



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

I B.Sc., (I Semester) - SYLLABUS

SUBJECT : COMPUTER SCIENCE

Paper – I A : Computer Fundamentals and Photoshop

W.e.f : 2015 – 16 Admitted Batch

UNIT-I:

Introduction to computers, characteristics and limitations of computer, Block diagram of computer, types of computers, uses of computers, computer generations. Number systems : binary, hexa decimal and octal numbering system

UNIT-II:

Input and output devices: Keyboard and mouse, inputting data in other ways, Types of Software: system software, Application software, commercial, open source, domain and free ware software, Memories: primary, secondary and cache memory. Windows basics: desktop, start menu, icons.

Unit -III

Introduction to Adobe photoshop, Getting started with photoshop, creating and saving a document in photoshop, page layout and back ground, photoshop program window-title bar, menu bar, option bar, image window, image title bar, status bar, ruler, paletts, tool box,screen modes, saving files, reverting files, closing files.

Images: working with images, image size and resolution, image editing, colour modes and adjustments, Zooming & Panning an Image, Rulers, Guides & Grids- Cropping & Straightening an Image, image backgrounds, making selections

Unit -IV

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Working with tool box: working with pen tool, save and load selection-working with erasers-working with text and brushes-Colour manipulations: colour modes- Levels - Curves - Seeing Colour accurately - Patch tool – Cropping-Reading your palettes - Dust and scratches- Advanced Retouching- smoothing skin

Layers: Working with layers- layer styles- opacity-adjustment layers

Filters: The filter menu, Working with filters- Editing your photo shoot, presentation –how to create adds, artistic filter, blur filter, brush store filter, distort filters, noise filters, pixelate filters, light effects, difference clouds, sharpen filters, printing.

Reference Books:

1. Fundamentals of Computers by Reema Thareja from Oxford University Press
2. Adobe Photoshop Class Room in a Book by Adobe Creative Team.
3. Photoshop: Beginner's Guide for Photoshop - Digital Photography, Photo Editing, Color Grading & Graphic...19 February 2016 by David Maxwell

Student Activity:

1. Design a poster for technical paper presentation.
2. Create a digital scrap book.

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Re-Accredited NAAC with 'B' Grade

I B.Sc. (I Semester)

SUBJECT: COMPUTER SCIENCE

Paper - IA : Computer Fundamentals and Photoshop

W.e.f. : 2016-17 Admitted Batch

Photo shop practical lab

1. Create your Visiting card
2. Create Cover page for any text book
3. Create a Paper add for advertising of any commercial agency
4. Design a Passport photo
5. Create a Pamphlet for any program to be conducted by an organization
6. Create Broacher for you college
7. Create Titles for any forthcoming film
8. Custom shapes creation
9. Create a Web template for your college
10. Convert color photo to black and white photo
11. Enhance and reduce the given Image size
12. Background changes
13. Design Box package cover
14. Design Texture and patterns
15. Filter effects & Eraser effects



I B.Sc. (II Semester) – SYLLABUS

SUBJECT: COMPUTER SCIENCE

Paper - IB : Programming in 'C'

W.e.f. : 2016–17 Admitted Batch

Course Objectives

1. Learn how to solve common types of computing problems.
2. Learn data types and control structures of C
3. Learn to map problems to programming features of C.
4. Learn to write good portable C programs.

Course Outcomes

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

1. Appreciate and understand the working of a digital computer
2. Analyze a given problem and develop an algorithm to solve the problem
3. Improve upon a solution to a problem
4. Use the 'C' language constructs in the right way
5. Design, develop and test programs written in 'C'

UNIT I

Introduction to Algorithms and Programming Languages: Algorithm – Key features of Algorithms – Some more Algorithms – Flow Charts – Pseudo code – Programming Languages – Generation of Programming Languages – Structured Programming Language- Design and Implementation of Correct, Efficient and Maintainable Programs.

