RAJIV GANDHI PROUDYOGIKI VISHWAVIDYALAYA, BHOPAL

New Scheme Based On AICTE Flexible Curricula

Computer Science and Engineering, V-Semester

Open Elective CS- 504 (A) Internet and Web Technology

After completion of the course students will be able to
1.Describe the concepts of WWW including browser and HTTP protocol.
2.List the various HTML tags and use them to develop the user friendly web pages.
3.Define the CSS with its types and use them to provide the styles to the webpages at various levels.
4.Develop the modern web pages using the HTML and CSS features withdifferent layouts as per need of applications.
5.Use the JavaScript to develop the dynamic web pages.
6.Use server side scripting with PHP to generate the web pages dynamically using the database connectivity.
7.Develop the modern Web applications using the client and server sidetechnologies and the web design fundamentals.

UNIT 01

Introduction: Concept of WWW, Internet and WWW, HTTP Protocol : Request and Response, Web browser and Web servers, Features of Web 2.0 Web Design: Concepts of effective web design, Webdesign issues including Browser, Bandwidth and Cache, Display resolution, Look and Feel of the Web
site, Page Layout and linking, User centric design, Sitemap, Planning and publishing website, Designing effective navigation.

UNIT 02

HTML :Basics of HTML, formatting and fonts, commenting code, color, hyperlink, lists, tables, images, forms, XHTML, Meta tags, Character entities, frames and frame sets, Browser architecture and Web site structure. Overview and features of HTML5

UNIT 03

Style sheets : Need for CSS, introduction to CSS, basic syntax andstructure, using CSS, background images, colors and properties,manipulating texts, usingfonts, borders and boxes, margins, padding lists,positioning using CSS, CSS2, Overview and features of CSS3 JavaScript : Client side scriptingwith JavaScript, variables, functions, conditions, loops and repetition, Pop up boxes, Advance JavaScript: Javascript and objects, JavaScript own objects, the DOM and web browser environments, Manipulation using DOM, forms and validations,DHTML : Combining HTML, CSS andJavascript, Events and buttons

UNIT 04

XML : Introduction to XML, uses of XML, simple XML, XML keycomponents, DTD andSchemas, Using XML with application. Transforming XML using XSL and XSLT PHP: Introduction and basic syntax of PHP, decision and looping with examples, PHP and HTML, Arrays, Functions, Browser control and detection, string, Form processing, Files, Advance Features: Cookies and Sessions, Object Oriented Programming with PHP

UNIT 05

PHP and MySQL:Basic commandswith PHP examples, Connection to server, creating database, selecting a database, listing database, listing table names,creating a table, inserting data, altering tables, queries, deleting database, deleting data and tables, PHP myadmin and databasebugs

Reference Books:

1.Developing Web Applications, Ralph Moseley and M. T. Savaliya, Wiley-India

2.Web Technologies, Black Book, dreamtech Press

3.HTML 5, Black Book, dreamtech Press

4.Web Design, Joel Sklar, Cengage Learning

5.Developing Web Applications in PHP and AJAX, Harwani, McGrawHill

6.Internet and World Wide Web How to program, P.J. Deitel & H.M. Deitel , Pearson

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Computer Science and Engineering, V-Semester

Open Elective CS- 504 (B) Object Oriented Programming

Unit-I

Basics of programming: Character set, Constants, Variables, keywords, identifiers literals. Instructions: Type Declaration Instruction, arithmetic Integer Long Short, Signed unsigned, storage classes, Integer and Float Conversions, type conversion in assignment, hierarchy of
operations.

Unit –II

Decision control structure: control instructions, if, if-else, use of logical operator,
hierarchy of
logical operators, arithmetic operators, relational operators, assignment operators, increment and decrement operators, conditional operators, bit wise operators, special operators, "&,*,.,>, "sizeof" Loops control structure: while loop, for loop, do – while loop, odd loop, nested loop, break, continue, case control structure, go to, exit statement.

Unit-III

Array: what are arrays , array initialization, bound checking 1D array, 2D array initialization of 1D and 2D array, memory map of 1D and 2D array, Multidimensional array. Strings: what are strings, standard library string function strlen(), strcpy(), strcat(), strcmp(), 2D array of characters.

Unit-IV

Structure: Why use structure, declaration of structure, accessing structure elements, how structure elements are stored, array of structure, uses of structure. Preprocessor: features of Preprocessor, macro expansion, micro with arguments, file inclusion, conditional, #if, #elif, miscellaneous directives, #include, #define, directives, #undef, #pragma directives. Union: Union definition & declaration, accessing a union member, union of structures, initialization of union member, uses of union, use of user defined data types.

Unit-V

Introduction: Basic concepts of OOP: object, class, data abstraction, data encapsulation, inheritance, polymorphism, Static and dynamic binding, message passing, benefits of OOP's, disadvantage of OOP's, application of OOP's, a simple program, anatomy of program, creating a source file, compiling and Linking.

References:

1. David Parsons; Object oriented programming with C++; BPB publication
2. Object oriented programming in C++ by Robert Lafore: Galgotia
3. Balagurusamy; Object oriented programming with C++; TMH
4. Java Complete Reference: Herbert Schildt, Mc Graw Hill
5. Hubbard; Programming in C++ (Schaum); TMH
6. Mastering C++ by Venugopal, TMH

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Computer Science and Engineering, V-Semester

Open Elective CS- 504 (C) Introduction to Database Management Systems

Unit 1: Database Management System Concepts: Introduction, Significance of Database, Database System Applications; Data Independence; Data Modeling for a Database; Entities and their Attributes, Entities, Attributes, Relationships and Relationships Types, Advantages and Disadvantages of Database Management System, DBMS Vs RDBMS.

Unit 2: Database Models and Implementation: Data Model and Types of Data Model, Relational Data Model, Hierarchical Model, Network Data Model, Object/Relational Model, Object-Oriented Model; Entity-Relationship Model, Modeling using E-R Diagrams, Notation used in E-R Model, Relationships and Relationship Types; Associative Database Model

Unit 3 : SQL : Data Definition Language : Categories of SQL Commands; Data Definition Language ; Create table , Drop table and Alter Table . Primary Key , Foreign Key, Truncate Table, Index, Cursor.

UNIT 4 : SQL DML :Data Manipulation Language, Insert Statement, Multiple Inserts, Delete Statement, Delete with conditions , Update statement, Update with Conditions , Merge Statement,

UNIT 5 SELECT . SQL queries, Data extraction from single, multiple tables equi-join, non equi-join, self-join, outer join. Usage of like, any, all, exists, in Special operators. Hierarchical queries, inline queries, flashback queries. Introduction of ANSI SQL, anonymous block, nested anonymous block, branching and looping constructs in ANSI SQL.

Suggested Reading:-

1. Date C J, “An Introduction To Database System”, Pearson Educations

2. Korth, Silbertz,Sudarshan, “Fundamental of Database System”, McGraw Hill

3. Rob, “ Data Base System:Design Implementation & Management”, Cengage Learninig

4. Elmasri, Navathe, “Fundamentals Of Database Systems”, Pearson Educations

5 . Atul Kahate , “ Introduction to Database Management System”, Pearson Educations

6. Oracle 9i Database Administration Fundamental-I, Volume I, Oracle Press,TMH.

7. Paneerselvam,”DataBase Management System”, PHI Learning