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SARDAR PATEL UNIVERSITY

Master of Computer Applications (MCA) Semester – II External Examination

.03 (Data Structures and Advanced Programming Concepts)

		10 th Ap	ril 20	119, wednesday	Max Marks: 70
Tin	ne: 10:00	a.m. to 1:00 p.m.			
Q-1 1.	The init	e the most appropriate option for each tial configuration of a queue is a, b, c, c ration d, c, b, a, one needs a minimum	i, ('a' of	is in the front end). To get the	[8] e
	C.	3 deletions and 4 additions 3 deletions and 3 additions	υ.	3 deletions and 2 additions	
2	. A link l	list in which the last node points to the	first	node is	
	A. C.	circular linked list	В. D.	doubly linked list All of these	
3			 R	$\frac{1}{2n+1}$	
	C.	2n - 1 2n	D.	n	
4	I. Two m	ain measures for the efficiency of an a			_
	C	Time and space Complexity and capacity	D.	Data and space Processor and memory	
4	5. In C++	Program, a reference variable must be	initi	alized at	. •
	A.	Run Time	В. D.	Code Time Debug Time	
	6. Overlo	pading with explicit arguments to an op-	erato	r function is known as	
	operate A.	or overloading. Unary Ternary loes not allow	B. D.	Binary None of these keyword.	
	A.	new class Itiple inheritance, the constructors of _	D B	this inherit	•
	A.	base subclass	В	. child . None of these	

(P.TO)

Q-2	Answer the following questions (Any Seven):	[14
1.	Explain Field and record with example.	•
2.	What is Data Structure? List out applications of data structure	
3.	Explain stack underflow and overflow condition.	
4.	Give difference between Stack and Queue.	
5.	Define the following: 1) Polymorphism 2) Data hiding	
	What is a virtual function?	
7.	List any four features destructors.	
	Differentiate between the following: while loop and do while loop	
	Explain Dynamic binding in detail.	
Q-3	Answer the following questions:	
A.	Explain inorder, preorder and postorder traversal of a binary tree.	[6]
В.	What is queue? List types of queue. And write algorithms for insert an element into a simple queue.	[6]
	OR	
В.	How link list is more efficient than other data structure? Write an algorithm for delete element in doubly link list.	[6]
Q-4	Answer the following questions:	
A.	Explain B Tree. Give the difference between B Tree and B+ Tree.	[6]
В.	Write a brief note on hashing function.	[6]
	OR	
В.	Explain multi-list organization.	[6]
	Answer the following questions:	
	What is a constructor? Explain its uses of copy constructors.	[6]
В.	Write a short note on different manipulators output formatters.	[6]
	OR	
В.	Explain hybrid inheritance with example.	[6]
Q-6	Answer the following questions:	
A.	What is friend function? Explain its uses with a C++ Program.	[6]
В.	Write a short note exception. Explain the use of multiple catch blocks in exception handling with code snippet.	[6]
	OR	
В.	Write a program for unary operator overloading with the concept of friend function.	[6]
	्रा अञ्चल इ.स.च्या	