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 – Type Conversion and Type Casting

UNIT II

Decision 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 – Scope of

variables – Storage Classes – Recursive functions – Type of recursion – Towers of Hanoi – Recursion vs Iteration

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 - Two Dimensional Arrays for inter-function communication – Multidimensional Arrays – Sparse Matrices

Strings: Introduction –Suppressive Input – String Taxonomy – String Operations – Miscellaneous String and Character functions

UNIT IV

Pointers: Understanding Computer Memory – Introduction to Pointers – declaring Pointer Variables – Pointer Expressions and Pointer Arithmetic – Null Pointers – Generic Pointers - Passing Arguments to Functions using Pointer – Pointer and Arrays – Passing Array to Function – Difference between Array Name and Pointer – Pointers and Strings – Array of pointers – Pointer and 2D Arrays – Pointer and 3D Arrays – Function Pointers – Array Of Function Pointer – Pointers to Pointers – Memory Allocation in C Programs – Memory Usage – Dynamic Memory Allocation – Drawbacks of Pointers

Structure, Union, and Enumerated Data Types: Introduction – Nested Structures – Arrays of Structures – Structures and Functions – Self referential Structures – Union – Arrays of Unions Variables – Unions inside Structures – Enumerated Data Types

UNIT V

Files: Introduction to Files – Using Files in C – Reading Data from Files – Writing Data from Files – Detecting the End-of-file – Error Handling during File Operations – Accepting Command Line Arguments – Functions for Selecting a Record Randomly - Remove() – Renaming a File – Creating a Temporary File

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I B.Sc. (II Semester) – SYLLABUS

SUBJECT: COMPUTER SCIENCE

Paper - IB : Programming in 'C'

W.e.f. : 2016–17 Admitted Batch

C-PROGRAMMING LAB CYCLE

1. Find out the given number is perfect number or not using c program.
2. Write a C program to check whether the given number is Armstrong or not.
3. Write a C program to find the sum of individual digits of a positive integer.
4. A Fibonacci sequence is defined as follows: the first and second terms in the sequence are 0 and 1. Subsequent terms are found by adding the preceding two terms in the sequence. Write a C program to print the Fibonacci series
5. Write a C program to generate the first n terms of the Fibonacci sequence.
6. Write a C program to generate all the prime numbers between 1 and n, where n is a value supplied by the user.
7. Write a C program to find both the largest and smallest number in a list of integers.
8. Write a C program that uses functions to perform the following:
 - a. Addition of Two Matrices
 - b. Multiplication of Two Matrices
9. Write a program to perform various string operations
10. Write C program that implements searching of given item in a given list
11. Write a C program to sort a given list of integers in ascending order

S.K.S.D. MAHILA KALASALA(UG&PG)(AUTONOMOUS) :: TANUKU
SUBJECT: INFORMATION AND COMMUNICATION TECHNOLOGY
SYLLABUS

Paper Title : Computer Fundamentals & Office Tools
(Common for All I Year B.A./B.Com./B.Sc.,
(II Semester))

W.e.f. : 2016–17 Admitted Batch

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: Operating System Basics:

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.

Unit-V: 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.

Reference Books:

1. Fundamentals of Computers by ReemaThareja, Publishers: Oxford University Press,India
2. Fundamentals of Computers by V.Raja Raman, Publishers: PHI

S.K.S.D. MAHILA KALASALA(UG&PG)(AUTONOMOUS) :: TANUKU
SUBJECT: INFORMATION AND COMMUNICATION TECHNOLOGY
SYLLABUS

Paper Title : Internet Fundamentals & Web Tools
(Common for All II Year B.A./B.Com./B.Sc., (III Semester))

W.e.f. : 2016-17 Admitted Batch

Unit-I: Fundamentals of Internet :

Networking Concepts, Data Communication – Types of Networking, Internet and its Services, Internet Addressing – Internet Applications – Computer Viruses and its types – Browser Types of Browsers.

Unit-II: Internet applications:

Using Internet Explorer, Standard Internet Explorer Buttons, Entering a Web Site Address, Searching the Internet – Introduction to Social Networking: twitter, tumblr, LinkedIn, facebook, flickr, skype, yelp, vimeo, yahoo!, google+, youtube, WhatsApp, etc.

Unit-III : E-mail:

Definition of E-mail - Advantages and Disadvantages – UserIds, Passwords, Email Addresses, Domain Names, Mailers, Message Components, Message Composition, Mail Management, mail Inner Workings.

Unit IV: WWW:

Web Applications, Web Terminologies, Web Browsers, URL – Components of URL, Searching WWW – Search Engines and Examples

Unit-V: Basic HTML:

Basic HTML – Web Terminology – Structure of a HTML Document – HTML, Head and Body tags – Semantic and Syntactic Tags – HR, Heading, Font, Image and Anchor Tags – Different types of Lists using tags – Table Tags, Image formats – Creation of simple HTML Documents.

