KLS Gogte Institute of Technology
Department of Computer Science & Engineering
Internal Assessment - II

Sem : 3 - 2021 Scheme
Course : Web Technologies
Faculty : GCD/VJP/PMP

Date : 24/1/2023
Time: 10:15 - 11:15 AM
Max marks : 25

Answer any five questions

1) Write the code to create animation and transition effects using CSS. L3 , CO-1, PO-1
2) Explain the difference between while and do while in javascript with appropriate examples. L2, CO2, PO3
3) Describe at least five Font related properties of Tailwind CSS with appropriate examples. L2 CO3 PO5
4) Write a Javascript function to change the color of a paragraph with an onclick event listener. L3 CO3 PO3
5) Write a Javascript function to accept marks as the user input and do award the grades according to the following grading criteria. L3 CO3 PO5

| S.No | Range of marks | Grade |
|---|---|---|
| 1 | 90-100 | A+ |
| 2 | 75-90 | A |
| 3 | 60-75 | B |
| 4 | 50-60 | C |
| 5 | 35-50 | D |

6) Write down the code for creating basic pagination example with few links using twitter bootstrap L3 CO3 PO5
7) List and explain various javascript data types with relevant examples. L2 CO1,PO1

IQAC
(Kavita .D.H)

Staff Incharge
V. J. Pandwagi

KLS Gogte Institute of Technology, Belagavi

Academic Year: 2022-23 (ODD SEM)

Department of Mathematics

Program: B.E (CS, IS)

Semester: III

## IA Test – II

Course: Discrete Mathematical Structures and Numerical Methods

Course Code: 21MATCS/IS31

Max. Marks: 25

Duration: 1 hr.

Date: 24-01-2023

*Instruction:* **Answer any FIVE full questions.**

| Q. No. | | L | CO | PO | M |
|---|---|---|---|---|---|
| 1. | Construct Newton's forward interpolation polynomial for the following data: | | | | |

| $x$ | 4 | 6 | 8 | 10 |
|---|---|---|---|---|
| $y$ | 1 | 3 | 8 | 16 |

| | | | | | |
|---|---|---|---|---|---|
| 2. | The following table gives the viscosity of oil as a function of temperature. Apply Newton's divided difference formula to find the viscosity of oil at a temperature of 140°. | 02 | 04 | 01 | 05 |

| Temp in degree: $t$ | 110 | 130 | 160 | 190 |
|---|---|---|---|---|
| Viscosity: $v$ | 10.8 | 8.1 | 5.5 | 4.8 |

| | | | | | |
|---|---|---|---|---|---|
| 3. | Use Lagrange's interpolation formula to find the value of $y$ when $x = 10$, if the following values of $x$ and $y$ are given: | 03 | 04 | 01 | 05 |

| $x$ | 5 | 6 | 9 | 11 |
|---|---|---|---|---|
| $y$ | 12 | 13 | 14 | 16 |

| | | | | | |
|---|---|---|---|---|---|
| 4. | Compute the value of $\int_0^1 (\sin x - \log_e x + e^x)dx$ using Simpson's 3/8 rule by taking $n = 9$. | 02 | 04 | 01 | 05 |
| 5. | Evaluate $\int_0^6 \frac{x^2}{1+x^3}dx$ by Weddle's rule considering 6 subintervals and compare this numerical solution with exact solution. | 02 | 04 | 01 | 05 |
| 6. | Using regula-falsi method compute a real root in the interval $(-3, -2)$ for the equation $xe^x = \sin x$ correct to three decimal places. | 02 | 04 | 01 | 05 |
| 7. | Find a real root of the equation $x + \log_{10} x = 3.375$ by Newton-Raphson method. | 02 | 05 | 01 | 05 |

KLS Gogte Institute of Technology, Belagavi

6/5/11

Computer Science and Engineering
&E (Computer Science and Engineering)

Academic Year: 2022-23(ODD SEM)
Semester: III (A, B, C)

IA Test - II

Title: DATA STRUCTURES AND ALGORITHMS

Code: 21CS32

Max. Marks: 25

Duration: 1 Hr.

