



Diploma in Web Design (DWD)

Duration: 01 years

Total Credit: 32

1st Semester (DWD)			
Theory			
Course Code	Course Title	(T-L-P)	Credit
CSP-10	Operating System Basics	T	02
CSP-45	Programming in Java	T	04
CSP-60	Internet and Web Technology	T	04
Total Theory Credits			10
Project / Laboratory			
CSPL-10	Operating System Basics Lab	L	02
CSPL-45	Programming in Java Lab	L	02
CSPL-60	Internet and Web Technology Lab	L	02
Total Project / Laboratory Credits			06
TOTAL SEMESTER CREDITS			16

2nd Semester (DWD)			
Theory			
Course Code	Course Title	(T-L-P)	Credit
CSP-42	Web Design (HTML, CSS, JavaScript, XML)	T	02
CSP-43	Database Management System	T	02
CSP-44	Application Development Using PHP	T	02
Total Theory Credits			06
Project / Laboratory			
CSPL-42	Web Design Lab	L	02
CSPL-43	Database Management System Lab	L	02
CSPL-44	Application Development Using PHP Lab	L	02
CSPP-02	Project Work	P	04
Total Project / Laboratory Credits			10
TOTAL SEMESTER CREDITS			16
TOTAL PROGRAMME CREDITS			32

SEMESTER 1

Operating System Basics (CSP-10) (4 cr.)

Block-01(Windows Operating System)

UNIT-01 (Windows Part-I)

Introduction, s/w and its types, Operating System Concept, Function of OS, classification of Operating Systems, Operating system benefits, Introduction to Windows OS, common OS in Market of Windows, Operating System Administrator, My Computer, Recycle Bin, Desktop, Drives, create a directory/folder, rename/change to a directory/folder, creating a file in a directory/folder, Make the file read only, Make the file/directory hidden, Editing a file in a directory/folder, Delete a file in a directory/folder.

UNIT-02 (Windows Part-II)

Listing the files in the directory, Copy a file from one directory /folder to the other, Deleting all files from a directory/folder, deleting a directory/folder

Installation Process: Formatting a hard disk and loading Operating System.

Domain, Workgroup, Active Directory, User Management, network setting, IIS Configuration

Block-02(Linux Operating System)

UNIT-01 (Linux Part-I)

Linux: Introduction, History of Linux, Distributions of Linux, Devices and drivers used, File System Hierarchy, The Components: Kernel, Distribution, XFree86, Sawfish, Gnome, The command-line commands, File management commands, working with Nano, Working with the help (man).

UNIT-02 (Linux Part-II)

SSH and X-forwarding, Managing compressed archives with zip and tar, Working with the GNU screen, How to add users and groups, Working with su, Working with sudo, Changing user password, Printing, Installing Software with Yum, Yast, Rpm, Installing Webmin.

Programming in Java (CSP-45) (6 cr.)

Block-01(Introduction to Java)

UNIT-01 (Overview of Java)

Introduction, History of Java, Edition of Java, What is Java, Why Learn Java, Languages and Paradigms, The Basics of Java, Java Features, OOPS Concepts, Evolution of Java, How Java program works, Difference Between C++ and JAVA, Java and Internet, Java and World Wide Web, Java Support System, Java Environment, Components of JDK, Components of API (Application programming Interface)

UNIT-02 (Key Features of Java)

Java Program Structure, Simple Java Program, Tokens, Reserved Keywords, Identifiers, Literals, classification of Java Statements, JVM Architecture, How Does the JVM Work, Constants and Variables, Variables, Declaration of Variables, Scope of Variable, Data type, symbolic Constant, Default Values, Type Casting, Command line arguments

UNIT-03 (Operators)

Operators, Different types of Operators, Unary Operator, The Arithmetic Operator, The Relational Operators, The Logical Operator, Conditional Operators, The Assignment Operators, The Bitwise Operators, Special Operators, Instanceof Operator, Dot operator, new operator, Precedence of Java Operators

Keyboard input programming: Using InputstreamReader class, Scanner class, CLA, Console class

UNIT-04 (Control Statements)

Sequence Control, Implicit and Explicit Sequence Control, Control Statements, Selection Statements, if-Then Statement, If-Then-Else Statement, Switch Statement, Repetition Statements, While Statement, Do-While Loop Statements, for Loop Statements, Java Jump Statements, Break Statement, Continue Statement, Return Statements, Labeled Loop

Block-02(OOPs Concept in Java)

UNIT -01(Array and Strings)

Arrays And Strings: Introduction, Overview of Array , Need of Array, Types of Array, One dimensional Array, Two-Dimensional Array, Multidimensional Array, Strings , Concatenation of Strings, Methods for String Comparison, Methods for searching Strings, Changing the case of characters, String Buffer, String Builder