Reference Books :

1. In-line/On-line : Fundamentals of the Internet and the World Wide Web, 2/e
– by Raymond Greenlaw and Ellen Hepp, Publishers : TMH



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

II B.Sc., (III Semester) - SYLLABUS

SUBJECT : COMPUTER SCIENCE

Paper – II A : Object Oriented Programming using Java

W.e.f : 2016 – 17 Admitted Batch

Course Objectives

As the business environment becomes more sophisticated, the software development (software engineering is about managing complexity) is becoming increasingly complex. As of the best programming paradigm which helps to eliminate complexity of large projects, Object Oriented Programming (OOP) has become the predominant technique for writing software in the past decade. Many other important software development techniques are based upon the fundamental ideas captured by object-oriented programming.

Course Outcomes

At the end of this course student will:

1. Understand the concept and underlying principles of Object-Oriented Programming
2. Understand how object-oriented concepts are incorporated into the Java programming language
3. Develop problem-solving and programming skills using OOP concept
4. Understand the benefits of a well structured program
5. Develop the ability to solve real-world problems through software development in high-level programming language like Java
6. Develop efficient Java applets and applications using OOP concept
7. Become familiar with the fundamentals and acquire programming skills in the Java language.

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**: Introduction, Simple Java program structure, Java tokens, Java Statements, Implementing a Java Program, Java Virtual Machine, Command line arguments. **CONSTANTS, VARIABLES & DATA TYPES**: Introduction, Constants, Variables, Data Types, Declaration of Variables, Giving Value to Variables, Scope of variables, Symbolic Constants, Type casting, Getting Value of Variables, Standard Default values; **OPERATORS & EXPRESSIONS**.

UNIT-II

DECISION MAKING & BRANCHING: Introduction, Decision making with if statement, Simple if statement, if. Else statement, Nesting of if. else statements, the else if ladder, the switch statement, the conditional operator. **LOOPING:** Introduction, The While statement, the do-while statement, the for statement, Jumps in loops.

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

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, Vectors, Wrapper classes;

INTERFACES: MULTIPLE INHERITANCE: Introduction, Defining interfaces, Extending interfaces, Implementing interfaces, Assessing interface variables;

MULTITHREADED PROGRAMMING: Introduction, Creating Threads, Extending the Threads, Stopping and Blocking a Thread, Lifecycle of a Thread, Using Thread Methods, Thread Exceptions, Thread Priority, Synchronization, Implementing the 'Runnable' Interface.

UNIT-IV

MANAGING ERRORS AND EXCEPTIONS: Types of errors: Compile-time errors, Runtime 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: Introduction, Java API Packages, Using System Packages, Naming conventions, Creating Packages, Accessing a Package, using a Package.

MANAGING INPUT/OUTPUT FILES IN JAVA: Introduction, Concept of Streams, Stream classes, Byte Stream Classes, Input Stream Classes, Output Stream Classes, Character Stream classes: Reader stream classes, Writer Stream classes, Using Streams, Reading and writing files.

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Re-Accredited NAAC with 'B' Grade

II B.Sc. (III Semester)

SUBJECT: COMPUTER SCIENCE

PRACTICAL LAB

Paper - IIA : Object Oriented Programming using Java

W.e.f. : 2016-17 Admitted Batch

1. A Program to perform various String Operations
2. Write a program on class and object in java
3. Write a program to illustrate Function Overloading & Function Overriding methods in Java
4. Write a program to illustrate the implementation of abstract class
5. Write a program to implement Exception handling
6. Write a program to create packages in Java
7. Write a program on interface in java
8. Write a program to Create Multiple Threads in Java
9. Write a program to Write Applets to draw the various polygons
10. Write a program which illustrates the implementation of multiple Inheritance using interfaces in Java
11. Write a program to assign priorities to threads in java

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II B.Sc. (IV Semester) – SYLLABUS

SUBJECT: COMPUTER SCIENCE

Paper - IIB : Data Structures

W.e.f. : 2016–17 Admitted Batch

UNIT I

Concept of Abstract Data Types (ADTs)- Data Types, Data Structures, Storage Structures, and File Structures, Primitive and Non-primitive Data Structures, Linear and Non-linear Data Structures.

Linear Lists – ADT, Array and Linked representations, Pointers.

Arrays – ADT, Mappings, Representations, Sparse Matrices, Sets – ADT, Operations

Linked Lists: Single Linked List, Double Linked List, Circular Linked List , applications

UNIT II

Stacks: Definition, ADT, Array and Linked representations, Implementations and Applications

Queues: Definition, ADT, Array and Linked representations, Circular Queues, Dequeues, Priority Queues, Implementations and Applications.

