

Total No. of Questions: 6

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Enrollment No.....



Faculty of Science  
End Sem (Odd) Examination Dec-2017  
BC3SE01 OOP using C++  
Programme: B.Sc.(CS) Branch/Specialisation: Computer Science

Duration: 3 Hrs.

Maximum Marks: 60

Note: All questions are compulsory. Internal choices, if any, are indicated. Answers of Q.1 (MCQs) should be written in full instead of only a, b, c or d.

- Q.1 i. Which of the following is a valid class declaration? **1**  
(a) Class A { int x; }; (b) Class B { }  
(c) Public class A { } (d) Object A { int x; };
- ii. Classes in CPP are\_\_\_\_\_. **1**  
(a) Derived data types (b) User defined data types  
(c) Built-in data types (d) All of these
- iii. When *struct* is used instead of the keyword *class* means, what will happen in the program? **1**  
(a) Access is public by default  
(b) Access is private by default  
(c) Access is protected by default  
(d) None of the mentioned
- iv. Object oriented programming employs\_\_\_\_\_ programming approach. **1**  
(a) Top-down (b) Procedural (c) Bottom-up (d) All of these
- v. Which among the following is the symbol for logical AND **1**  
(a) & (b) && (c) || (d) |&
- vi. Method members of a class object access other members using \_\_\_\_\_. **1**  
(a) : (colon operator) (b) . (dot operator)  
(c) -> (dash arrow) (d) :: (double colon)

P.T.O.

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- vii. When a child class inherits traits from more than one parent class, this type of inheritance is called \_\_\_\_\_ inheritance. **1**  
(a) Hierarchical (b) Hybrid  
(c) Multilevel (d) Multiple
- viii. Class X, class Y and class Z are derived from class BASE. This is \_\_\_\_\_ inheritance. **1**  
(a) Multiple (b) Multilevel  
(c) Hierarchical (d) Single
- ix. To read a single character from a file, we use the member function **1**  
(a) Input (b) Put (c) Get (d) Read
- x. A default catch block catches **1**  
(a) All thrown objects  
(b) No thrown objects  
(c) Any thrown object that has not been caught by an earlier catch block.  
(d) All thrown objects that have been caught by an earlier catch block.
- Q.2 Attempt any two: **5**
- i. Differentiate between static binding and dynamic binding. **5**
- ii. State the important features of object oriented programming. **5**
- iii. Write down the advantages and disadvantages of Object Oriented programming giving example. **5**
- Q.3 i. Explain the following output manipulators giving example : **4**  
setw() and setprecision().
- ii. Explain Implicit and Explicit Type conversion in C++ with example. **6**
- OR iii. What are Preprocessor directives? Explain any two pre-processor directives with example. **6**
- Q.4 i. List the characteristics of a constructors and destructors. Write a C++ program to display “Welcome” message using constructor and “Bye Bye” message using destructor. **4**

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- ii. Explain two ways in which call by reference can be achieved in C++. Write program for each. **6**
- OR iii. List the characteristics giving programming example: **6**  
(a) friend function (b) static member function.
- Q.5 i. What do you mean by abstract class? Write its use? **4**
- ii. With a programming example, explain the order of invocation of constructors and destructors in multilevel inheritance. **6**
- OR iii. Explain: **6**  
(a) Operator Overloading (b) ‘this’ Pointer with example.
- Q.6 Attempt any two: **5**
- i. What are Command Line arguments? Explain their use giving programming example. **5**
- ii. Write a C++ program to read a text file named “First.txt” and display the contents of the file on screen. Copy the contents of “First.txt” into a new file named “Second.txt”. **5**
- iii. Define exception handling. Explain the use of *try*, *catch* and *throw* for exception handling in C++. **5**

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BC3SE01 OOP using C++

**Marking Scheme**

Q.1	i.	Which of the following is a valid class declaration? (a) Class A { int x; };	1				
	ii.	Classes in CPP are_____ . (b) User defined data types	1				
	iii.	When <i>struct</i> is used instead of the keyword <i>class</i> means, what will happen in the program? (a) Access is public by default	1				
	iv.	Object oriented programming employs_____ programming approach. (c) Bottom-up	1				
	v.	Which among the following is the symbol for logical AND (b) &&	1				
	vi.	Method members of a class object access other members using _____. (b) . (dot operator)	1				
	vii.	When a child class inherits traits from more than one parent class, this type of inheritance is called _____ inheritance. (d) Multiple	1				
	viii.	Class X, class Y and class Z are derived from class BASE. This is _____ inheritance. (c) Hierarchical	1				
	ix.	To read a single character from a file, we use the member function (c) Get	1				
	x.	A default catch block catches (c) Any thrown object that has not been caught by an earlier catch block.	1				
Q.2		Attempt any two:					
	i.	Definition of static binding – 1 mark Definition of dynamic binding – 1 mark Differences using example – 3 marks	5				
	ii.	Five features of object oriented programming (1 * 5 = 5 marks).	5				
	iii.	Advantages of Object Oriented programming – 2.5 marks disadvantages of Object Oriented programming – 2.5 marks	5				
Q.3	i.	setw() - 2 marks setprecision() - 2 marks					4
	ii.	Implicit conversion with example – 3 marks Explicit conversion with example – 3 marks					6
OR	iii.	Definition of directives – 2 marks Two pre-processor directives with example – 2 marks each (2 * 2 = 4 marks).					6
Q.4	i.	Characteristics – 2 marks Program - 2 marks (1 mark for constructor and 1 mark for destructor)					4
	ii.	Two ways with program – 3 marks each (3 * 2 = 6 marks)					6
OR	iii.	(a) Friend function – 3 marks (b) Static member function – 3 marks					6
Q.5	i.	Definition of abstract class – 2 marks Uses – 2 marks					4
	ii.	Base class – 1 mark Derived class – 1 mark Invocation of constructors and destructors – 4 marks					6
OR	iii.	(a) Operator Overloading – 3 marks (b) 'this' Pointer with example – 3 marks					6
Q.6		Attempt any two:					
	i.	Command Line arguments – 2 marks Use with example – 3 marks					5
	ii.	Read a text file – 2 marks Display the contents of the file – 1 mark Copy the contents of file - 2 marks					5
	iii.	Definition of exception handling – 2 marks Use of <i>try</i> , <i>catch</i> and <i>throw</i> - 3 marks					5
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