UNIT-02 (Classes in java)

Classes: Introduction, Defining a Class, Adding Variables, Adding Methods, Creating Objects, Accessing Class members, Call-by-value and call by reference, Recursion, Access Control Constructors, Method over Loading, Constructor Overloading, Garbage Collection, finalize() method, this keyword, Static Members, Nesting of Methods

UNIT-3 (Inheritance in java)

Inheritance: Inheritance, Single Inheritance, Multilevel Inheritance, Multiple Inheritance, Hierarchical Inheritance, Using Super, Constructor -Order of Execution in Inheritance, Overriding methods, Final variables and methods, Final Classes, Abstract methods and Classes, Containership, Visibility Control

UNIT-4 (Wrapper classes and Vectors)

Wrapper Classes And Vectors: Introduction, Wrapper Classes, Number Class, Byte class, Short class, Integer class, Long class, Converting Numbers to and from Strings, Float class, Double class, Character class, Boolean class, Vectors, Creating a vector

Block-03(Advanced Concept in Java)

UNIT -01 (Interface & Packages)

Interface & Packages: Introduction, Interfaces, Defining interface, Implementing interface, Accessing interface method, Accessing interface variable, Extending interfaces, Packages, System packages, Using system packages, User defined packages, Adding class to a package, Accessing and using package

UNIT-02 (Exception Handling)

Exception Handling: Introduction, Exceptions, Using try& catch, multiple catch clauses, Finally, Throw, Throws

UNIT-03 (Applets)

Applets: Introduction, Local & remote applets, Applet vs. applications, Writing applets, Life cycle of an applet, Creating source code of applet, Creating an executable applet, Creating applet tag, Adding applet tag to html, Running the applet, Detailed form of applet tag, Passing parameters to applet, Aligning the display, HTML tags, Getting input from user.

UNIT-04 (Multithreading in Java)

Introduction, Multithreading, Uses of Multithreading, The Main Thread, Creating and Running Threads, How to terminate a Threads, Multiple Task using Single Threads, Multiple Task using Multiple Threads, Multiple Task using Multiple Threads and Single Object, Threads Synchronization, Threads Priority, Thread Methods, Threads Communication, Threads Life Cycle

Block-04 (Graphics Programming & Java Database Connectivity)

UNIT -01(Abtract Windows Toolkit)

AWT: AWT Classes window fundamentals, component, container, panel, Window, Frame, Canvas, Creating a frame window in an Applet, working with Graphics, Control Fundamentals, Layout managers, Handling Events by Extending AWT Components.

UNIT-02 (Swing)

Swing: J applet, Icons & Labels, Text fields, Buttons, Combo boxes, Tabbed panes, Scroll panes, Trees, Tables.

UNIT-03 (Java Database Connectivity)

JDBC: Fundamentals, Type I, Type II, Type III, Type IV drivers.

INTERNET & WEB TECHNOLOGY (CSP-60) (6 Cr.)

Block-01(Internet Technology)

UNIT -01 (Internet Concepts)

Introduction, Requirement for Internet, Hardware Requirements, Software Requirements, Evolution of Internet, Tasks performed by Internet, Working on Internet, Internet Connections- Dial up connection, Leased line connection, DSL Connection, Cable Modem Connection, VSAT connection, Internet Service Provider (ISP), www & its Evolution, Searching & Surfing, Search Engine, Web Browser, Client & Server

UNIT -02 (Internet Protocols)

Introduction ,Types of Internet protocol- TCP / IP, FTP, HTTP, PPP, TELNET, UDP, NNTP, Mail Protocol-SMTP, POP3, IP Address, Domain Name System, URL, IPV4/IPV6, Voice over internet Protocol (VoIP)

UNIT -03 (Internet Applications)

Introduction, Webpage, website , How website is different form portal, Components of website, Elements of website, Construction of website , Website Development & publishing, Website Designing , Website Development Language , Website Publishing, Website URL Registration, Website hosting, Electronic Mail , E-mail Features , E-mail structure , Components of e-mail, Field Associated with an e-mail message , How e-mail serviced used?, Chat & IRC, Videoconferencing, Online Banking, Online shopping, E-learning , E-Reservation , Mobile Technology, Social Network

UNIT -04 (Internet Security & privacy)

Understanding basic internet security, secure your computer, keeping passwords safe, encrypting passwords with a password manager, protecting your internet passwords, Introduction to e-mail safety, introduction to securing personal data, introduction to mobile phone security.

Block-02(Web Technology)

UNIT -01 (Website Development)

Websites Overview, Websites Types, Website Designing, Websites Development, Website Publishing, Website URL Registration, Website Hosting, Website Security.

