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Roll No. .....

CS–403

B. E. (Fourth Semester) EXAMINATION, June, 2012

(Grading/Non-Grading)

(Computer Science & Engg. Branch)

OBJECT ORIENTED TECHNOLOGY

(CS – 403)

Time : Three Hours

Maximum Marks : $\begin{cases} GS : 70 \\ NGS : 100 \end{cases}$

Note : Attempt any *five* questions. All questions carry equal marks.

1. (a) Discuss the various merits and demerits of object oriented approach ? Explain the concept of encapsulation with proper example.

   (b) Differentiate between the following :

   (i) Static and Dynamic object

   (ii) Global and Local object

Or

2. (a) List down the differences between object oriented programming and structured programming. Discuss the characteristics of object oriented languages.

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(b) Partition a software development problem of your choice into classes, subclasses, object and method at the highest level of design.

3. (a) Explain the term association class with example.

(b) What are the different types of aggregation ? Define them with examples.

Or

4. (a) Explain the following by giving suitable examples :

(i) Recursive Association

(ii) Named Association

(b) What are the different kinds of relationships between classes ? Discuss each relationship with an example.

5. (a) How does inheritance influence the size and functionality of derived class objects ?

(b) Explain Polymorphism. Differentiate between static and dynamic polymorphism with an example.

Or

6. (a) Disucss the following :

(i) Disinheritance

(ii) Multiple inheritance

(b) What are the ambiguities that arise in multiple inheritance ? How can they be removed ?

7. (a) Explain the concept of container classes with an example.

(b) What are input and output streams ? Explain them with illustrations.

Or

8. (a) What is meant by initializing a file stream object ? What are the ways of doing it ? Give example code for each of them.

   (b) Write a Java program to print the following output :

```
1
2 2
3 3 3
4 4 4 4
5 5 5 5 5
```

9. (a) Describe the various forms of implementing interfaces. Give examples of Java code for each case.

   (b) What are virtual functions ? What are pure virtual functions ? Discuss with the help of an example.

Or

10. (a) List some of the most common types of exceptions that might occur in Java. Give examples.

    (b) Create a class FLOAT that contains one float data member. Overload all the four arithmetic operators so that they can operate on the objects of FLOAT.