May/2016

Printed Pages : 3 Roll No. .....

Questions : 7 Sub. Code : 6 6 7 8

Exam. Code : 0 9 0 6

B.Engg. 1st Year (2nd Semester)

1046

(Computer Science and Engineering)—OBJECT ORIENTED PROGRAMMING

Paper : CS–202

Time Allowed : Three Hours] [Maximum Marks : 50

Note :– Question No.1 (Section–A) is compulsory. Attempt at least two questions each from Sections B & C.

SECTION–A

1. (a) Differentiate between the following two statements in C++

```
char *const ptr = "ABC"
const char *ptr = "ABC"
```

(b) How do you tell the compiler that a function is a template ?

(c) What is the primary purpose of C ++ union types ?

(d) When do we use default parameters in a function definition ?

(e) How do you prevent a function from modifying an instance of a class passed in by reference ? 10

SECTION–B

2. (a) Distinguish between the following :

(i) Data abstraction and encapsulation

(ii) Dynamic binding and message passing 4

(b) Why would you overload a constructor function ? Write a program that proves that the order in which the data members of a class are declared governs the order in which they are initialized. 6

[Turn over

Q6. i) Explain the difference between structures and uni

Explain different input and output functions in C.

3. (a) What are friend functions and its advantages ? What are the implications on information hiding ?

(b) Explain with the help of statements how to allocate and delete multidimensional arrays (say 3X 5) using dynamic memory allocation operators. 5

4. (a) When converting from one user-defined type into another user-defined type, why is a forward declaration required ? 4

(b) Create a class called *person* that contains a pointer to a name, and a Social Security Number as a *long* integer. Write the constructor and destructor functions, and a function called *print ()* that prints both data members.

Then, from class *person* derive a class called *hourly_employee* that contains new data members called *rate* and *hour*. In addition, derive a class *salaried_employee* that contains a new data member called *salary*.

In the *main()* function create an instance of each class and call upon the respective print() function. 6

SECTION–C

5. What problem arises without the use of a virtual function and how is it solved ? Why would you want to declare a destructor function as virtual ? 10

(a) Explain different types of Input/Output functions available in C ++ ? How are they accessed ?

(b) With the help of program explain how to overload the insertion operator ? 10

Write a program that accepts string input from the user and writes it to a disk file called OUTPUT. Also give the user a chance to append more records to the file and then finally prints all the written records. 10

CSE
4th Sem
: 7

Roll No. .....

Sub. Code : 6 8 0 7

Exam. Code : 9 1 6

B. Engg. (Computer Science & Engg.) 4th Semester

1045

OBJECT ORIENTED PROGRAMMING

Paper – CSE– 414

Time Allowed : Three Hours] **[Maximum Marks : 50**

Note:– Question No. 1 is compulsory. Attempt any 2 questions from Section A and any 2 questions from Section B.

1. (a) What are the differences between class and a structure in C++ ?

   (b) What are the uses of put ( ) and get ( ) functions ?

   (c) Describe the use of scope access operator (: :) and reference operator (&).

   (d) Explain the role of break statement in switch ( ) case.

   (e) What is function overloading ?

   (f) What are static member variables and functions ?

   (g) What are the rules for overloading operators ?

   (h) What do you mean by virtual classes ?

   (i) What is polymorphism ?

   (j) What is this pointer ? 10×1=10

SECTION–A

2. (a) Define constructors. Write a program to show the con of constructor overloading.

   (b) What is operator overloading ? WAP in C++ to sh overloading of arithmetic "+" operator.

