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COA 301.1 **Reg.No. ……**

CREDIT BASED THIRD SEMESTER B.C.A. DEGREE EXAMINATION
OCTOBER 2012
B.C.A
OBJECT ORIENTED PROGRAMMING CONCEPTS AND PROGRAMMING USING C++

Time: 3 Hrs **Max. Marks: 120**

PART – A

1. Answer any 15 questions from the following: 15x2=30

a. What is data-centric methodology?

b. Define object.

c. How does a message differ from a function call?

d. What are per-class protection and per-object protection?

e. Define data abstraction and encapsulation.

f. What are default arguments?

g. Differentiate between a structure and a class.

h. Give the general form of a function definition. Give an example.

i. What is a friend function?

j. What are abstract classes?

k. List any two characteristics of a constructor.

l. When do we use protected visibility specifier to a class member?

m. Define destructor. Give an example.

n. Mention the operators which cannot be overloaded.

o. What is operator overloading?

p. Define inheritance. List the different types of inheritance.

q. What do you mean by virtual function?

r. What is “this” pointer?

PART – B

Answer any TWO questions from each unit:

UNIT – I

2. a. Explain the orthogonal views of software.
b. Write a note on use-case approach.

c. With the help of an example, explain how objects respond to messages. **(4+5+6)**

3. a. Explain how object-oriented systems development methodology differs from the traditional top-down approach.
b. With syntax and example, explain input statement used in C++.
c. What are manipulators? Explain any two with suitable example. **(7+4+4)**

4. a. Explain the different phases of the unified process.
b. What is encapsulation and information hiding? Explain how they are implemented in OOP?
c. Write a short note on polymorphism. **(6+6+3)**

UNIT – II

5. a. What are inline functions? Write a code example and explain the advantages & disadvantages of it.
b. Explain call by reference with an example. How is it different from call-by-value?
c. Write a note on function prototyping. **(5+6+4)**

6. a. Explain the general form of a class declaration. Give suitable example.
b. What are static data members? Explain with code example.
c. With a suitable code example, explain how we can pass objects as function arguments. **(5+5+5)**

7. a. Explain nesting of member functions with an example.
b. List the special characteristics of a friend function.
c. Write a note on static member function. **(5+5+5)**

UNIT – III

8. a. With a suitable example, explain how objects may be initialized using constructors.
b. Explain private and public inheritance with an example.
c. Write a program to add two complex numbers using operator overloading. **(5+5+5)**

9. a. With an example, explain the concepts of conversion between basic type to class type.
b. What is multiple inheritance? Explain with a suitable program. **(8+7)**

10. a. Write the rules to be followed while creating virtual functions.
b. What is copy constructor? Explain with an example.
c. Write a note on “pointers to derived classes.” **(5+5+5)**

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OCTOBER 2013
B.C.A
OBJECT ORIENTED PROGRAMMING CONCEPTS AND PROGRAMMING USING C++

Time: 3 Hrs **Max. Marks: 120**

PART – A

1. Answer any 15 questions from the following: **15x2=30**

a. What is an algorithm centric methodology?

b. What is an abstract class?

c. Differentiate between a structure and a class.

d. What is the use of scope resolution operator? Give an example.

e. Give the general form of a function definition. Give an example.

f. What is default constructor? Give an example.

g. Give the purpose of the following manipulators

i) setw ii) setfill

h. List any two characteristics of a constructor.

i. What is meant by dynamic initialization of objects?

j. Mention the operators which cannot be overloaded.

k. When do we use protected visibility specifier to a class member?

l. What is function prototyping?

m. Give the syntax of multiple inheritance.

n. Mention any 2 advantages of using virtual functions.

o. What is 'this' pointer?

p. What is static data member? Give an example.

q. What is the purpose of new operator? Give an example.

r. Define function overloading.

PART – B

Answer any TWO questions from each unit:

UNIT – I

2. a. Write a note on unified approach.
   b. Explain the object behavior and methods.
   c. What is encapsulation and information hiding? Explain how they are implemented in OOP? **(5+4+6)**

3. a. Explain the necessity of using the object oriented methods.
   b. With the help of an example, explain how objects respond to messages.
   c. With syntax and example, explain the output statement used in C++ **(4+6+5)**

4. a. Write a note on class hierarchy.
   b. Explain the following manipulators with syntax and example
      i) setprecision ii) flush iii) setf
   c. Explain the orthogonal views of software. **(5+6+4)**

UNIT – II

5. a. What is meant by call by reference with respect to function declaration? Explain with an example.
   b. How to declare array of objects? Explain with an example.
   c. List the special characteristics of a friend function. **(5+5+5)**

