LABORATORY MANUAL

DESIGN AND ANALYSIS OF ALGORITHMS

21CS42

2022-2023

ATRIA INSTITUTE OF TECHNOLOGY
Adjacent to Bangalore Baptist Hospital,
ANAND NAGAR, BANGALORE

SYLLABUS

DESIGN AND ANALYSIS OF ALGORITHMS LABORATORY

Sub. Code: 21CSL42 **IA Marks :20**

Number of Lecture Hors/Week: 2 H

Module-1

1. Sort a given set of n integer elements using the Selection Sort method and compute its time complexity. Run the program for varied values of n> 5000 and record the time taken to sort. Plot a graph of the time taken versus n. The elements can be read from a file or can be generated using the random number generator. Demonstrate using C++/Java how the brute force method works along with its time complexity analysis: worst case, average case and best case

Module-2

1. Sort a given set of n integer elements using Quick Sort method and compute its time complexity. Run the program for varied values of n> 5000 and record the time taken to sort. Plot a graph of the time taken versus n. The elements can be read from a file or can be generated using the random number generator. Demonstrate using C++/Java how the divide-and-conquer method works along with its time complexity analysis: worst case, average case and best case.

2. Sort a given set of n integer elements using Merge Sort method and compute its time complexity. Run the program for varied values of n> 5000, and record the time taken to sort. Plot a graph of the time taken versus n. The elements can be read from a file or can be generated using the random number generator. Demonstrate using C++/Java how the divide-and-conquer method works along with its time complexity analysis: worst case, average case and best case

Module-3

1. Write & Execute C++/Java Program To solve Knapsack problem using Greedy method.
2. Write & Execute C++/Java Program To find shortest paths to other vertices from a given vertex in a weighted connected graph, using Dijkstra's algorithm.
3. Write & Execute C++/Java Program To find Minimum Cost Spanning Tree of a given connected undirected graph using Kruskal's algorithm. Use Union-Find algorithms in your program.
4. Write & Execute C++/Java Program To find Minimum Cost Spanning Tree of a given connected undirected graph using Prim's algorithm

ATRIA INSTITUTE OF TECHNOLOGY

(Affiliated to VTU, Belgaum and Approved by AICTE)

DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING

LABORATORY MANUAL

2022-2023

21CSL481

WEB PROGRAMMING

PREPARED BY

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Mr. SATHISHA G
Mrs. PAVITHRA

SYLLABUS

Hours/Week: 01	Exam Hours: 02
I.A. Marks: 20	Total Hours: 12T + 12P
Semester: IV/ CSE A, B CSD	Exam Marks: 60

Module-1	
Introduction to WEB Programming: Internet, WWW, Web Browsers, and Web Servers, URLs, MIME, HTTP, Security, The Web Programmers Toolbox. **Textbook 1: Chapter 1(1.1 to 1.9)**	
Teaching-Learning Process	Chalk and board, Active Learning, practical based learning
Module-2	
HTML and XHTML: Origins of HTML and XHTML, Basic syntax, Standard XHTML document structure, Basic text markup, Images, Hypertext Links, Lists, Tables. Forms, Frames in HTML and XHTML, Syntactic differences between HTML and XHTML. **Textbook 1: Chapter 2(2.1 to 2.10)**	
Teaching-Learning Process	Chalk and board, Active Learning, Demonstration, presentation, problem solving
Module-3	
CSS: Introduction, Levels of style sheets, Style specification formats, Selector forms, Property value forms, Font properties, List properties, Color, Alignment of text, Background images, tags. **Textbook 1: Chapter 3(3.1 to 3.12)**	
Teaching-Learning Process	Chalk and board, Demonstration, problem solving
Module-4	
Java Script – I: Object orientation and JavaScript; General syntactic characteristics; Primitives, Operations, and expressions; Screen output and keyboard input. **Textbook 1: Chapter 4(4.1 to 4.5)**	
Teaching-Learning Process	Chalk and board, Practical based learning, practical's
Module-5	
Java Script – II: Control statements, Object creation and Modification; Arrays; Functions; Constructor; Pattern matching using expressions; Errors, Element access in JavaScript. **Textbook 1: Chapter 4(4.6 to 4.14)**	

Programming Assignments:

1. Create an XHTML page using tags to accomplish the following:
(i) A paragraph containing text "All that glitters is not gold". Bold face and italicize this text
(ii) Create equation: x = 1/3(y1 2 + z1 2
(iii) Put a background image to a page and demonstrate all attributes of background image
(iv) Create unordered list of 5 fruits and ordered list of 3 flowers

2. Use HTML5 for performing following tasks:
(i) Draw a square using HTML5 SVG , fill the square with green color and make 6px brown stroke width
(ii) Write the following mathematical expression by using HTML5 MathML. d=x2 -y 2
(iii) Redirecting current page to another page after 5 seconds using HTML5 meta tag