H 1188

B.E./B.Tech. DEGREE EXAMINATION, MAY/JUNE 2006.

Fourth Semester

Computer Science and Engineering

CS 237 — OBJECT ORIENTED PROGRAMMING

Time : Three hours

Maximum : 100 marks

Answer ALL questions.

PART A — (10 × 2 = 20 marks)

1. List any four features of OOP.

2. int L = 5;

   main ( )

   {int i = 6;

   cout << : : i;}

3. Why are destructors used? Write the syntax of destructor.

4. Name 2 properties of static data member.

5. What is abstract base class? Can it be used to create objects?

6. What are the types of inheritance?

7. What is the advantage of template in C++?

8. What are input and output stream?

9. What are the various access specifiers?

10. How is data hiding achieved in C++?

PART B — (5 × 16 = 80 marks)

11. (i) Explain how inheritance is implemented in Java. Give an example. (8

(ii) Explain interfaces in Java with an example. (8

12. (a) (i) For handling exceptions what type of functions are availabl in C++. Explain each with examples along with their syntax an program. (9

(ii) Write a program to create a file and display its contents. (7

Or

(b) (i) Write a program to implement stack operations using clas template. (8

(ii) Write a function which swaps two numbers. Use function templat Write the corresponding main program. (8

13. (a) (i) Write a program to derive class final from class marks and clas biodata. The scheme is provided for reference (12

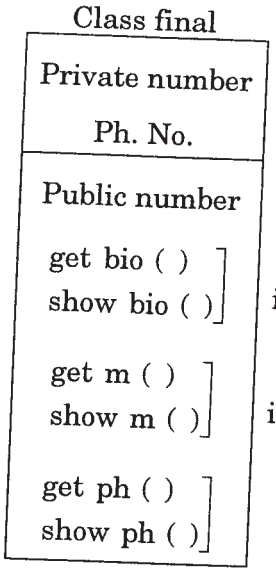
Class biodata with a minimum of members :

Name, Semester, Age, Roll number

Class marks with :

Subject name and mark

Phone No. is the data member in final as in structure.



Structure of final

(ii) Discuss hierarchical inheritance. (4)

Or

(b) Discuss function overloading and operator overloading with illustrations. (8 + 8)

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12. (a) (i) For handling exceptions what type of functions are available in C++. Explain each with examples along with their syntax and program. (9)

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(b) (i) Write a program to implement stack operations using class template. (8)

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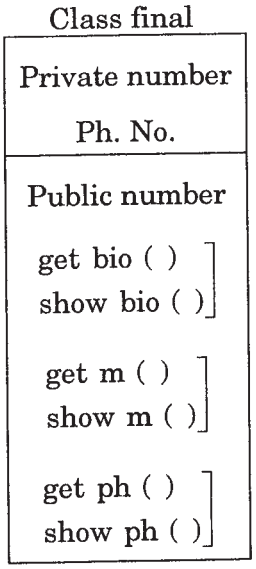

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14. (a) Write a program to perform the following operation (i) addition of matrix (ii) subtraction of matrix (iii) multiplication of matrix. (16)

Or

(b) (i) What is inline function? What is its use? Discuss its limitations. (6)

(ii) What are the various storage classes and give their scopes with illustrations. (10)

15. (a) (i) What are the salient features of object oriented programming. Explain how run time polymorphism is achieved in C++. (10)

(ii) Explain how memory is dynamically allocated and recovered in C++. (6)

Or

(b) (i) What is control structure? How many control structures are available in C++? (10)

(ii) Write a program which reads three numbers and then find the largest one. Use ternary operator. (6)