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## Paper ID [MC202]

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MCA (Sem.- 2<sup>nd</sup>) MAY-2008

OBJECT ORIENTED PROGRAMMING USING C++

(MCA-202)

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Time : 03 Hours

Maximum Marks : 60

Instruction to Candidates:

- 1) Attempt any one question from each sections A, B, C & D.
- 2) Section - E is Compulsory.

### Section - A

(1 × 10 = 10)

Q1) Discuss the characteristics of object oriented languages.

Q2) Write a menu driven program which works as follows:-

If character **A** or **a** is pressed, then it should run a program to find factorial of a positive number.

If character **B** or **b** is pressed, then it should run a program to find sum of a digits of a positive integer number entered by the user.

If any other character is pressed, then it should terminate the program by displaying a suitable message.

### Section - B

(1 × 10 = 10)

Q3) (a) Compare recursion with iteration.

(b) Explain the concept of pointer to pointer with example.

Q4) Write programs to explain the concept of nesting of structures in two different ways.

### Section - C

(1 × 10 = 10)

Q5) Explain with the help of program constructors in derived classes.

Q6) Write short notes on:-

- (a) Friend Functions
- (b) Inline member functions.

### Section - D

(1 × 10 = 10)

Q7) Explain the concept of operator overloading for a binary operator for a non-friend function.

Q8) Write short notes on:-

- (a) Random access file processing
- (b) Virtual functions

### Section - E

(10 × 2 = 20)

Q9) a) List advantages of object oriented programming.

- b) Define the term coercion.
- c) Distinguish between switch and if-else statements.
- d) Differentiate between different storage classes in C++.
- e) Is array index out of bounds supported by C++? Justify your answer.
- f) What is the difference between public derivation and private derivation?
- g) How is memory allocation done for objects with regards to data members and member functions of classes?
- h) What do you understand by dynamic memory allocation?
- i) Briefly explain how a file can be opened in different ways.
- j) What is late binding?