UNIT III

Trees: Binary Tree, Definition, Properties, ADT, Array and Linked representations, Implementations and Applications. Binary Search Trees (BST) – Definition, ADT, Operations and Implementations, BST Applications. Threaded Binary Trees, Heap trees.

UNIT- IV

Graphs – Graph and its Representation, Graph Traversals, Connected Components, Basic Searching Techniques, Minimal Spanning Trees

Sorting and Searching: Selection, Insertion, Bubble, Merge, Quick, Heap sort, Sequential and Binary Searching.

**S.K.S.D. MAHILA KALASALA(UG&PG)(AUTONOMOUS)::TANUKU
II B.Sc. (IV Semester) – SYLLABUS**

SUBJECT: COMPUTER SCIENCE

Paper - IIB : Data Structures

W.e.f. : 2016–17 Admitted Batch

DATA STRUCTURES USING JAVA LAB

1. Write a Program to implement the Linked List operations
2. Write a Program to implement the Stack operations using an array.
3. Write Programs to implement the Queue operations using an array.
4. Write Programs to implement the Stack operations using a singly linked list.
5. Write Programs to implement the Queue operations using a singly linked list.
6. Write a program for arithmetic expression evaluation
7. Write a program to implement Double Ended Queue using a doubly linked list.
8. Write a program to search an item in a given list using Linear Search and Binary Search
9. Write a program for Quick Sort
10. Write a program for Merge Sort
11. Write a program on Binary Search Tree operations(insertion, deletion and traversals)
12. Write a program for Graph traversals

S.K.S.D. MAHILA KALASALA (UG&PG)(AUTONOMOUS) :: TANUKU
Re-Accredited NAAC with 'B' Grade

SUBJECT: COMPUTER SCIENCE

III B.Sc (Computers) (V SEMISTER)
DATABASE MANAGEMENT SYSTEMS SYLLABUS

Course Objective:

Design & develop database for large volumes & varieties of data with optimized data processing techniques.

Course Outcomes

On completing the subject, students will be able to:

1. Design and model of data in database.
2. Store, Retrieve data in database.

UNIT I

Overview of Database Management System: Introduction, file-based system, Drawbacks of file-Based System ,Data and information, Database, Database management System, Objectives of DBMS, Evaluation of Database management System, Classification of Database Management System, DBMS Approach, advantages of DBMS, data models, Components and Interfaces of Database Management System. Database Architecture, Situations where DBMS is not Necessary.

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, aggregation and composition, entity clusters, connection types, 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). QBE

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, Table Truncation, Imposition of Constraints, Join Operation, Set Operation, View, Sub Query, Embedded SQL,

UNIT I V

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

Reference Books

1. "Database System Concepts" by Abraham Silberschatz, Henry Korth, and S. Sudarshan, McGrawhill, 2010, 9780073523323
2. "Database Management Systems" by Raghu Ramakrishnan, McGrawhill, 2002,
3. Fundamentals of Relational Database Management Systems by S. Sumathi, S. Esakkirajan, Springer Publications
4. "An Introduction to Database Systems" by Bipin C Desai
5. "Principles of Database Systems" by J. D. Ullman
6. "Fundamentals of Database Systems" by R. Elmasri and S. Navathe

Student Activity:

1. **Create your college database for placement purpose.**
2. **Create faculty database of your college with their academic performance scores**

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

W.e.f. : 2017–18 Admitted Batch
Re-Accredited NAAC with 'B' Grade

III B.Sc (Computers) (V SEMISTER)

DATABASE MANAGEMENT SYSTEMS LAB

1. Draw ER diagrams for train services in a railway station
2. Draw ER diagram for hospital administration
3. Creation of college database and establish relationships between tables
4. Write a view to extract details from two or more tables
5. Write a stored procedure to process students results
6. Write a program to demonstrate a function
7. Write a program to demonstrate blocks, cursors & database triggers.
8. Write a program to demonstrate Joins
9. Write a program d
10. Write a program to demonstrate of Aggregate functions
11. Creation of Reports based on different queries
12. Usage of file locking table locking, facilities in applications.

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Re-Accredited NAAC with 'B' Grade

III B.Sc (Computers) (V SEMISTER)

SUBJECT: COMPUTER SCIENCE

Paper IV : Software Engineering

W.e.f. : 2017–18 Admitted Batch

Course Objectives

The Objective of the course is to assist the student in understanding the basic theory of software engineering, and to apply these basic theoretical principles to a group software development project.

