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E.T.
(8)

(Please write your Exam Roll No.) Exam Roll No. 356

END TERM EXAMINATION

SECOND SEMESTER [MCA] MAY 2017

Paper Code: MCA-104 **Subject: Object Oriented Programming in C++**

Time: 3 Hours **Maximum Marks: 75**

Note: Attempt any five questions including Q.no.1 which is compulsory.

Q1 Answer the following: (5x5=25)

(a) Discuss the rules used for namespace?
(b) What do you mean by default arguments? Illustrate with suitable examples.
(c) Explain inline function and the situations where inline expansion may not work and why?
(d) Give four differences between pointer and reference variables.
(e) Is it possible to overload the ternary (? :) operator? Support your answer with proper reason?

Q2 Differentiate between the following:

(a) Static and Dynamic (3.5)
(b) Deep and Shallow copying (3)
(c) Containership and Inheritance (3)
(d) Passing parameters by value and by reference (3)

Q3 (a) What is the type of 'this' pointer? When does it get created? Explain the significance of 'this' pointer with respect to static member function and non-static member function. (5)

(b) How does C++ achieve run time memory management? (4.5)

(c) Discuss the various situations when a copy constructor is automatically invoked. (3)

Q4 (a) Define rules for operator overloading. Write a program to overload the subscript operator '[ ]'. (8)

(b) What is multiple inheritance? Discuss the syntax and rules of multiple inheritance in C++. How can you pass parameters to the constructors of base classes in multiple inheritance? Explain with suitable example. (4.5)

Q5 (a) How are template functions overloaded? Explain with a suitable example. (6)

(b) Explain how exceptional handling is done in C++. Write a C++ program for exception handling of divide by zero. (6.5)

Q6 (a) Describe the different modes in which files can be opened in C++. (4)

(b) Define a class CAR which has MODEL and COST as data members. Write functions: (8.5)

(i) to read the MODEL and COST of a CAR from the keyboard and store it a file CARS.
(ii) to read from the file CARS and display in on the screen.

Q7 (a) What are streams in C++? What are the advantages of C++I/O stream class library over C standard I/O library? (6)

(b) What is a standard template library (STL)? Briefly explain sequence containers and associative containers. (6.5)

Q8 (a) What is a virtual function? How is it different from pure virtual function? (4.5)

(b) What are the advantages of operator new over malloc function? (4)

(c) What is friend function? What are merits and demerits of using friend function? Show by an example how friend function is used in C++. (4)

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