

D 12666

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Name.....

Reg. No.....

FIRST SEMESTER M.Sc. DEGREE EXAMINATION, JANUARY 2006

Computer Science

CS 103—OBJECT ORIENTED CONCEPTS AND C++

(2005 Admissions)

Time : Time Hours

Maximum : 80 Marks

Part A

*Answer any **five** questions.
Each question carries **8** marks.*

1. **What do you mean by information hiding ? What are the levels of information hiding available in C++ ?**
2. **What are the characteristics of constructors and destructors ? Explain the working of constructors and destructors in inheritance.**
3. **Write a program that will accept of file name and a word as command line argument and return the number of occurrence of that particular word in that file.**
4. **What are inline functions ? Explain the advantages and disadvantages of inline functions with example (s).**
5. **Identify any five important classes that required for the automation of a library. Draw the class diagrams for the classes and also mark the relation ship between them.**
6. **"Things are the basic building blocks in UML". Explain.**
7. **What do you mean by exception ? How is an exception handled ?**

(5 x 8 = 40 marks)

Part B

*Answer any **four** questions.
Each question carries **10** marks.*

8. **What is meant by polymorphism, explain various types of polymorphism that can be implemented in C++ ?**
9. **Differentiate array of pointers and array of objects. Write a neat program to clarify your explanation.**
10. **What do you mean by reusability in software engineering ? Explain the facilities available in C++ to make the software reusable.**

Turn over

11. A computer system is required that will support the following small garage business.

Customers bring their cars to the garage for servicing and repair. The attendant must check the car in, record details about the owner and the car, along with any specific customer requests. The workshop manager inspects each car and creates a job specification for it. He then schedules the job and assigns a mechanic to complete the specified tasks. During this process, if any new problems are discovered a new job specification is created by the workshop manager before carrying out the work. When the job is finished the mechanic completes a report detailing the time spent, work done and materials used. This information is used by the attendant to create an invoice for the customer when they come to collect their car.

Construct a Class Diagram for the system using the UML notation. Include appropriate attributes and operations for each class.

12. Explain the concept templates. Explain the working of templates in inheritance.
13. What do you mean by coupling between classes ? How can you derive class from CRC card? What is the significance of it in software design ?

(4 x 10 = 40 marks)