3. (a) Explain Multiple inheritance. How ambiguity is removed i multiple inheritance ? 5

   (b) Explain the key features of object oriented Programming. 5

4. Create two classes DM and DB which store the value of distance. DM stores distance in meters and centimeters and DB in feet and inches. Write a program that can read values for class objects and add one object of DM with another object of DB. Use a friend function to carry out addition operator. The object that stores results may be a DM object or DB object depending upon the units in which the results are required. 10

SECTION–B

5. (a) What does binding mean ? Distinguish between static binding and dynamic bindings. 5

   (b) Write a program to convert a lower case character to an upper case character of a text file. 5

(a) Explain function templates. Differentiate between overloaded function and template functions. 5

(b) What are the key words on which exception handling is built in C++ ? Explain each of these. 5

7. Write short notes on :

(a) Generic programming

(b) Virtual functions. 2×5=10

May/2016

Exam.Code:0916
Sub. Code: 6789

1056

B.E./B.E.MBA (Computer Science and Engineering) Fourth Semester
CSE-414: Object Oriented Programming (OLD)

Time allowed: 3 Hours

Max. Marks: 50

NOTE: *Attempt five questions in all, including Question No. I which is compulsory and selecting atleast two questions from each Unit.*

x-x-x

I. Attempt the following:-

a) Distinguish between procedure oriented and object oriented programming.

b) What do you understand by constructor overloading.

c) Which operator cannot be overloaded?

d) What is the role of this pointer in memory allocation?

e) Write various advantages of exception handling in C++.

f) What are the various problems that occur in single inheritance?

g) Differentiate between constant and static function.

h) What do you understand by command line arguments?

i) Write down the methods of detecting end of file in C++.

j) Distinguish between compile time and runtime polymorphism. (10x1)

UNIT- I

II. What is a class? Why classes are required? Write a C++ program to read the customer account of a private bank and display the information of its balance by using OOP concept? Add functions to deposit and withdraw a specific amount from bank account. (6,4)

III. a) Distinguish between macro and inline functions.

b) Define operator overloading. Write a program to overload >>operator. (4,6)

IV. A hospital wants to create a database regarding its indoor patients. The information to store is included as: name of patient, date of admission, disease, date of discharge, bed number, address of the patient and bill.

a) Create a base class to store the above information. The member function should include all the functions to enter the information and display a list of all the patients in the database.

b) Create a derived class to store the age of the patient. How will you list the information about all the patients less than one year in age? (10)

P.T.O.

UNIT – II

V. What do you mean by polymorphism? How can you declare a virtual function? Explain the difference between virtual function and pure virtual function. Write a C++program to illustrate the concept of virtual function and pure virtual function.(10)

VI. a) What do you mean by Template? Explain the various usages of Class templates. Write a C++ program to subtract-two number using Class templates.

b) Write a C++ program to copy the contents of one file to another file. (6,4)

VII. a) Explain the syntactic rule for the following random access file member functions.

i) seekg

ii) seekp

iii) tellg

iv) tellp

b) What do you understand by Exception handling? Write a C++ program to add and multiply two numbers using Exception handling. (4,6)

x-x-x

Exam.Code:916
Sub. Code: 6807

1015

B.E./B.E. MBA (Computer Science and Engineering) Fourth Semester

CSE-414: Object Oriented Programming

Time allowed: 3 Hours Max. Marks: 50

***NOTE**: Attempt five questions in all, selecting at least two questions from each Unit.*

x-x-x

UNIT – I

I. a) What are the main features of object oriented programming?
b) What are bitwise logical operators?
c) What are inline functions? (4,3,3)

II. a) Explain the difference between a pointer variable and a reference variable?
b) Explain the difference among the looping statements of C++. (4,6)

III. a) Write a program to overload '-' operator for objects of date class.
b) Why do you overload a constructor? Give example. (7,3)

IV. a) What is the difference between function overloading and function overriding?
b) What is the concept of multiple inheritances? What can be the ambiguities associated with it? (4,6)

UNIT – II

V. a) What are pure virtual functions?
b) What is the difference between a friend function and a virtual function? (4,6)

VI. Explain with the help of example, how the files can be opened for reading and writing data? (10)

VII. a) What are function templates? Show benefits of function templates with help of some examples.
b) What is polymorphism? (6,4)

VIII. a) Discuss try, throw and catch statements.
b) Comment on the following:
i) Can you overload a function based only on whether a parameter is a value or a reference?
ii) Which constructor is called when you create an array of objects A[5] for the class B? (6,4)

x-x-x

(6807)