Course outcomes

- 1.Ability to gather and specify requirements of the software projects.
- 2.Ability to analyze software requirements with existing tools
- 3.Able to differentiate different testing methodologies
- 4.Able to understand and apply the basic project management practices in real life projects
- 5.Ability to work in a team as well as independently on software projects

UNIT I

INTRODUCTION: The Evolving Role of Software – Software Characteristics – Software Applications – Software : A Crisis on the Horizons – Software Myths.

THE PROCESS: Software Engineering : A Layered Technology – Process, Methods and Tools – A Generic View and Software Engineering. – The Software Process – Software Process Models – The Linear Sequential Model – The Prototyping Model – The RAD Model – Evolutionary Software Process Models – Component Based Development – The Formal Methods Model.

UNIT II

SOFTWARE PROCESS AND PROJECT METRICS : Measures, Metrics and Indicators – Metrics in the Process and Project Domains – Software Measurement – Reconciling Different Metrics Approaches – Metrics for Software Quality.

SOFTWARE PROJECT PLANNING : Observations on Estimating – Project Planning Objectives – Resources – Software Project Estimation – Decomposition Techniques – Empirical Estimation Models.

UNIT III

REQUIREMENTS ANALYSIS : Requirement Engineering Processes – Feasibility Study – Problem of Requirements – Software Requirement Analysis – Analysis Concepts and Principles – Analysis Process – Analysis Model.

SOFTWARE DESIGN: Software design - Abstraction - Modularity - Software Architecture - Effective modular design - Cohesion and Coupling - Architectural design and Procedural design - Data flow oriented design.

UNIT IV

SOFTWARE QUALITY AND TESTING :Software Quality Assurance - Quality metrics - Software Reliability - Software testing - Path testing – Control Structures testing - Black Box testing - Integration, Validation and system testing - Reverse Engineering and Re-engineering.

CASE tools –projects management, tools - analysis and design tools – programming tools - integration and testing tool - Case studies.

REFERENCE BOOKS:

1. Roger Pressman S., “Software Engineering: A Practitioner's Approach”, 7th Edition, McGraw Hill, 2010.
2. Software Engineering Principles and Practice by Deepak Jain Oxford University Press
2. Sommerville, “Software Engineering”, Eighth Edition, Pearson Education, 2007
3. Pfleeger, “Software Engineering: Theory & Practice”, 3rd Edition, Pearson Education, 2009
4. Carlo Ghazi, Mehdi Jazayari, Dino Mandrioli, “Fundamentals of Software Engineering”, Pearson Education, 2003

Student Activity:

1. Visit any financial organization nearby and prepare requirement analysis report
2. Visit any industrial organization and prepare risk chart.

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Re-Accredited NAAC with 'B' Grade

III B.Sc (Computers) (V SEMISTER)

Project-1

Follow SDLC process for real time applications and develop real time application project

The objective of the project is to motivate them to work in emerging/latest technologies, help the students to develop ability, to apply theoretical and practical tools/techniques to solve real life problems related to industry, academic institutions and research laboratories.

The project is of 2 hours/week for one (semester V) semester duration and a student is expected to do planning, analyzing, designing, coding, and implementing the project. The initiation of project should be with the project proposal. The synopsis approval will be given by the project guides.

The project proposal should include the following:

Title

Objectives

Input and output

Details of modules and process logic

Limitations of the project

Tools/platforms, Languages to be used

Scope of future application

The Project work should be either an individual one or a group of not more than three members and submit a project report at the end of the semester. The students shall defend their dissertation in front of experts during viva-voce examinations.



Batch 2015-18
S.K.S.D. MAHILA KALASALA UG (A) & PG: TANUKU
III B.Sc. (Computer Science): VI Semester under CBCS w.e.f 2017-18
THEORY PAPER – VI SYLLABUS
SEMESTER – VI
WEB TECHNOLOGIES

UNIT-I

Introduction to XHTML, Cascading Style Sheets (CSS), JavaScript: Introduction to Scripting, Control Statements, Functions , Arrays ,Objects.

Unit II

Dynamic HTML: Object Model and Collections, Dynamic HTML: Event Model .

Unit III

XML Representing Web Data, XSL Related Technologies and Case Study .

