

CS/BCA(H)/Even/4th Sem/BCA-402/2014

2014

Object Oriented Programming with C++

Time Alloted : 3 Hours

Full Marks : 70

***The figure in the margin indicate full marks.
Candidates are required to give their answers in their
own words as far as practicable***

GROUP - A

(Multiple Choice Type Questions)

1. Choose the correct alternatives for any ten of the following questions.

10x1=10

i) Which of the following operators cannot be overloaded?

- a) >>
- b) ?:
- c) .
- d) None of the above

ii) The argument of a copy constructor is passed by

- a) value
- b) Reference .
- c) Pointer

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[Turn over]

- d) Both (a) and (c)
- iii) The fields in a class, of a C++ program are by default
- a) protected
 - b) public
 - c) private
 - d) none of the above
- iv) Choose the correct statement
- a) C++ allows any operator to be overloaded.
 - b) Some of the existing operators cannot be overloaded.
 - c) Only binary operator can be overloaded.
 - d) None of the above.
- v) All the public members of the base class become the protected members of the derived class. This happen in
- a) Virtual inheritance.
 - b) Protected inheritance.
 - c) Private inheritance.
 - d) Public inheritance.
- vi) Which of the following class constructor will be invoked first?
- a) Base class.
 - b) Virtual base class.
 - c) Abstract class.
 - d) Derived class.

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vii) Function with the same name and different signatures are called _____.

- a) Over-riding functions
- b) Overloading functions
- c) Member functions
- d) Constructors

viii) A constructor is called whenever

- a) An object is declared
- b) An object is used
- c) A class is declared
- d) A class is used.

ix) The statements

```
int a=5;  
cout << "FIRST"<< (a<<2)<<"SECOND";  
outputs
```

- a) FIRST52SECOND
- b) FIRST20SECOND
- c) SECOND25FIRST
- d) An error message.

x) The following program fragment

```
int i=10;  
void main()  
{  
int i=20;
```

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```
{  
  int i=30;  
  cout << i<<::i;  
  }  
}
```

- a) Prints 3010.
- b) Prints 3020.
- c) Will result in runtime error.
- d) None of the above

xi) The following C++ codes results in

```
#include "iostream.h"  
void main(void)  
{  
  cout<<(int i=5) <<(int j=6);  
}
```

- a) Compilation Error.
- b) Run time error.
- c) Link time error.
- d) None of the above.

xii) Which of the following is not a supported storage class supported by C++?

- a) register
- b) auto
- c) mutable

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GROUP - B

(Short Answer Type Questions)

Answer any *three* of the following. **3x5=15**

d) dynamic

2. a) What is inline function?

b) How can we declare a function as inline?

c) What is its use?

2+1+2=5

3. a) What are the roles of a constructor in objective oriented programming?

b) Create a class emp with id, name and basic salary, DA & TA. DA will be 80% of basic and TA will be 15% of Basic+DA. Initialize data members using constructor and show details about an employee.

2+3=5

4. a) What is destructor?

b) Discuss with an example about functions with default argument.

2+3=5

5. a) What are the differences between structure of C and structure of C++?

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GROUP - C
(Long Answer Type Questions)

Answer any *three* of the following. 3x15=45

b) What do you mean by exception in a program.

3+2=5

6. (a) What is abstract base class?

(b) Differentiate between class and structure.

(c) Define encapsulation with example.

(d) What is container class?

(e) Explain default argument.

(f) Is it possible to overload all the operators using friend function?

3+2+3+2+3+2

7. a) Explain operator overloading. Discuss the limitations of operator overloading.

(b) Write a program in C++ to overload the operator += on strings (concatenation) and operators

==, < and > to compare strings also.

8+7

8. a) Explain different types of inheritances with example.

b) What is static member of a class? What is the basic difference between a static member and a normal data member of a class? What is static function?

8+7

9. (a) How is polymorphism achieved at compile time and run time?

(b) What is this pointer?

(c) Explain friend function with an example.

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8+2+5

10. Write short notes on: (Any three)

(3x5 =15)

- (a) Manipulators and their advantages
- (b) Copy constructor
- (c) Exception handling
- (d) Memory management using new and delete
- (e) Derived class constructors
- (f) Data abstraction