Vivekananda College of Engineering & Technology, Puttur

[A Unit of Vivekananda Vidyavardhaka Sangha Puttur ®]

Affiliated to VTU, Belagavi & Approved by AICTE New Delhi

CRM08	Rev 1.10	CSE	08/03/2022

CONTINUOUS INTERNAL EVALUATION – 3

Dept:CSE	Sem / Div:3 A&B	Sub:Data Structures and Applications	S Code:18CS32
Date:16/03/2022	Time:3.00-.4.30 PM	Max Marks: 50	Elective:N

Note: Answer any 2 full questions, choosing one full question from each part.

| QN	Questions	Marks	RBT	CO's
	PART A			
1 a	Define BST. For the given data, draw a binary search tree 100, 85, 45, 55, 110, 20, 70,65. Also traverse using preorder, Postorder and inorder traversals.	9	L2	CO4
b	Write the difference between graph and trees with example.	8	L1	CO4
c	Explain the insertion and deletion process in BST with example.	8	L1	CO4
	OR			
2 a	With separate functions illustrate recursive search and iterative search of a binary search tree.	9	L2	CO4
b	Write an algorithm for Radix Sort .Sort the following list using Radix Sort :348,143,361,423,538,128,321,543,366	8	L2	CO4
c	Explain with example. i) Degree of a undirected and directed graph ii) Connected and disconnected graph	8	L1	CO4
	PART B			
3 a	What is a graph? Give the matrix and adjacency list representation of the below graph	9	L2	CO1, 3
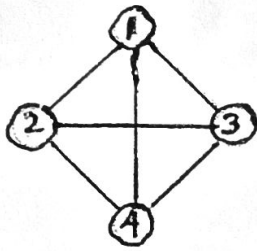
b	Briefly explain basic operations that can be performed on a file. Explain indexed sequential file organization.	8	L1 CO1, 3
c	What is collision? What are the methods to resolve collision? Explain linear probing with an example.	8	L1 CO1, 3

OR

4 a	Write an algorithm for breadth first search and depth first search. Show the BFS and DFS traversals for the given graph.	9	L3 CO1, 3
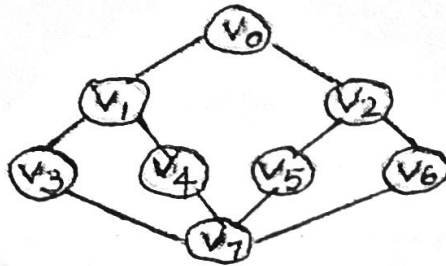
b	Write an algorithm for insertion sort. Apply insertion sort, showing the various passes to sort the Array A where A=[77, 33, 44,1 1, 88, 22, 66,55].	8	L2 CO1, 3
c	Define Indexing. Explain any two indexing methods.	8	L1 CO1, 3

Prepared by:Mr. Nithin Kurup U G/Mrs. Roopa G K

HOD