UNIT -02 (HTML-5 & XHTML)

HTML-5: Overview, Syntax, Attributes, Events, SVG, MathML, Web Storage, Web SQL, Server-Sent Events, Web Socket, Canvas, Audio & Video, Geolocation, Micro-data, Drag & drop, Web Workers, Indexed DB, Web Messaging, Web CORS, Web RTC.

XHTML: What is XHTML, Why use XHTML, HTML v/s XHTML, XHTML Syntax , XHTML Events , XHTML Doc types , XHTML Attributes, Difference between HTML4 and HTML5, Difference between HTML and XHTML.

UNIT -03 (XML)

Introduction to XML - eXtensible Markup Language ,XML for data centric files ,Displaying XML on the web, Displaying XML with CSS ,XSLT - eXtensible Style Sheet Language ,Displaying XML with XSLT.

UNIT -04 (Macromedia Flash)

What is flash?, Starting of Flash., The workspace, Using the Tools panel, Selection Tool, Coloring Tool, Text Tool., Create a new Flash Document, Animate using Frame, Symbols and Animation, Crate a Motion Tween, Shape Tween, Motion Guide Tween, Working with layers

Block-03(Advanced Web Technology)

UNIT -01 (Introduction to AJAX)

AJAX - What is AJAX?, AJAX – Technologies, Understanding, Synchronous vs Asynchronous, AJAX - Browser Support, AJAX – Action, AJAX – XMLHttpRequest, How AJAX works?, Ajax First Program With Explanation, Ajax Request, open() and send() methods, Ajax Server Response,.responseText and ResponseXML, Java AJAX, AJAX – Examples, Email Finder , Comment Form , Search Example, AJAX - Database Operations, AJAX – Security, AJAX – Issues, AJAX JSON.

UNIT -02 (Introduction to Python)

Introduction, Introduction to Python, Common Uses, History of Python Language, Development Steps of Python, Features of Python, Version of Python, Why Python, Applications of Python, Download and installation of Python on Windows, Python IDLE: Development Mode, Python IDLE: Syntax and Shell Colors, Python is Easy to Use, Is Python a good language for beginning programmers?, The first program.

UNIT -03 (Introduction to JQuery)

Introduction, what jQuery does? Advantage of using jQuery, how to use jQuery, download and use of jQuery, jQuery Syntax, Query Selectors, JQuery Event, JQuery Animation Effects, jQuery Effects, jQuery Get / Set, jQuery AJAX, jQuery Form Validation.

SEMESTER 2

Web Design (HTML, CSS, JavaScript, XML) (CSP-42) (4 cr.)

Block-01 (HTML)

Unit-01 (Getting Started with HTML)

Introduction of HTML, Writing my first HTML Page, Basic tags used in HTML, Elements In HTML, Attributes In HTML, Formatting In HTML, Meta Tags and their use, Commenting a HTML Code, Images and incorporating images, working with Tables, Working with Lists, Working with hyperlinks, Frames and frame management, Working with Iframes, Working with Block elements.

Unit-02 (Advanced HTML)

Background images, Coloured text and coloured background, working with fonts, Form designing and Form Management, Using Multimedia inside HTML, Marquee Tag, Headers, Working with Layouts, Role of Tags in Html, Attributes in Html, Event Handling, MIME Media Types.

Block-02 (CSS)

Unit-03 (Getting Started With CSS)

Introduction of CSS, CSS Syntax, CSS Selectors, Ways To Insert CSS, Background image handling, Background colour management using CSS, Text management using CSS, Font management using CSS, Managing Hyperlinks using CSS, Managing Lists using CSS, Designing Tables using CSS, Working with the BOX Model, Designing Borders using CSS, Designing Outline using CSS, Setting Page Margin using CSS.

Unit-04 (Advanced CSS)

Padding using CSS, Setting Display Using CSS, Setting Width And Max Width using CSS, Setting Position using CSS, Setting the Float Property using CSS, Inline Block property, Horizontal Alignment in CSS, Working With Combinators, Working with Pseudo-class, working with Pseudo-elements, Creating a navigation bar, Working with images, Working with Attribute selectors.

Block-03 (Java Script)

Unit-05 (Getting Started With JS)

JavaScript Basics, JavaScript Syntax, Enabling JavaScript in Browsers, Placing JavaScript, Variables, Operators, Conditional Statement(if, if else), Switch case, Loops(while, do while and for loop), Functions, Events and event handling, Cookies, Page Redirection, Dialog Box(Alert, Confirm, prompt), void keyword, Printing webpage using JavaScript.