Unit IV

Building Ajax-Enabled Web Applications, Web Servers (IIS and Apache). Ruby and Ruby on Rails. Java Server Faces Web Applications, Web Services

References:

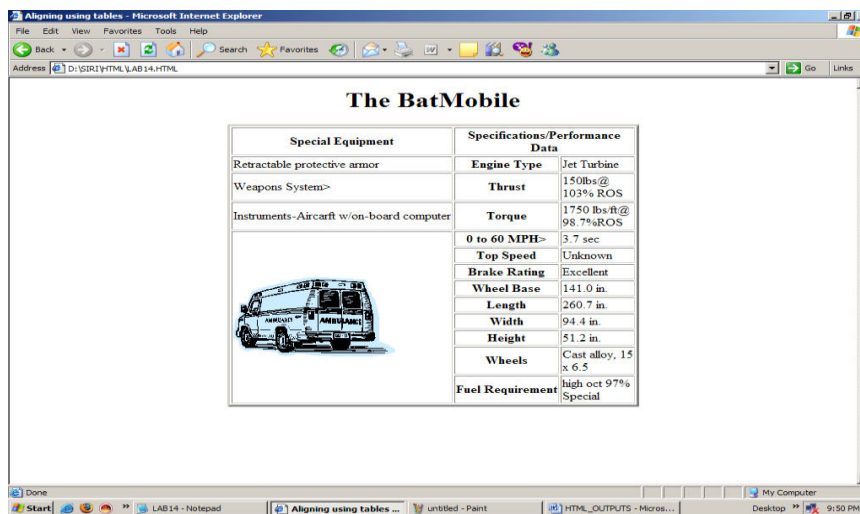
1. Harvey M. Deitel and Paul J. Deitel, "Internet & World Wide Web How to Program", 4/e, Pearson Education.
2. Uttam Kumar Roy, Web Technologies from Oxford University Press
3. Jason Cranford Teague "Visual Quick Start Guide CSS, DHTML & AJAX", 4e, "Pearson Education.
4. Tom Nerino Doli smith "JavaScript & AJAX for the web" Pearson Education 2007.
5. Joshua Elchorn "Understanding AJAX" Prentice Hall 2006.
6. Hal Fulton "The Ruby Way", 2e, Pearson Education 2007.
7. David A. Black "Ruby for rails" Dreamtech Press 2006.
8. Bill Dudley, Johathan Lehr, Bill Willies, Lery Mattingly "Mastering Java Server Faces" Wiley India 2006.

Student Activities:

1. Prepare a web site for your college

S.K.S.D. MAHILA KALASALA UG (A) & PG: TANUKU
III B.Sc. (Computer Science): VI Semester under CBCS w.e.f 2017-18
THEORY PAPER – VI
SEMESTER – VI
WEB TECHNOLOGIES LAB
Batch 2015-18

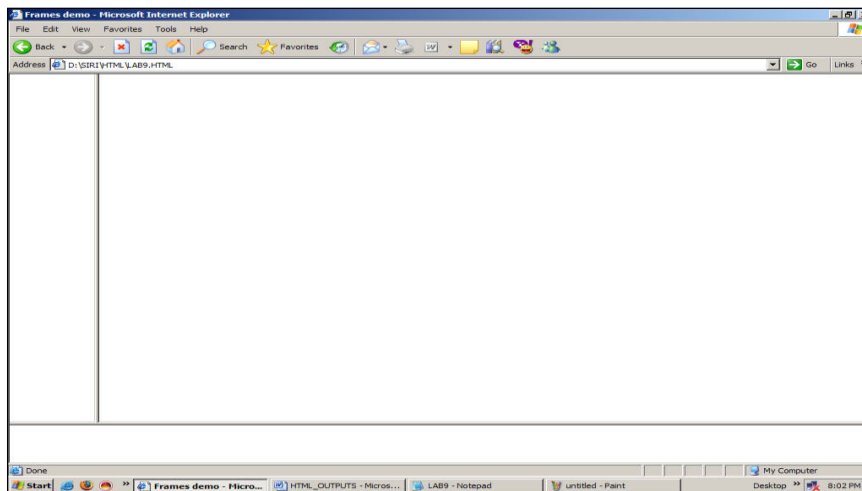
1. Write a HTML program illustrating text formatting.
2. Illustrate font variations in your HTML code.
3. Prepare a sample code to illustrate links between different sections of the page.
4. Create a simple HTML program to illustrate three types of lists.
5. Embed a real player in your web page.
6. Embed a calendar object in your web page.
7. Create an applet that accepts two numbers and perform all the arithmetic operations on them.
8. Create nested table to store your curriculum.
9. Create a form that accepts the information from the subscriber of a mailing system.
10. Design the page as follows:



