introduction to computers :** Block diagram of a computer, characteristics and limitations of computers, applications of computers, types of computers, computer generations. Introduction to Algorithms and Programming Languages: Algorithm – Key features of Algorithms, Flow Charts, Programming Languages – Generations of Programming Languages – Structured Programming Language- Design and Implementation of Correct, Efficient and Maintainable Programs.

### **Unit – II : Introduction to C:**

Structure of C Program – Writing the first C Program – File used in C Program – Compiling and Executing C Programs – Using Comments – Keywords – Identifiers – Basic Data Types in C – Variables – Constants – I/O Statements in 'C', Operators in C- Programming Examples – Type Conversion and Type Casting,

**Decision Control and Looping Statements:** Introduction to Decision Control Statements–Conditional Branching Statements – Iterative Statements – Nested Loops – Break and Continue Statement – Go to Statement.

**Unit – III : Arrays :** Introduction–Declaration of Arrays–Accessing elements of the Array–Storing Values in Array – Calculating the length of the Array – Operations on Array – one dimensional array for inter-function communication ,Two dimensional Arrays –Operations on Two Dimensional Arrays,

**Strings :** Introduction String and Character functions.

**Functions :** Introduction–using functions–Function declaration/ prototype–Function definition – function call – return statement – Passing parameters – Scope of variables – Storage Classes – Recursive function.

**Unit – IV : Pointers :** Understanding Computer Memory–Introduction to Pointers –declaring Pointer Variables – Passing Arguments to Functions using Pointer – Pointer and Arrays – Passing Array to Function.

**Structure, Union, and Enumerated Data Types:** Introduction – Nested Structures – Arrays of Structures – Structures and Functions - Unions – Enumerated Data Types.



S.K.S.D. MAHILA KALASALA (UG&PG)(AUTONOMOUS) :: TANUKU  
Thrice-Accredited by NAAC with 'B<sup>++</sup>' Grade at 2.82 CGPA  
I B.Sc., (MBCs & BZCs) (II Semester)  
**SUBJECT : COMPUTER SCIENCE**

**Paper – II: DATA STRUCTURES USING 'C'**  
**w.e.f : 2020– 21**

**SYLLABUS**

---

**UNIT – I:**

**Introduction to Data Structures:** Introduction to the Theory of Data Structures, Data Representation, Abstract Data Types, Data Types, Primitive Data Types, Data Structure and Structured Type, Difference between Abstract Data Types, Data Types, and Data Structures

**Principles of Programming and Analysis of Algorithms:** Software Engineering, Program Design, Algorithms, Different Approaches to Designing an Algorithm, Complexity, Algorithm Analysis, Recursion

**UNIT – II:**

**Arrays:** Introduction to Linear and Non- Linear Data Structures, One- Dimensional Arrays, Array Operations, Two- Dimensional arrays, Multidimensional Arrays, Pointers and Arrays, an Overview of Pointers

**Linked Lists:** Introduction to Lists and Linked Lists, Dynamic Memory Allocation, Basic Linked List Operations, Doubly Linked List, Circular Linked List, Linked List versus Arrays

**UNIT – III:**

**Stacks:** Introduction to Stacks, Stack as an Abstract Data Type, Representation of Stacks through Arrays, Representation of Stacks through Linked Lists, Applications of Stacks,

**Queues:** Introduction, Queue as an Abstract data Type, Representation of Queues, Circular Queues, Double Ended Queues- Deques, Priority Queues, Application of Queues

**UNIT – IV:**

**Binary Trees:** Introduction to Non- Linear Data Structures, Introduction Binary Trees, Types of Trees, Basic Definition of Binary Trees, Properties of Binary Trees, Representation of Binary Trees, Operations on a Binary Search Tree, Binary Tree Traversal, Applications of Binary Tree

**Searching and sorting:** Sorting – An Introduction, Bubble Sort, Insertion Sort, Merge Sort Searching – An Introduction, Linear or Sequential Search, Binary Search

**Graphs:** Introduction to Graphs, Terms Associated with Graphs, Representation of Graphs, Traversal of Graphs, Spanning Trees, Application of Graphs.



**SUBJECT : COMPUTER SCIENCE**  
**PAPER : DATABASE MANAGEMENT SYSTEM**  
**w.e.f : 2020– 21**  
**SYLLABUS**

---

**UNIT – I:**

**Overview of Database Management System:** Introduction to data, information, database, database management systems, Objectives of DBMS, Evaluation of DBMS, file-based system, Drawbacks of file-Based System, database approach, Classification of Database Management Systems, advantages of database approach, Various Data Models, Components of Database Management System, Database architecture, three schema architecture of data base, costs and risks of database approach.