Unit-06 (Advanced Java Script)

Working with Objects, Numbers, Boolean, String in JavaScript, Arrays and Array Management, Working with Date, Mathematical operations, Regular Expressions, Document Object Model (DOM), Errors and Error Handling, Client Side Validation, Animations in Webpages, Multimedia in Webpages, Image Map.

Database Management System (CSP-43)

Block-01(Database System Concepts)

Unit-01 (Introduction to Database Systems)

Introduction: Data and Information, Record, File, File oriented System, Databases, Database System and its Characteristics, Database Administrator (DBA), Other Users of database, Database Languages (DDL, DML).

Unit-02 (Database System Architecture)

Database System Architecture: Schema, Subschema, Instance, Three Tier Architecture of database, Data Independence, Mappings, Types of Database.

Unit-03(Data Model)

Data Models: Data Models and its Types (Object Based Data Models, Record Based Data Models), Constraints.

Unit-04 (ER-Model)

ER-Model: Entity, Attribute, Keys, Relationship, ER Diagram Notations, Conversion of ER diagram to Relations.

Block-02 (Database System Design)

Unit-01 (Relational Database Operations)

Relational database Overview, Relational Languages (Relational Algebra, Relational Calculus), Operation of Relational Algebra, Join, Minus, Translating SQL Queries into Relational Algebra, Division Operation.

Unit-02 (Relational Query Languages)

Procedural and Non procedural Query Language, Codd's Rule, introduction to SQL, Data Types in SQL, Operator, DQL, DDL, DML, DCL, TCL, Constraints in SQL.

Unit-03 (Functional Dependency)

Database Dependencies (Functional Dependencies, Trivial Functional Dependencies, Full Functional Dependencies, Transitive Dependencies, Multi-valued Dependencies), Importance of Dependencies, Study of Functional Dependency, Basics of Functional Dependency, Axioms Rules, Trivial Functional Dependency, Why FD Is Important In Database Design, Characteristics of FD in Normalization, Functional Dependency Diagrams (FDD), Full Functional Dependency (FFD), Redundant Functional Dependencies, Closures, decomposition, Properties of Decomposition

Unit-04 (Normalization)

Database Normalization, Need of Normalization, Multi-valued Dependencies, Types of Normalization (1NF, 2NF, 3NF, BCNF, 4NF, 5NF)

Block-03

Unit-01(Transaction processing and concurrency control)

Transaction concepts, concurrency control, locking and Timestamp methods for concurrency control.

Unit-02(Database Recovery System)

Types of Data Base failure & Types of Database Recovery, Recovery techniques.

Application Development Using PHP (CSP-44)

Block-01(Basics of PHP)

Unit-01 (Introduction to Programming)

Introduction, Algorithm, Flowchart, Program, Programming Languages and its generation, OOPs Concept.

Unit-02 (Introduction to PHP)

PHP Basic (installing Process of PHP (XAMPP)), Structure of PHP program, Write the first PHP program, Syntax, Variables, Constants, Echo and Print Command, Data Type, Array Data Type, Types of Array in PHP, Multi dimension Array, Object data Type.

Operations: Basics and types of operation in PHP.

Block-02(Advanced PHP)

Unit-03 (Control Statement in PHP)

Condition Statement (if Statement, if else statement, if else if else statement, Switch Statement), **Loop** (While, do While, for and for each Loop). Super global Variable.

Unit-04 (Form Management)

Form Design: get and Post method, Working with Textbox, Text Area, Password, Check Box, Radio Buttons, Drop down Box, File, Submit Buttons, Reset, Button, data, date Time, Email, search, Tel, URL etc.

Working with \$Globals, \$Server, \$ENV, \$SESSION, \$COOKIE with Example. Form Validation, Form Navigation

Block-03(Advance PHP)

Unit-01 (Object Oriented Concept in PHP)

Introduction, Basics of OOP in PHP, Pillars of OOPS, Understanding Classes and Objects, PHP Class Properties and Methods, Static, Constants, Constructor and destructor, Magic Methods in PHP, Inheritance in PHP, Interface, Abstract class, Final, Polymorphism

Unit-02 (File management and Exception Handling)

Introduction, what is File, File Formats supported by PHP, File Operations, File Permission. Error Handling in PHP, Exception Handling, try... catch and throw, Top Level Exception Handler, User Defined Exception Handler

Unit-07 (Database Connectivity in PHP)

Introduction, Introduction to MySQL, What can MySQL do? Why MySQL use with PHP, Features of MySQL, Communication between PHP and MySql Server: Create a connect to the MySql server (mysql, mysqli (MySQL improved, pdo (PHP Data Object)), Create Database and Tables in MySql, Insert Data into MySql Server, Mysql SELECT Statement, Update MySql Records, Delete MySql Records, Example database access from Webpage.

Project Work (CSPP-02)

Guideline will be available in website.