Course Code: 12XT25 / 12XW24 No of Pages : 4

Roll No:

(To be filled in by the candidate)

PSG COLLEGE OF TECHNOLOGY, COIMBATORE - 641 004

SEMESTER EXAMINATIONS, MAY - 2013

MSc - THEORETICAL COMPUTER SCIENCE / SOFTWARE ENGINEERING Semester: 2

12XT25 / 12XW24 OBJECT ORIENTED PROGRAMMING

Time: 3 Hours Maximum Marks: 100

INSTRUCTIONS:

- 1. Group I, Group II and Group III questions should be answered in the Main Answer Book.
- Ignore the box titled as "Answers for Group III" in the Main Answer Book
- Answer ALL questions from GROUP I.
- Answer any FIVE questions from GROUP II.
- Answer any ONE question from GROUP III.

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What three bugs in this code will the complier find?

```
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                           SG TECH PSG TECH
Class TV
  { private:
          int itsStation;
    public:
         void setStation(int Station);
         int getstation() const;
    TV~\\mvTV:
    myTV.itsStation = 100;
    TV.setStation(10);
    TV myotherTV (2):
```

What is wrong with the following program segment?

```
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                             CH PSGTECH PSGTECH
                                   PSG TECH PSG TECH PSG TECH
Sint FuncONE():
  int main ()
    int localVar = FuncOne ():
      cout << "the value of local varis;" << local var;
    return 0;
int FuncOne()
  int ~ pVar = new int(5);
      return × pVar.
```

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- PSG TECH 3. Distinguish between the following
 - i) declaration and definition
 - ii) Initialization and assignment
 - iii) class and struct.
- PSG TECH PSG TECH If a base class declares a function to be virtual, and a derived class does not use the term virtual when overriding that class. Is it still virtual when inherited by a third generation class? Justify through an example.
- Write a short program declaring a class with one member variable and one static 6. What is a friend function? Given Dog, Boy and Girl are classes. If Dog is a friend of Boy and Boy is a friend of Girl, is Dog a friend of Girl? Why?

 7. What is the difference between the
 - TECH PSG TECH PSG TECH PSG TECH
 - TECH PSG TECH PSG TECH PSG TECH function?
 - 8. What is meant by exception handling? How is it handled in C++?
 - For the following program segment, identify the errors if any.

```
Class X {
                TECH PSG TECH PSG TECH PSG TECH
      int i>
    public :
         X (int ii = 0)
         void modify ();
 X :: X (int ii) {i = ii;}
 void X :: modify ( ) {i++;}
       X ft () {
       return X();}
const X f2(){
        return X();}
 void 13 (X & x)
 ુલ જે. modify ( ); } ુઉ
 int main ()
   { f1 ( ) = X(1);
    f1 ( ).modify( );
f2 ( ) = X(1);
    f2 ( ).modify ( ):
```

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PSG TECH PSG TECH PSG TECH 10. Distinguish between composition and inheritance. How are they implemented in C++?

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PSG TECH PSG 11. Write a C++ program to define a class stack with all the standard operations of stack including the various constructors and a client code to use the class defined

- 13. How do friend operator functions differ from member operator function? Explain why you need to overload the assignment operator. Can operator = (1) be 2.5.

 Justify. 14. Derivation comes in three flavors: summarize the characteristics of each one. Which type of derivation must you use to implement generalization and polymorphisms.

 15. What is meant by dense.
- PSG TECH diagrams and explain. Distinguish between static binding and dynamic binding.
- 16. Given the following code segment.

```
virtual int virtual ( )
{ return 3;}
int val ( ) { re*
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                    PSG TECH PSG TECH PSG TECH
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                                PSG TECH PSG TECH PSG TECH
                            ECH PSG TECH PSG TECH
    Dd, +pd = &d; ECH
       Bb = d, ab = &b;
       B * p = pd:
     cout << b.val( ) + b.virtual ( ) + pb > val( )
             + pb →virtual ( ) +p →val( )
                   > virtual ():
```

What is the outcome of this fragment?

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ECH PSG TECH GROUP - III Pag PSG TECH PSG What does it mean by default memberwise initialization? Give an example associated with class Account.

18. By defining attribute. constructors. Explain how to disallow memberwise initialization of the Account class. 18. By defining string class, write a C++ program to overload at least three operators to have meaningful string operations.

PSG TECH PSG meaningful string class, write a C

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