

SARDAR PATEL UNIVERSITY
M.Sc.(Mobile Technology and Applications)
SEMESTER-I

External Examination - 2016

PS01CMTA02- (Advanced Programming Concepts and Data Structures)

21st October, 2016, Friday

Time:10:00am to 1.00pm

Marks:70

Q-1 Give answers of following Multiple choice questions [8]

- [1] _____ is a nonlinear data structure.
A Tree B Graph
C Both A and B D None of these
- [2] _____ Traversal algorithm process root last.
A Preorder B Inorder
C Postorder D All of these
- [3] The memory address of the first element of an array is called _____.
A Floor address B First address
C Foundation address D Base address
- [4] _____ refer to a real word entity.
A Object B Relation
C Data D All of the above
- [5] A pure virtual function is equated to _____.
A Zero B -1
C 1 D NULL
- [6] How many constructors can a class have?
A 0 B 1
C 2 D Any Number
- [7] Which of the following data structure is related to LIFO?
A Stack B Array
C Queue D Tree
- [8] _____ is a mechanism of deriving a new class form an old one .
A Inheritance B Polymorphism
C Encapsulation D None of these

[14]

Q-2 Do as directed (Any 7)

- [1] List out the applications of data structure.
- [2] Write a short note on Circular Queue.
- [3] What is difference between constructor and destructor?
- [4] Define the following terms :-
A. Level of a node B. Siblings C. Leaf node
- [5] Write a note on macros in C++.
- [6] Define A) Field B) Record
- [7] List out only those operators which cannot be overloaded in C++.
- [8] Discuss on parameter passing using pass by value and pass by reference.
- [9] Differentiate: Static binding and Dynamic binding.

- Q-3 [A] Explain characteristics of OOP's (Object Oriented Programming). Explain the basic terminology related to OOP's. List advantages and disadvantages of OOP's. [6]
- Q-3 [B] Write a short note on: [6]
(1) Default arguments (2) Inline Function
OR
- Q-3 [B] Write a note on polymorphism, explain it with example. [6]
- Q-4 [A] Define inheritance & explain its different forms using example. Explain advantages and disadvantages of inheritance. [6]
- Q-4 [B] What is virtual function? Why it is required? Discuss virtual function with example. [6]
OR
- Q-4 [B] What is operator overloading? Explain Binary operator with example. [6]
- Q-5 [A] What is Linked List? Write an algorithm for insertion of new element at the beginning of the singly Linked List. [6]
- Q-5 [B] What is file? Differentiate between sequential file organization and random file organization. [6]
OR
- Q-5 [B] Write a brief note on ISAM. [6]
- Q-6 [A] What is Stack? Which are the operations are perform on a stack, write an algorithm of any one operation. [6]
- Q-6 [B] What is hashing? List out Hashing techniques. Explain ANY TWO of them. [6]
OR
- Q-6 [B] What is binary tree? Explain threaded representation of binary tree with the help of example. [6]

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