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BCMCAV 154

Credit Based Second Semester B.Com. Degree Examination, April/May 2017
COMPUTER APPLICATIONS (Vocational)
Paper – III : Object Oriented Programming Using C++
(Common to All Batches)

Time : 3 Hours

Max. Marks : 80

PART – A

1. Answer **any ten** questions of the following : **(10x2=20)**
- Write the use of scope resolution operator.
 - What is a constructor ? Give an example.
 - What are manipulator functions ? Give an example.
 - Define virtual function.
 - Define inheritance.
 - What is meant by function overloading ?
 - What is the need to include header files in C++ ?
 - What is a friend function ? When is it required ?
 - What are inline functions ?
 - Give the use of setw() and setfill() functions.
 - What are static member functions ?
 - What is this pointer ?

PART – B

Note : Answer **one full** question from **each Unit :**

Unit – I

2. a) Explain the different basic data types used in C++.
- b) Explain the different ways of defining symbolic constants in C++.
- c) What is hierarchy of operations ? Give the hierarchy of operators in C++. **(4+4+7)**

P.T.O.



3. a) Explain any three basic concepts used in object oriented programming.
- b) Evaluate the following C++ expressions.
- i) $k1 = (3 * i - 2 * j) \% (2 * d - c)$
 - ii) $k2 = (x > y) \ \&\& \ (i > 0) \ \&\& \ (j < 5)$
 - iii) $k3 = 5 * (i + j) > 'c'$
 - iv) $k4 = 2 * c/d$
- [Assume $\text{int } i = 10, j = 8$; $\text{float } x = 0.004, y = -0.01$; $\text{char } c = 'c', d = 'd'$]
- c) What is meant by looping? Briefly describe the different forms of looping. (5+4+6)

Unit - II

4. a) What is a class? Explain with syntax and example, how a class is declared in C++.
- b) Write a program using function overloading to calculate the volume of cube and cylinder.
- c) Explain the function prototypes in C++. (4+5+6)
5. a) How do you initialize the two dimensional array? Explain with syntax and example.
- b) When do you need to use default arguments in a function? Explain with an example.
- c) Explain the break and continue statements with syntax and example. (5+5+5)

Unit - III

6. a) What is operator overloading? Explain overloading unary operator with an example.
- b) What is copy constructor? Explain with an example.
- c) What are the rules to be followed for overloading an operator? (5+4+6)
7. a) Explain the parametrized constructors with example.
- b) List the C++ operators which cannot be overloaded.
- c) Explain how an object of one class can be converted to an object of another class. (5+5+5)

**Unit – IV**

8. a) Explain the multiple inheritance with syntax and example.
b) Write a note on constructors in derived class.
c) List the rules of virtual functions. **(6+5+4)**
9. a) Explain with an example, how you would create space for an array of objects using pointers.
b) Explain the public and protected mode of inheritance with example.
c) Write a C++ program for the following :
- Create a class RECTANGLE with length, breadth and area. Create another class cuboid that inherits RECTANGLE and has additional members height and volume. Use single inheritance property. **(4+5+6)**
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