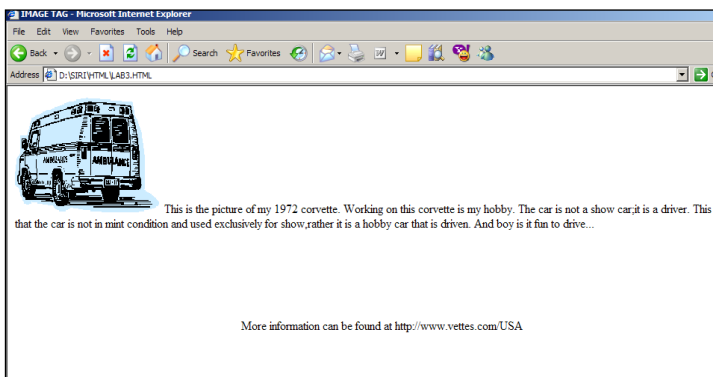
11. Using "table" tag, align the images as follows:



12. Divide the web page as follows:

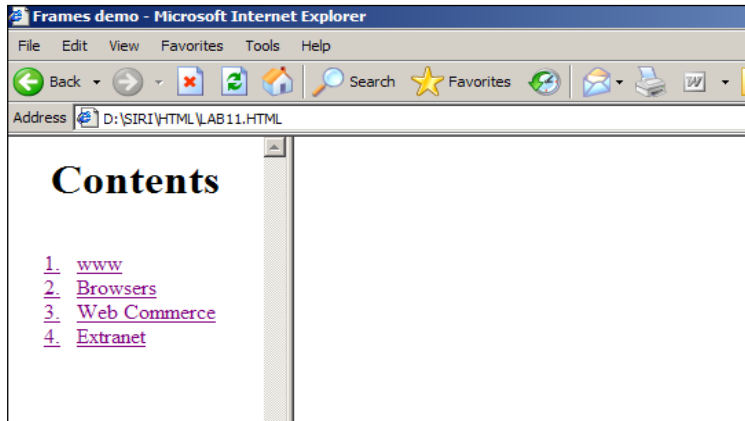


13. Design the page as follows:



14. Illustrate the horizontal rulers in your page.

15. Create a help file as follows:



16. Create a form using form tags (assume the form and fields).

17. Create a webpage containing your biodata (assume the form and fields).

18. Write an html program including style sheets.

19. Write an html program to include audio or video into webpage.

20. Write an html program to layers of information in web page.

21. Create a static webpage.

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SEMESTER – VI
(Cluster 2) Paper-VIII : Elective –B-1

Batch 2015-18
Distributed Systems

Course Objectives

To expose the fundamentals of distributed computer systems, assuming the availability of facilities for data transmission.

To discuss multiple levels of distributed algorithms, distributed file systems, distributed databases, security and protection.

Course Outcomes

Create models for distributed systems.

Apply different techniques learned in the distributed system.

UNIT I

Introduction to Distributed Computing Systems, System Models, and Issues in Designing a Distributed Operating System, Examples of distributed systems.

UNIT II

Features of Message Passing System, Synchronization and Buffering, Introduction to RPC and its models, Transparency of RPC, Implementation Mechanism, Stub Generation and RPC Messages, Server Management, Call Semantics, Communication Protocols and Client Server Binding.

UNIT III

Introduction, Design and implementation of DSM system, Granularity and Consistency Model, Advantages of DSM, Clock Synchronization, Event Ordering, Mutual exclusion, Deadlock, Election Algorithms.

UNIT IV

Task Assignment Approach, Load Balancing Approach, Load Sharing Approach, Process Migration and Threads.

File Models, File Accessing Models, File Sharing Semantics, File Caching Schemes, File Replication, Atomic Transactions, Cryptography, Authentication, Access control and Digital Signatures.

Reference Books

1. Pradeep. K. Sinha: “ Distributed Operating Systems: Concepts and Design ”, PHI, 2007.
2. George Coulouris, Jean Dollimore, Tim Kindberg: “ Distributed Systems” , Concept and Design, 3rd Edition, Pearson Education, 2005.

Student Activity

1. Implementation of Distributed Mutual Exclusion Algorithm.
2. Create a Distributed Simulation Environment.

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Distributed Systems Lab

Batch 2015-18

Objective:

It covers all the aspects of distributed system. It introduce its readers to basic concepts of middleware, states of art middleware technology

Outcomes:

1. Students will get the concepts of Inter-process communication
 2. Students will get the concepts of Distributed Mutual Exclusion and Distributed Deadlock Detection algorithm.
-
1. To study client server based program using RPC.
 2. To study Client server based program using RMI.
 3. To study Implementation of Clock Synchronization (Logical/Physical)
 4. To study Implementation of Election algorithm.
 5. To study Implementation of Mutual Exclusion algorithms.
 6. To write program multi-threaded client/server processes.
 7. To write program to demonstrate process/code migration.



