

- (c) What are different kinds of inheritance? What is multiple inheritances? State purpose of an interface. Explain with example of Runnable interface.

5 Write notes on : (any four)  $5 \times 4 = 20$

- (a) Java Beans  
(b) Brief functioning of upper layer email.  
(c) Differences between C++ and Java  
(d) Dynamic Billboard Applet  
(e) Java Swing  
(f) Java servlet.



(Following Paper ID and Roll No. to be filled in your Answer Book)

PAPER ID : 1069

Roll No.

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**B. Tech.**

(SEM. IV) EXAMINATION, 2008-09

**OBJECT ORIENTED SYSTEMS**

Time : 3 Hours] [Total Marks : 100

Note : Attempt all questions. All questions carry equal marks. In case of numerical problems assume data wherever not provided. Be precise in your answer.

1 Answer any four parts of following:  $5 \times 4 = 20$

- (a) Why is JAVA known as platform neutral language? and secured than other languages?  
(b) What is a thread? Discuss JAVA Thread Model  
(c) What is nesting of classes? Why we use it ?  
(d) How do we use templates in generic programming?  
(e) How Java is strongly associated with the Internet? Comment on this "Java is a robust language having all OOP features."



- (f) Why is Java known as true object oriented and secured than other languages? Explain - Java is free from language.

2 Attempt any **four** of the following: **5×4=20**

- (a) What is state diagram? Draw the nested state diagram of any suitable example.
- (b) Write a note on Dynamic model.
- (c) What do you mean by event trace? Explain event trace for a bug in a program.
- (d) What do you understand by scenario? Write scenario for  
-Writing an algorithm for a problem.  
-Going for a drive.
- (e) What is concurrency? How it is used in Java?
- (f) What are static functions and static variables in a class? What are limitations and advantages of having such variables and classes?

3 Attempt any **four** parts of the followings: **5×4=20**

- (a) Write short notes on:
- (i) Object modeling techniques.
- (ii) SA and SD
- (b) Comment on this "JAVA facilitates doing many processes at a time". And explain with help of a program showing multiprocessing and Multi-Threading.



- (c) What do you understand by operation in functional modeling and object modeling?
- (d) What is a stream in Java? What is the difference between a binary and text stream? How do we handle deadlock in case of multithreading ?
- (e) Prepare a data flow diagram for computing the volume and area of rectangle and circle. Input length and width of rectangle and radius of a circle.
- (f) The total distance traveled by a vehicle in  $t$  seconds is given by  $\text{distance} = u t + a t^2 / 2$  where  $u$  is the initial velocity (meters per second)  $a$  is the acceleration (meters per second<sup>2</sup>). Prepare a data flow diagram to evaluate the distance traveled at regular intervals of time, given the values of  $u$  and  $a$ . Flexibility is provided to the user to select his own time intervals and repeat the calculations for different values of  $u$  and  $a$ .

4 Attempt any **two** parts of the following: **10x2**

- (a) What is AWT? Explain its applications and working with windows.
- (b) What is polymorphism? How overriding is different from overloading?