**UNIT – II:**

**Entity-Relationship Model:** Introduction, the building blocks of an entity relationship diagram, classification of entity sets, attribute classification, relationship degree, relationship classification, reducing ER diagram to tables, enhanced entity-relationship model (EER model), generalization and specialization, IS A relationship and attribute inheritance, multiple inheritance, constraints on specialization and generalization, advantages of ER modelling.

**Relational Model:** Introduction, CODD Rules, relational data model, concept of key, relational integrity, relational algebra, relational algebra operations, advantages of relational algebra, limitations of relational algebra, relational calculus, tuple relational calculus, domain relational Calculus (DRC), Functional dependencies and normal forms up to 3rd normal form.

**UNIT – III:**

**Structured Query Language:** Introduction, History of SQL Standard, Commands in SQL, Data Types in SQL, Data Definition Language, Selection Operation, Projection Operation, Aggregate functions, Data Manipulation Language, Table Modification Commands, Join Operation, Set Operations, View, Sub Query.

**UNIT – IV:**

**PL/SQL:** Introduction, Shortcomings of SQL, Structure of PL/SQL, PL/SQL Language Elements, Data Types, Operators Precedence, Control Structure, Steps to Create a PL/SQL, Program, Iterative Control, Procedure, Function, Database Triggers, Types of Triggers.

**BOOKS:**

1. Database System Concepts by Abraham Silberschatz, Henry Korth, and S. Sudarshan, McGrawhill
2. Database Management Systems by Raghu Ramakrishnan, McGrawhill
3. Principles of Database Systems by J. D. Ullman
4. Fundamentals of Database Systems by R. Elmasri and S. Navathe
5. SQL: The Ultimate Beginners Guide by Steve Tale.

**S.K.S.D. MAHILA KALASALA (UG&PG)(AUTONOMOUS) :: TANUKU**

**Thrice-Accredited by NAAC with 'B<sup>++</sup>' Grade at 2.82 CGPA**

**II B.Sc., (B.Z.Cs & M.B.Cs) - IV SEMESTER**

**SUBJECT : COMPUTER SCIENCE**

**Paper – IV: Object Oriented Programming using Java**

**w.e.f : 2020– 21**  
**SYLLABUS**

---

**UNIT I:**

**Introduction to Java:** Features of Java, The Java virtual Machine, Parts of Java

**Naming Conventions and Data Types:** Naming Conventions in Java, Data Types in Java, Literals

**Operators in Java:** Operators, Priority of Operators.

**Control Statements in Java:** if... else Statement, do... while Statement, while Loop, for Loop, switch Statement, break Statement, continue Statement, return Statement.

**Input and Output:** Accepting Input from the Keyboard, Reading Input with `Java.util.Scanner` Class, Displaying Output with `System.out.printf()`, Displaying Formatted Output with `String.format()`.

**Arrays:** Types of Arrays, Three Dimensional Arrays (3D array), array name. length, Command Line Arguments

**UNIT II:**

**Strings:** Creating Strings, String Class Methods, String Comparison, Immutability of Strings

**Introduction to OOPs:** Problems in Procedure Oriented Approach, Features of Object- Oriented Programming System (OOPS).

**Classes and Objects:** Object Creation, Initializing the Instance Variables, Access Specifiers, Constructors.

**Methods in Java:** Method Header or Method Prototype, Method Body, Understanding Methods, Static Methods, Static Block, The keyword 'this', Instance Methods, Recursion, Factory Methods.

**Inheritance:** Inheritance, The keyword 'super', The Protected Specifier, Types of Inheritance.

**UNIT III:**

**Interfaces:** Interface, Multiple Inheritance using Interfaces.

**Polymorphism:** Polymorphism with Variables, method overloading, method overriding, Final Methods, final Class.

**Type Casting:** Types of Data Types, Casting Primitive Data Types

**Abstract Classes:** Abstract Method and Abstract Class.

**Packages:** Package, Different Types of Packages, The JAR Files, Creating Sub Package in a Package, Access Specifiers in Java.

**UNIT – IV**

**Exception Handling:** Errors in Java Program, Exceptions, throws Clause, Types of Exceptions.

**Threads:** Single Tasking, Multi Tasking, Uses of Threads, Creating a Thread and Running it, Terminating the Thread, Single Tasking Using a Thread, Multi Tasking Using Threads, Thread Class Methods, Thread Priorities, Applications of Threads, Thread Life Cycle.

**Applets:** Applets, types of applets, Creating an Applet, Uses of Applets, <APPLET> tag, types of applets

**S.K.S.D. MAHILA KALASALA (UG&PG)(AUTONOMOUS) :: TANUKU**

**Thrice-Accredited by NAAC with 'B<sup>++</sup>' Grade at 2.82 CGPA**

**II B.Sc., (B.Z.Cs,M.B.Cs) IV SEMESTER**

**SUBJECT : COMPUTER SCIENCE**

**Paper – V:OPERATING SYSTEMS**

**w.e.f : 2021– 22 Admitted Batch**

## SYLLABUS

### UNIT – I:

**Operating System**-What is Operating System? History and Evolution of OS, Basic OS functions, Resource Abstraction, 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.

