SARDAR PATEL UNIVERSITY
Bio-Informatics
T.Y.B.Sc. (Semester - V) EXAMINATION November – 2019
US05CBNF02 : Object Oriented Programming and Data structure

Date: 13/11/2019   Time:10:00 AM to 01:00 Pm   Total Marks : 70
Wednesday

Q.1   Multiple choice questions: [10]

1.   _____ is basic run time entity in object-oriented system.
      A. Class   B. Object   C. Data   D. Function

2.   _____ is known as scope resolution operator.
      A. &   B. <<   C. >>   D. ::

3.   _____ refers to fixed value that do not change during the execution of a program.
      A. Constant   B. Variable   C. Both (A) and (B)   D. None

4.   _____ is a user define data type.
      A. Class   B. Variable   C. Operator   D. Function

5.   Constructor is special member function because its name is same as the _____ name.
      A. object   B. variable   C. function   D. class

6.   _____ is a selection control structure.
      A. if   B. switch   C. if ... else   D. All of Above

7.   A pointer is _____
      A. A variable stores address of an instruction
      B. A keyword used to create variables
      C. A variable that stores address of other variable
      D. All of the above

8.   Defining a function with same name but different types & no. of arguments is known as _____.
      A. inheritance   B. function overriding
      C. function overloading   D. Inline function.

9.   An array is a _____ data structure.
      A. Heterogeneous   B. Unordered   C. Non- Linear   D. Homogeneous

10.   The term "push" and "pop" is related to the
      A. array   B. lists   C. Stack   D. all of above

Q.2   Attempt any ten out of twelve.   [20]
1. Define class & object as concept of OOP.
2. List out any four header file in C++.
3. Differentiate variable and constant.
4. Define string and write how to declare string in C++.
5. Define destructor and give its example.
6. List all access specifiers and also write its use.
7. Discuss default arguments briefly.
8. What is inline function? Give an example of it.
9. What is *this pointer?
10. What is Data Structure?
11. Define Hierarchical structure of data structure.
12. Define Row major representation of two dimension array.

Q.3 (a)   What is C++? Explain structure of C++.   [5]
Q.3 (b)   Explain different data type available in C++.   [5]
                                   OR
Q.3 (a)   Explain basic concepts: Inheritance, Polymorphism, Message Passing   [5]
Q.3 (b)   Explain different operator available in C++.   [5]

Q.4 (a)   What do you mean by constructors? Explain types of constructors.   [6]
Q.4 (b)   How you can create arrays of objects? Give an example and explain it.   [4]
                                   OR
Q.4 (a)   Explain types of objects in detail.   [6]
Q.4 (b)   Explain all operations on Array.   [4]

Q.5(a)   What is function overloading? Explain it with example.   [5]
Q.5(b)   What is pointer? How to declare, initialize and access the pointer variable? [5]
                                   OR
Q.5(a)   Explain the concept of friend function with suitable example.   [5]
Q.5(b)   Explain the array of pointers with example.   [5]

Q.6   What is Stack? Write algorithms for PUSH( ) ,POP( ), PEEP( ) and CHANGE( )   [10]
      operations on stack
                                   OR
Q.6   What is Queue? Write algorithm for Insert and Delete operations on Circular Queue. [10]

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