P P SAVANI UNIVERSITY

Third Semester of B. Tech. Examination December, 2018

SECE2031 Data Structures (VIII YOA) gaiwo lot will regrent

Time: 09.00 a.m. To 11:30 a.m. 26.12.2018, Wednesday

Maximum Marks: 60

Instructions:

- The question paper comprises of two sections.
- Section I and II must be attempted in separate answer sheets.
- Make suitable assumptions and draw neat figures wherever required. After the file different ways of representing a graph?
- 4. Use of scientific calculator is allowed.

4. Use	e of sc	ientific calculator is allowed. Shapen a guitnesenger he eyew the sellent of the entire calculator is allowed.	
		Section – I	
Q-1		Answer the following. (Any Five) colla ground distributed by a state and di	[05]
(i)	1901	A queue is a approach.	
(1)		a) FIFO (First In First Out) list data we binary search tree from following data	1.05
	[65]	b) LIFO (Last In First Out) list	
		c) ordered array	
		d) linear tree	
	[05]	ed crots at block and block and all controls.	
(ii)	[05]	In linked list each node contains minimum of two fields. One field is data field to store the	
()		data accord field is?	
	[05]	a) pointer to character a) Principle With example.	
	[95]	1. 1. L. Le Inhagon	
		1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1	
	[05]	state to progress for great tor dynamic stage. * Boon of refine (b) Show the dynamic stage. Show the dynamic stage.	
	[05]		
(111)		What do you understand by primary data structures?	
(iii)	[05]	' ordered list?	
(iv)		Differentiate NULL and VOID.	
(v)		What is a linear search?	
(vi)		Define circular queue.	
(vii)			ror1
- 16		Differentiate the following terms:	[05]
Q-Z	2 (a)	and Non-Linear Data Structures	
		cuan-imitive and Non-Primitive Data Structures	(0 = 1
0	2 (14)	Convert following expressions into postfix notation.	[05]
Q-2(b)		(i) A + (B - C) * D	
1		(ii) (A + B) \ C * D ^ E	
		OR	
0.	2 (a)	Explain PUSH and POP operation of the stack with algorithm.	[05]
-	2 (b)	Write an algorithm for insert operation at end of Singly Linked List.	[05]
V	~ (0)	Write an algorithm for more operation at a second	
Q -	3 (a)	Define Queue. Which condition is necessary for overflow and underflow in simple queue?	[05]
Q - 3	3 (b)	List out the advantages and disadvantages of Singly Linked List.	[05]
		OR	
			[05]
$Q \cdot 3$	(a)	Writer a program for bubble sort.	[05]
			TOT1
Q-3((d)	Write an algorithm for selection sort.	[05]
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Q - 4 (î)	Attempt any one. Explain delete operation of doubly linked list.	[05]
(ii)	Write difference between LIFO and FIFO. Heart of the Third Technical Street of the Company of th	
Q-1	DecemII - NOITJ32 SECE2031 Data Structure (avi7 ynA).gniwolof and secential structure (avi7 ynA).gniwolof avi7 ynA)	[05]
(i) (ii)	Define height of a tree. Define traversal. Time: 09.00 a.m. To 11:30 a.m. Define traversal.	12.2018, V
(iii)	What are the various ways of balancing an unbalanced tree, as own to apply an adding	
(iv)	List out types of graph. List out types of graph.	
(v)	Define fields, record and file beringer required was based on and base so the second and file.	
(vi)	What are the different ways of representing a graph?	ADV.
(vii)	What do you understand by the degree of a node? L-VOLTOR	
Q - 2 (a)	Differentiate between static and dynamic memory allocation	[05]
Q-2(b)	What is binary search tree? Create a binary search tree from following data 10,12,5,4,20,8,7,15,13	[05]
	verted array	
Q - 2 (a)	Explain BFS with example.	[05]
Q-2(b)	Define Huffman coding with example. In the last track to the contains minimum of two fields. One field is data field to store the	[05]
Q-3(a)	Explain Binary search tree traversal technique with example.	[05]
Q-3(b)	Explain Hash collision Resolution Technique.	[05]
	OR State of Factor	
Q-3(a)	Explain sequential file organization with advantages and disadvantages.	[05]
Q-3(b)	Write a program for dynamic stack.	[05]
0.4	Attempt any one. Yearndourds such yound and harmet such a second	[05]
Q - 4 (i)	Spanning tree.	[00]
(ii)	Prim's algorithm.	
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