Date: 23/01/2023

| Instructions: | 1. | Answer any Five Questions. Each question carries equal marks. |
|---|---|---|

| Q.No. | | L | CO | PO |
|---|---|---|---|---|
| 1 | Develop function in C to perform following operations in singly linked list.<br>a. Insert a node at front b. Destroy linked list | 3 | 2 | 2 |
| 2 | For the following list given, construct a binary search tree.<br>17,23,8,5,7,6,28,62,54,12,15,32<br>Perform Inorder, Preorder and Postorder traversal on binary search tree. | 3 | 2 | 2 |
| 3 | What is Binary Search Tree(BST)? Discuss the difference between Binary Tree and Binary Search Tree.<br>Define the following with respect to Binary Tree:<br>a. Leaf node b. Height of tree | 2 | 2 | 1 |
| 4 | Draw the flow chart which demonstrates the algorithm design and analysis process and discuss the steps in brief. | 2 | 3 | 1 |
| 5 | Discuss the Asymptotic Notations with graph and an example. | 2 | 3 | 2 |
| 6 | Construct the algorithm for Sequential search and discuss its efficiency classes for best case, Average case and worst case. | 3 | 3 | 2,3 |
| 7 | Consider the following algorithm.<br>Algorithm Mystery(A[0..n − 1, 0..n − 1])<br>//Input: A matrix A[0..n − 1, 0..n − 1] of real numbers<br>for $i \leftarrow 0$ to $n - 2$ do<br>for $j \leftarrow i + 1$ to $n - 1$ do<br>if $A[i, j] \neq A[j, i]$<br>return false<br>return true<br>a. What does this algorithm compute?<br>b. What is its basic operation?<br>c. Set up sum expression for the algorithms basic operation and analyze the order of growth of an algorithm.<br>d. What is the efficiency class of this algorithm? | 4 | 3 | 2 |

1-5
2-4
3-3,5,6
4-5
5-6

| Staff Incharge | Module Coordinator | IQAC members |
|---|---|---|
| Prof. Arundhati Nelli 20/1/23 | Prof. Pankaja Patil 20/01/23 | Dr.K.P.Sambrekar 24.1.23 |

KLS Gogte Institute of Technology, Belagavi

Department of Computer Science Engineering | Academic Year: 2022-23(ODD SEM)

Program: B.E (Computer Science Engineering) | Semester: III (A, B, C)

## IA Test – II

Course Title: OBJECT ORIENTED PROGRAMMING USING JAVA | Code: 21CS33

Max. Marks: 25 | Duration: 1 Hr. | Date: 23-01-2023

*Instructions:* 1. Answers must be to the point and must be neatly written
2. Answer any 5 questions, all questions carry equal marks.

| Q. No. | | [L] | [CO] | [PO] | [M] |
|---|---|---|---|---|---|
| 1. | Analyze the below code, write and justify the output by putting<br>i. n=0 ii. n=2<br>`class ReDemo{ static void division(){ int n; try{ int c = 20/n; System.out.println("Division Method"); } catch(ArithmeticException ex){ System.out.println("Zero in the denom"); throw ex; } finally{ System.out.println("What happens?"); } } } public class ReThrow { public static void main(String[] args) { try{ System.out.println("This is Rethrow"); ReDemo.division(); } catch(ArithmeticException e){ System.out.println("Division by zero"); } } }` | 4 | 3 | 1,2 | 5 |
| 2. | Explain any two uses of super keyword with appropriate examples for each. | 2 | 2 | 1 | 5 |
| 3. | Write a short note on packages in Java. Explain static import with an example | 2 | 5 | 1 | 5 |
| 4. | Design a Robot which declares only 3 methods like start(), work() and stop(). Create a Disposal class which provides implementation of the methods in the Robot and also adds findWaste() method which returns true if the waste is wet waste, false otherwise. Write the associated driver class. | 3 | 2, 5 | 1, 3, 12 | 5 |
| 5. | How overridden methods support dynamic method dispatching? Demonstrate with an example. | 2 | 2 | 1,12 | 5 |
| 6. | Analyze and identify the errors in the following code. Give appropriate reasons to each of them | 4 | 2, 5 | 1, 3, 12 | 5 |