6. a. How to pass objects as arguments to a function? Explain with an example.
   b. Explain the nesting of member functions with an example.
   c. What are inline functions? Explain their advantages and disadvantages.**(5+5+5)**

7. a. Write a note on static member function.
   b. Explain the general form of a class declaration with suitable example.
   c. What is friend function? Explain with an example. **(5+5+5)**

UNIT – III

8. a. Write a note on public mode of inheritance.
   b. Explain the copy constructor and default constructor.
   c. What is polymorphism? Explain how it is achieved in C++? **(5+5+5)**

9. a. Define operator overloading. Explain the overloading of unary operator. Give an example.
   b. Write a program to add two complex numbers using operator overloading.
   c. Explain how virtual functions are used to bind member to the objects

dynamically. Give an example. **(5+5+5)**

10. a. What are the rules for overloading operator using member function and friend function?

b. Write a note on the following;
   i) Derived class and base class ii) Pointers to derived class

c. Explain with example the concept of conversion between basic type to class type. **(4+6+5)**

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CREDIT BASED THIRD SEMESTER B.C.A. DEGREE EXAMINATION
OCTOBER 2014
B.C.A
OBJECT ORIENTED PROGRAMMING CONCEPTS AND PROGRAMMING USING C++

Time: 3 Hrs **Max. Marks: 120**

PART – A

1. Answer any 15 questions from the following: 15x2=30

a. Differentiate between algorithm-centric and data-centric methodology.

b. Name any two characteristics of OOP language.

c. What is operator overloading?

d. What is a friend function?

e. What is meant by virtual function?

f. What do you mean by derived class? Give an example.

g. List any two characteristics of a constructor.

h. Define data abstraction and encapsulation.

i. What are per-class protection and per-object protection?

j. What is the need to include header files in C++?

k. Define destructor. Give an example.

l. What is the purpose of 'this' pointer?

m. Give the syntax of class declaration. Give an example.

n. What is default constructor? Give an example.

o. What is the use of scope resolution operator? Give an example.

p. What is Polymorphism?

q. What are manipulators?

r. What is containership? How does it differ from inheritance?

PART – B

Answer any TWO questions from each unit:

UNIT – I

2. a. Write a note on object-oriented system development methodology.
   b. Explain the different phases of unified process.
   c. Explain the class hierarchy with an example. **(4+6+5)**

3. a. With syntax and example, explain the input and output statements used in C++.
   b. Explain two orthogonal views of the software.
   c. Write a note on use-case approach. **(6+4+5)**

4. a. Explain how objects respond to messages.
   b. Explain the following manipulators with syntax and example
      i) setw ii) setfill iii) setprecision
   c. Write a note on object behavior and methods. **(5+6+4)**

UNIT – II

5. a. Explain the static data member and static member function with an example.
   b. What are inline functions? Explain with the help of an example.
   c. List the special characteristics of a friend function. **(5+5+5)**

6. a. Explain call-by-reference with an example. How is it different from call-by-value?
   b. Explain the nesting of member functions with an example.
   c. How to pass objects as arguments to a function? Explain with an example. **(5+5+5)**

7. a. How to declare an array of objects? Explain with an example.
   b. Write a note on function Prototyping.
   c. Define class and object in C++. Give an example. **(6+5+4)**

UNIT – III

8. a. What is function overloading? Explain with an example.
   b. What is copy constructor? Explain with an example.
   c. Write the rules to be followed while creating virtual function. **(5+5+5)**

9. a. Define inheritance. Mention different types of inheritance. Explain any two with syntax and example.
   b. With an example, explain the concept of conversion between basic type to class type. **(7+8)**

10. a. With a suitable example, explain how objects are initialized using constructors.

b. Write a note on public mode of inheritance.
c. Write a program to generate Fibonacci numbers using constructors. **(5+5+5)**

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COA 301.1 **Reg.No.**
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CREDIT BASED THIRD SEMESTER B.C.A. DEGREE EXAMINATION
OCTOBER 2015
B.C.A
OBJECT ORIENTED PROGRAMMING CONCEPTS AND PROGRAMMING USING C++

Time: 3 Hrs **Max. Marks: 100**

PART – A

1. Answer any 11 questions from the following: **11x2=22**

a. What is an attribute? List any two attributes of a car object?
b. Why do we need methods in an object model?
c. What are per-class protection and per-object protection?
d. What is function prototyping? Give an example.
e. What is an inline function?
f. What are manipulators? Give an example.
g. Write any two characteristics of a member function.
h. List the special characteristics of a static data member.
i. What is multiple inheritance?
j. Why do we need a destructor? Define destructor for a class named complex.
k. Give the general form of an operator function.
l. List any two rules for overloading operators.
m. Differentiate between compile time and run time polymorphism.

