

IV B.Tech. I Semester Regular Examinations, November -2005
OBJECT ORIENTED PROGRAMMING THROUGH JAVA
 (Common to Electronics & Instrumentation Engineering, Electronics &
 Control Engineering and Electronics & Telematics)

Time: 3 hours

Max Marks: 80

Answer any FIVE Questions
 All Questions carry equal marks

1. (a) Explain the general syntax of writing an application program in Java. Also explain the steps to run an application Java program. [8]
 (b) Write the precedence of operators in Java and explain the way to alter this order by using suitable example. [8]
2. (a) What is meant by overloading methods? What are the advantages of overloading concept? [8]
 (b) Write a method find_Area that can find the area of the circle/square/rectangle using overloading concept. [8]
3. (a) Write a Java Program to show the use of Abstract classes. [5]
 (b) Explain constructor over loading with an example. [5]
 (c) List out the characteristics of interface. [6]
4. Write a java program to print the following frame. The size increases when you move from left to right [16]



5. Write a java program to design a dialog box as shown below. [16]
6. With an example show how to use show Status () method Explain the applet viewer functions. [16]
7. (a) Explain how exceptions are handled in Java. Demonstrate how exceptions are thrown. [8]
 (b) Describe with the help of a diagram the exception class hierarchy. [8]
8. (a) What is random access file ? What are the merits and demerits of random access files? [8]

The diagram shows a rectangular dialog box titled "Password dialog box". Inside the box, there are two labels: "User ID" and "Password". To the right of "User ID" is a rectangular input field. To the right of "Password" is another rectangular input field. Below these fields, centered, is a button labeled "OK".

- (b) What is an interactive program ? What are the design constraints to design an interactive screens ? [8]

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1. (a) Write the different kinds of arithmetic and relational operators in Java. [8]
(b) Discuss the package java.lang in detail. [8]
2. (a) What is meant by overloading methods? What are the advantages of overloading concept? [8]
(b) Write a method find_Area that can find the area of the circle/square/rectangle using overloading concept. [8]
3. (a) Write a Java program which will take a string as a command line argument and gives all possible palindrome. [8]
(b) Find the age of a person in terms of years, months and days by accepting date of birth using classes and objects. [8]
4. Write a program to create window and draw cross lines. [16]
5. Write a java program to design a dialog box as shown below. [16]

Password dialog box	
User ID	<input style="width: 100%;" type="text"/>
Password	<input style="width: 100%;" type="text"/>
<input style="width: 50px; height: 20px;" type="button" value="OK"/>	

6. Explain applet basics? State how it runs in a window. [16]
7. (a) Explain how exceptions are handled in Java. Demonstrate how exceptions are thrown. [8]
(b) Describe with the help of a diagram the exception class hierarchy. [8]
8. (a) Summarize the list of byte stream classes. [8]
(b) Summarize the list of the character stream I/O classes. [8]

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1. (a) Explain the usage of switch statement in Java by writing suitable example program in Java. [8]
(b) In which aspect, public data members differ from private and protected data members in Java program? Explain the concept with a suitable example. [8]
2. (a) What is a class ? How does it accomplish data hiding ? [6]
(b) Explain the difference between an object and a class. [6]
(c) What is a constructor ? what are its special properties ? [4]
3. (a) Write a Java program to multiply two matrices. [8]
(b) Write a Java program to implement Hybrid inheritance. [8]
4. Write a program to create window and draw cross lines. [16]
5. Write a program to draw several shapes in the created window using applets. [16]
6. With an example show how to use show Status () method Explain the applet viewer functions. [16]
7. (a) Suppose that statement2 causes an exception in the following try-catch block:
try{
 statement1;
 statement2;
 statement3;
}
catch(Exception1 e1) { }
catch(Exception2 e2) { }
statement4;
Answer the following and justify your answer.
 - i. Will the statement3 be executed?
 - ii. If the exception is not caught, will statement4 be executed?
 - iii. If the exception is caught in the catch clause, will statement4 be executed?
 - iv. If the exception is passed to the caller, will statement4 be executed? [6]
- (b) Suppose that statement2 causes an exception in the following try-catch block:
try{
 statement1;

```
        statement2;
        statement3;
    }
    catch(Exception1 e1) { }
    catch(Exception2 e2) { }
    catch(Exception3 e3) {throw e3; }
    finally
        {statement5;}
        statement4;
```

Answer the following and justify your answer?

- i. Will statement5 be executed?
- ii. If the exception is of type Exception3, what will happen?
- iii. Will statement5 be executed?
- iv. Will statement4 be executed?

[5]

(c) Write the output of the following program?

[5]

```
import java.io.File;
class Demo
{
    static void p(String s) { System.out.println(s); }
    public static void main(String args[ ]) {
        File f1 = new File(" /java/COPYRIGHT");
        p("\n Name:" + f1.getName( ));
        p("\n Parent:" + f1.getParent( ));
        p(f1.exists( ) ? " is writeable" : " is not writeable");
        p(f1.canRead( ) ? "is readable" : "is not readable"); }
    }
```

8. Write a short note on the following:

[4X4=16]

- (a) FileInputStream
- (b) FileOutputStream
- (c) FileNotFoundException
- (d) IOException

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(b) Write the precedence of operators in Java and explain the way to alter this order by using suitable example. [8]
2. (a) What is a class ? How does it accomplish data hiding ? [6]
(b) Explain the difference between an object and a class. [6]
(c) What is a constructor ? what are its special properties ? [4]
3. (a) What is scope and life time of a variable? [8]
(b) Write a java program to search for an element using binary search from the array of sorted integers: 10, 15, 25, 30, 33, 34, 46, 55, 78, 84, 96, 99. Also show the sequence of array elements that are compared and for each comparison indicate the values for low and high. [8]
4. Write a program to create window and draw cross lines. [16]
5. Write a program to draw several shapes in the created window using applets. [16]
6. Differentiate event sources and event listeners in an applet with an example. [16]
7. (a) Suppose that statement2 causes an exception in the following try-catch block:
try{
 statement1;
 statement2;
 statement3;
}
catch(Exception1 e1) { }
catch(Exception2 e2) { }
statement4;
Answer the following and justify your answer.
 - i. Will the statement3 be executed?
 - ii. If the exception is not caught, will statement4 be executed?
 - iii. If the exception is caught in the catch clause, will statement4 be executed?
 - iv. If the exception is passed to the caller, will statement4 be executed? [6]

- (b) Suppose that statement2 causes an exception in the following try-catch block:

```
try{
    statement1;
    statement2;
    statement3;
}
catch(Exception1 e1) { }
catch(Exception2 e2) { }
catch(Exception3 e3) {throw e3; }
finally
    {statement5;}
    statement4;
```

Answer the following and justify your answer?

- i. Will statement5 be executed?
 - ii. If the exception is of type Exception3, what will happen?
 - iii. Will statement5 be executed?
 - iv. Will statement4 be executed? [5]
- (c) Write the output of the following program? [5]

```
import java.io.File;
class Demo
{
    static void p(String s) { System.out.println(s); }
    public static void main(String args[ ]) {
        File f1 = new File(" /java/COPYRIGHT");
        p("\n Name:" + f1.getName( ));
        p("\n Parent:" + f1.getParent( ));
        p(f1.exists( ) ? " is writeable" : " is not writeable");
        p(f1.canRead( ) ? "is readable" : "is not readable"); }
    }
```

8. (a) Explain the functions of print stream, and data input stream. [8]
- (b) Summarize the list and explain the important methods available under the file class. [8]