### UNIT – II:

#### Process Scheduling Algorithms.

Processor and User Modes, Kernels, System Calls and System Programs, System View of the Process and Resources, Process Abstraction, Process Hierarchy, Threads, Threading Issues, Thread Libraries; Process Scheduling, Non-Preemptive and Preemptive Scheduling Algorithms.

### UNIT – III:

**Process Management:** Deadlock, Deadlock Characterization, Necessary and Sufficient Conditions for Deadlock, Deadlock Handling Approaches: Deadlock Prevention, Deadlock Avoidance and Deadlock Detection and Recovery. Critical Section, Semaphores, Methods for Inter- process Communication; Process Synchronization, Classical Process Synchronization Problems: Producer-Consumer, Reader-Writer.

### UNIT – IV:

**Memory Management:** Physical and Virtual Address Space; Memory Allocation Strategies– Fixed and -Variable Partitions, Paging, Segmentation, Virtual Memory.

**File and I/O Management, OS security:** File Operations, File Allocation Methods, Pipes, Buffer, Shared Memory, Authentication and Internal Access Authorization

W.E.F : 2020–21

S.K.S.D. MAHILA KALASALA (UG&PG)(AUTONOMOUS) :: TANUKU

Thrice-Accredited by NAAC with 'B<sup>++</sup>' Grade at 2.82 CGPA

III B.Sc.(B.Z.Cs,M.B.Cs) V SEMESTER

SUBJECT: COMPUTER SCIENCE

Paper 6 A – Web Interface Designing Technologies



(Skill Enhancement Course (Elective))

SYLLABUS

---

**UNIT I**

**HTML:** Introduction to web designing, difference between web applications and desktop applications, introduction to HTML, HTML structure, how to create program using html, elements, attributes, headings, paragraphs, hyperlink, HTML formatting tags, Comments, images, tables, lists, HTML frames.

**UNIT II**

HTML forms: HTML form elements, input types, input attributes, how to create form, multimedia objects. CSS: CSS introduction, syntax, Types of css, advantages and disadvantages of css, Formatting blocks of information, css properties and values (font, color and background, text, border)

**UNIT III**

Client side Validation: Introduction to JavaScript - JavaScript, basics, variables, string manipulations, mathematical functions, statements, operators, arrays, functions. Exception handling, Data validation.

**UNIT IV**

**XML:** Introduction to Xml, advantages, document type definition (DTD)

Word press: Introduction to word press, features, advantages and disadvantages of word press, installing and configuring word press, working with posts and pages, Working with themes-parent and child themes, protecting word press website from hackers

S.K.S.D. MAHILA KALASALA (UG&PG)(AUTONOMOUS) :: TANUKU  
Thrice-Accredited by NAAC with 'B<sup>++</sup>' Grade at 2.82 CGPA

### III B.Sc.(B.Z.Cs,M.B.Cs) V SEMESTER

SUBJECT: COMPUTER SCIENCE

#### SYLLABUS

#### **Paper-7A : Web Applications Development using PHP & MYSQL**

---

##### **Unit-1:**

The Building blocks of PHP: Variables, Data Types, Operators and Expressions, Constants. Flow Control Functions in PHP: Switching Flow, Loops, Code Blocks and Browser Output. Working with Functions: What is function? Calling functions, Defining Functions, Returning the values from User-Defined Functions.

##### **Unit-2:**

**Working with Arrays:** What are Arrays? Creating Arrays, Working with Objects: Creating Objects, Working with Strings, Dates and Time: Formatting strings with PHP, Manipulating Strings with PHP, Using Date and Time Functions in PHP.

**Working with Forms:** Creating Forms, Accessing Form Input with User defined Arrays, Combining HTML and PHP code on a single Page.

##### **Unit-3:**

**Working with Cookies and User Sessions:** Introducing Cookies, Setting a Cookie with PHP, Session Function Overview, Starting a Session, Working with session variables, Destroying Sessions.

**Working with Files and Directories:** Including Files with include(), Validating Files, Creating and Deleting Files, Opening a File for Writing, Reading or Appending, Reading from Files. Working with Directories, Running Commands with exec(), Running Commands with system().

-  
-  
-  
-

##### **Unit-4:**

**Working with Images:** Understanding the Image-Creation Process, Necessary Modifications to PHP, Drawing a New Image, Getting Fancy with Pie Charts, Modifying Existing Images.

**Interacting with MySQL using PHP:** MySQL Versus MySQLi Functions, Connecting to MySQL with PHP, Working with MySQL Data. Planning and Creating Database Tables, Creating Record Addition Mechanism, Viewing Records, Creating the Record Deletion Mechanism,

