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M.B.A. 3rd Semester Examination

Object Oriented Programming, (C++/Visual C++)

ITEM-02

Time : 3 Hours   **Max. Marks : 60**

The candidates shall limit their answers precisely within the answer-book (40 pages) issued to them and no supplementary continuation sheet will be issued.

Note :   Attempt five questions in all. Select one question from each section.

SECTION - A

1. (a)   What is object oriented programming? How is it different from procedure-oriented programming? List advantages of object oriented programming over procedure-oriented language.   **(6)**

   (b)   What is dynamic binding? Explain with example. What are its advantages?   **(6)**

2. (a)   What is data encapsulation and what are its advantages in programming? Are data encapsulation and data hiding same or different? Justify with example.   **(6)**

   (b)   Differentiate between overloading and overriding? Why do we need each of these? Give examples.   **(6)**

SECTION - B

3. (a)   Write a program to swap two integer values by both using call by value and call by reference? What are the advantages of passing references rather than values?   **(6)**

(b) What is a pointer? Explain the difference between the address stored in a pointer and the value at that address. What does the following statement do?   **(6)**

(i) *ptr+=1;

(ii) ++*ptr;

(iii) (*ptr)++;

(iv) *ptr++;

4. (a) What are inline functions? What is the difference between inline function and function called through function call? Give example of each.   **(6)**

(b) Write a C++ program using switch-case structure to display the names of days of a week based on numeric input (for example if input no is 1 it displays 'Monday' and if 2 it displays 'Tuesday' etc). What is the use of default case in this structure?   **(6)**

SECTION - C

5. (a) Explain why do we need to use constructors and destructors? Explain a copy constructor with an example.   **(6)**

(b) Write a program to declare a class 'employee', consisting of data members emp_no, and emp_name. Write the member functions accept() to accept and display() to display the data for 5 employees.   **(6)**

6. (a) What is operator overloading? Illustrate operator overloading concept to concatenate strings.   **(6)**

(b) What is typecasting? What are explicit and implicit type conversions? Justify their importance with proper example. **(6)**

SECTION - D

7. What are friend functions and friend classes? Write a normal function which adds objects of the complex number class. Declare this normal function as friend of the complex class. **(12)**

8. What are virtual functions and why do we need these functions? Give an example of a virtual function. What are pure virtual functions? **(12)**

SECTION - E

9. (a) Write a Visual C++ program that creates two push buttons CLEAR and OK on the client area. Buttons should respond to user click over them and display appropriate message. **(6)**

(b) Explain the process of setting Tab Order in VC++. **(6)**

10. (a) Write a Visual C++ Win32 application program to draw the following

(i)   Line

(ii) Ellipse

(iii) Rectangle

(iv) Polygon **(6)**

(b) What is resource view in visual C++? Explain its utility in VC++ project. **(6)**