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RA-0712

Second Year B. Sc. Examination

March / April – 2010

Computer Science : Paper - III

(Datastructure Using C++)

Time : Hours] [Total Marks : **70**

Instructions :

(1)

નીચે દર્શાવેલ ☛ નિશાનીવાળી વિગતો ઉત્તરવહી પર અવશ્ય લખવી.
Fillup strictly the details of ☛ signs on your answer book.

Name of the Examination :

☛ **S. Y. B. Sc.**

Name of the Subject :

☛ **Computer Science : Paper - 3**

☛ Subject Code No. : **0 7 1 2** ☛ Section No. (1, 2,.....) : **Nil**

Seat No. :

Student's Signature

(2) Answer all the questions.

(3) Figures in the **right** indicate full marks.

1 Answer in short : **14**

(i) What do you mean by formal parameters and actual parameters?

(ii) Write the advantages of apply destructor.

(iii) Explain the use of new and delete operator.

(iv) What do you mean by overriding?

(v) What is condition of overflow in circular queue?

(vi) Destinguish array and linked list.

(vii) What is complete binary tree?

2 (a) Explain basic terminology related to OOP. Write the area of application of OOP. **7**

(b) What is constructor? Write the different types of application of constructor in C++. **7**

OR

2 (a) What is exception? Why do we need exception? Write the suitable example. **7**

(b) What is virtual function? Explain pure vertual function and write the rules for virtual function. **7**

3	(a)	What is operator overloading? Write a program to overload unary operator.	7
	(b)	What is an inheritance? Explain multilevel and multiple inheritance with example.	7

OR

3	(a)	Explain runtime polymorphism and compile time polymorphism with example.	5
	(b)	Write notes on function templates.	4
	(c)	What is file? State the difference between opening a file with constructor function and opening a file with open( ) function.	5
4	(a)	What is stack? Write application of stack. Also write an algorithm to insert and delete an element from the stack.	7
	(b)	Which sorting methods are used to arrange element of array? Write Quick Sort algorithm with example.	7

OR

4	(a)	Write an algorithm to convert infix expression to postfix expression.	7
	(b)	Write a program to create a circular linked list and display the list.	7
5	(a)	Explain all possible operations on binary search tree.	7
	(b)	What is searching? Write an algorithm/to search an element using linear search techniques. Write the limitation of this method.	7

OR

5	(a)	What is DEQUE? Write an algorithm to perform insertion operation in output-restricted DEQUE.	7
	(b)	Write a program to find product of two matrices using operator overloading.	7