

QP Code : 30777

## Instructions:

- (1) Question No 1 is compulsory (3 hours)  
 (2) Attempt any three questions out of remaining  
 (3) Figures to right indicate full marks

TOTAL MARKS : 80

Question No.		Max. Marks
Q1(a)	Write a recursive method to calculate factorial of a integer number.	5
Q1(b)	Explain how Java is platform-independent.	5
Q1(c)	Explain bitwise operators available in java with example	5
Q1(d)	Write note on applet lifecycle	5
Q2(a)	Write a detailed note on System.arraycopy()	5
Q2(b)	Write a program to display following pattern:-  1 0 1 1 0 1 0 1 0 1	5
Q2(c)	With suitable example, explain creation and use of user defined packages.	10
Q3(a)	Identify classes and their attributes and draw the relationships that are described by the following rules. Include the multiplicities for each relationship. (i) Companies may employ many people, and people may work for many companies. Every employee in a company has a manager who may manage many subordinate employees. (ii) Library maintains books and magazines. A student can issue a book or return a book. A fine is charged if book is returned after 8 days. The magazines are not issued, but student can read it in library.	10
Q3(b)	Write a program to create vector objects with student names. Program should perform following operations based on choice: i) Add student name ii) Remove student name iii) Display -displays contents of vector using enumeration interface.	10
Q4(a)	Write a program to perform division of two numbers accepted from user. Handle the IOException, NumberFormatException and ArithmeticException using multiple try catch block.	10
Q4(b)	Draw sequence diagram for withdrawing an amount from ATM.	5
Q4(c)	Explain Cohesion and coupling with suitable example.	5
Q5(a)	Write a program to display the area of square and rectangle using the concept of overloaded constructor.	10
Q5(b)	With the help of suitable example explain how threads are created in Java.	5
Q5(c)	Explain multiple inheritance in Java with example.	5

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Q6	Write short notes on (any four) (a) Wrapper classes (b) Static data members and Methods (c) Abstract class & methods (d) Parameter passing to an applet (e) JVM	20
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