PART – B

Answer any TWO full questions from each unit:

UNIT – I

2. a. Explain any 5 characteristics of object oriented programming.

b. Explain the reason why object orientation works.
c. With syntax and example, explain output statement used in C++. **(5+4+4)**

3. a. Explain, how object oriented approach differs from traditional top-down approach.
b. Explain how objects respond to messages?
c. Write a note on polymorphism. **(5+5+3)**

4. a. What is inheritance? Explain its role in re-usuability?
b. What are the orthogonal views of software?
c. Write a note on use-case approach. **(4+4+5)**

UNIT – II

5. a. How can we use default values for arguments of a function? Explain with an example.
b. What is function overloading? Explain with an example.
c. What is call by reference? Explain with programming code. **(4+5+4)**

6. a. With an example, explain how we can create an array of objects.
b. Explain how memory allocation is done for objects. **(7+6)**

7. a. Write a note on friend function.
b. How can we pass objects as function arguments? Explain.
c. What are static member functions? What are its properties? **(4+5+4)**

UNIT – III

8. a. List any five characteristics of a constructor.
b. What is constructor overloading? Explain with code example.
c. Explain multi-level inheritance with an example. **(5+4+4)**

9. a. With a suitable code example, explain how to overload unary minus (-) operator.
b. Explain the concept of conversion between class type to basic type.
c. Write a note on copy constructor. **(4+5+4)**

10. a. Explain the role of public, private and protected keywords with respect to inheritance.
b. What are virtual functions? Explain.
c. Write a note on "this" pointer. **(3+5+5)**

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COA 301.1 Reg. No. .....

CREDIT BASED THIRD SEMESTER B.C.A. DEGREE EXAMINATION
OCTOBER 2016
B.C.A
OBJECT ORIENTED PROGRAMMING CONCEPTS & PROGRAMMING USING C++

Time: 3 Hrs. **Max. Marks: 100**

PART – A

1. Answer any ELEVEN questions from the following: **11×2=22**

a. What is data centric methodology?
b. What is data abstraction?
c. What is multiple inheritance?
d. What are inline functions? Mention any two advantages.
e. What is function prototyping?
f. When do we need to use a const argument in a function?
g. Write any two characteristics of static member variable.
h. How do you define member function outside the class? Give an example.
i. Give the general form of function definition.
j. What is compile time polymorphism?
k. What do you mean by multilevel inheritance?
l. Distinguish between base class and derived class.
m. List out the operators that cannot be overloaded.

PART – B

Answer any TWO full questions from each unit:

UNIT – I

2. a. What is encapsulation and information hiding? Explain how they are implemented in OOP.
b. Write any two advantages of object oriented system.
c. Explain input and output statements in C++. **(5+4+4)**

3. a. Give two differences between object oriented development methods and traditional development techniques.
b. Explain how objects respond to message with example.
c. Explain the four phases of unified process. **(5+4+4)**

4. a. Explain polymorphism with an example.
b. Write a note on class hierarchy.
c. Explain any three manipulator functions with examples. **(4+3+6)**

UNIT – II

5. a. What are arrays of objects? Explain with an example.
   b. What do you mean by passing arguments by reference? Explain.
   c. Explain nesting of member function with an example. **(5+4+4)**

6. a. What do you mean by default arguments in a function? Explain with example.
   b. Explain the two methods of defining member functions.
   c. Explain memory allocation for objects. **(4+5+4)**

7. a. Explain how to pass arrays to functions with a suitable example.
   b. Explain static data members and static member functions with a suitable example.
   c. What is a friend function? Explain with example. **(4+5+4)**

UNIT – III

8. a. What is a copy constructor? Explain how copy constructors can be used with an example.
   b. How do you overload a unary operator using friend functions? Explain with an example.
   c. Explain with an example the concept of conversion between class type to basic type. **(4+4+5)**

9. a. What does inheritance mean in C++? Describe the syntax of multiple inheritance with an example.
   b. What are virtual functions? State any four rules for creating virtual function.
   c. Write a program to overload + operator. **(4+5+4)**

10. a. Explain polymorphism.
    b. What do you mean by dynamic initialization of objects? Why do we need to do this?
    c. What is a 'this' pointer? Explain its importance in C++ with an example. **(4+5+4)**

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