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Paper ID: 131405	Rell No.	шшш						
в.тесн.								
Theory Examination (Semester-IV) 2015-16								
DATA STRUCTURE								
Time: 3 Hours Max. Marks: 100								
	Section-A							
Q1. Attempt all part answer of each p		equal marks. Write (2×10=20)						
	abstract data type? Is idered in defining AI	s time and space com- OT?						
(b) Perform eval + *DE /− ,		ession using stack: ABC	•					
A=5, B=6,	C=2, D=12, E=4							
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(f) Generate a binary search tree for the list - 53, 65, 86,  (g) How will be the elements having same priority accessed the nodes of a circular doubly linked list of integers with five nodes?  (g) Draw a directed weighted (assume random weights) graph having 5 vertices and each node having drgree 4.  (g) Q2. Attempt any five questions from this section.  (a) Explain asymptotic notations. Discuss Big(O) notation.  (b) Explain how polynomial can be expressed using linked list.  (c) Write a C program to add two polynomials using linked list and perform PUSH and POP operations onto the stack using linked list and perform PUSH and POP operations onto the stack of the nodes of a circular doubly linked list of integers with five nodes?  (a) Explain how polynomial can be expressed using linked list.  (b) Write a C program to implement stack using linked list and perform PUSH and POP operations onto the stack using linked list and perform PUSH and POP operations onto the stack using linked list and perform push and per		R	<b>First</b>	Ranke	r.cor	n		
(a) Explain asymptotic notations.  (b) Explain how polynomial can be expressed priority queue?  (c) Write a C program to add two priority queue?  (d) Explain the concept of circular queue ease of a circular doubly linked list of integers with des?  (d) Explain the concept of circular queue.  (e) Write a C program to implement stace and perform PUSH and POP operations in a circular queue. tion operations in a circular queue.	76/		Firstrægl	ker's choice	irstRant com	er. 🙃	www.l	
in asymptotic notations.  In how polynomial can be exprire a C program to add two plist.  C program to implement stace of the concept of circular queue obe verified for carrying our increations in a circular queue.		(2)	Draw a directed weighted (assume random weights) graph having 5 vertices and each node having drgree 4.	How many pointers are contained as data members in the nodes of a circular doubly linked list of integers with five nodes?		Generate a binary search tree for the list - 53, 65, 86, 78, 5, 25, 34, 29	0 0	
I = 0 > 0 H =	2605/176/235/5875							Q2. Attempt any fiv
				concept of circular queue. Discuss the bas verified for carrying our insertion and dele ons in a circular queue.	rogram to implement stack using linked lined lined lined lines. PUSH and POP operations onto the stack	w polynomial can be expressed using linke a C program to add two polynomials usin	symptotic notations. Discuss Big(O)	

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**®** 3 lem.

A:15 B:16 C:17 D:12 E:25 F:4 G:6 H:1 I:15

(a) Write a C program to search an element in array

using binary search technique.

What is tail recursion? Write a C program using recursive function that solves tower of Hanoi prob-

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What is the importance of Garbage Collection?

(15×2=30)

Draw Huffman tree and generate Huffman code for : Also estimate the total number of memory bits saved in a message is stated along with symbols given below using the Huffman coding scheme. the following symbols whose frequency of occurance

> 0 3 Write an algorithm to delete last element from a doubly DEQUE. Write an algorithm to delete and insert elements in linked list.

Sort 20, 35, 40, 100, 3, 10, 15 using selection sort.

Q4 (a)

3

Explain with an example to find minimum cost spanning tree using Kruskal algorighm. www.FirstRanke.

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FirstRanker.com Q5. (a) Generate a binary tree for the following traversal com sequences given -IN-ORDER: BFGHPRSTWYZ PRE-ORDER: PFBHGSRYTWZ (b) Write an algorithm to convert an infix expression into postfix form. EIRST AND S 2605/176/235/5875

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