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CLOUD COMPUTING

Course Objectives:

The student will learn about the cloud environment, building software systems and components that scale to millions of users in modern internet, cloud concepts capabilities across the various cloud service models including IaaS, PaaS, SaaS, and developing cloud based software applications on top of cloud platforms.

Course Outcomes

1. Compare the strengths and limitations of cloud computing
2. Identify the architecture, infrastructure and delivery models of cloud computing
3. Apply suitable virtualization concept.
4. Choose the appropriate cloud player , Programming Models and approach.
5. Address the core issues of cloud computing such as security, privacy and interoperability
6. Design Cloud Services and Set a private cloud

Unit I

Cloud Computing Overview–Origins of Cloud computing –Cloud components - Essential characteristics –On-demand self-service , Broad network access , Location independent resource pooling , Rapid elasticity , Measured service .

Unit II

Cloud scenarios –Benefits: scalability , simplicity , vendors ,security. Limitations –Sensitive Information -Application development –Security concerns -privacy concern with a third party -security level of third party - security benefits Regularity issues: Government policies.

Cloud architecture: Cloud delivery model –SPI framework , SPI evolution , SPI vs. traditional IT Model

Unit III

Software as a Service(SaaS): SaaS service providers –Google App Engine, Salesforce.com and google platform –Benefits –Operational benefits –Economic benefits –Evaluating SaaS.

Platform as a Service(PaaS): PaaS service providers –Right Scale –Salesforce.com –Rackspace –Force.com –Services and Benefits.

Infrastructure as a Service(IaaS): IaaS service providers –Amazon EC2 , Go Grid –Microsoft soft implementation and support –Amazon EC service level agreement –Recent developments –Benefits.

Unit IV

Cloud deployment model: Public clouds –Private clouds –Community clouds –Hybrid clouds –advantages of Cloud computing

Virtualization: Virtualization and cloud computing –Need of virtualization –cost , administration fast deployment , reduce infrastructure cost –limitations

Types of hardware virtualization:: Full virtualization –partial virtualization –para virtualization.

Desktop virtualization: : Software virtualization –Memory virtualization –Storage virtualization –Data virtualization –Network virtualization

Microsoft Implementation : Microsoft Hyper V –Vmware features and infrastructure –Virtual Box –Thin client

Reference Books

1.Cloud computing a practical approach –Anthony T.Velte , Toby J. Velte
Robert

Elsenpeter TATA McGraw-Hill , New Delhi –2010

2.Cloud Computing: Web-Based Applications That Change the Way You Work
and

Collaborate Online –Michael Miller –Que 2008

3.Cloud Computing, Theory and Practice, Dan C Marinescu, MK Elsevier.

4.Cloud Computing, A Hands on approach, Arshadeep Bahga, Vijay Madiseti,
University Press

5.Mastering Cloud Computing, Foundations and Application Programming, Raj
Kumar

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(Cluster 2) Paper-VIII : Elective –B-2

Cloud Computing Lab

Batch 2015-18

Outcomes: Learner will be able to...

1. Appreciate cloud architecture
2. Create and run virtual machines on open source OS
3. implement Infrastructure , storage as a Service.

Use Eucalyptus or Open Nebula or equivalent to set up the cloud and demonstrate.

1. Find procedure to run the virtual machine of different configuration. Check how many virtual machines can be utilized at particular time.
2. Find procedure to attach virtual block to the virtual machine and check whether it holds the data even after the release of the virtual machine.
3. Install a C compiler in the virtual machine and execute a sample program.
4. Show the virtual machine migration based on the certain condition from one node to the other.
5. Find procedure to install storage controller and interact with it.

Reference Books

1. Introduction to cloud computing.
2. Creating a Warehouse Application in Sales Force.com.
3. Creating an Application in Sales Force.com using Apex programming Language.
4. Implementation of SOAP web services in C#/ JAVA Applications.
5. Implementation of Para- Virtualization using VM ware's workstation/ Oracle's Virtual Box and Guest O.S.
6. Case study: PAAS (Face book, Google App Engine)
7. Case Study: Amazon web services.