



DHARMSINH DESAI UNIVERSITY, NADIAD
FACULTY OF TECHNOLOGY
B.TECH. SEMESTER V [INFORMATION TECHNOLOGY]
SUBJECT: (IT510) CORE JAVA TECHNOLOGY

Examination	: Block (Repeater)	Seat No.	: _____
Date	: 21/10/2016	Day	: Friday
Time	: 3:00 to 4:15	Max. Marks	: 36

INSTRUCTIONS:

1. Figures to the right indicate maximum marks for that question.
 2. The symbols used carry their usual meanings.
 3. Assume suitable data, if required & mention them clearly.
 4. Draw neat sketches wherever necessary.
-

Q.1 Do as directed.

- (a) Explain JIT compiler in brief. [2]
- (b) Why string objects are immutable in java? [2]
- (c) Suppose s is a string with the value "ddit". What will be assigned to x, if you execute the following code? `char x = s.charAt(4);` [2]
- (d) Can I import same package/class twice? Will the JVM load the package twice at runtime? [2]
- (e) Assume `double[][] x = new double[4][5]`, what are `x.length` and `x[2].length` values? [2]
- (f) Why main method is static? [2]

Q.2 Answer the following questions. [12]

- (a) Explain any six characteristics of java. [6]
- (b) What is the output of the following codes? Explain your answer. [6]

(i)

```
import java.applet.*;
public class Test extends Applet implements Runnable {
    public void init() throws InterruptedException {
        Thread t = new Thread(this);
        t.sleep(1000);
    }

    public synchronized void run() {
    }
}
```

(ii)

```
public class Test {
    public static void main(String[] args) {
        boolean[][] x = new boolean[3][];
        x[0] = new boolean[1]; x[1] = new boolean[2];
        x[2] = new boolean[3];

        System.out.println("x[2][2] is " + x[2][2]);
    }
}
```

OR

- (b) Explain java thread group in detail along with an appropriate java program. [6]

- Q.3** (a) Write an applet program to play the tick-tack-toe game by two players. [6]
- (b) Explain various java non-access modifiers with appropriate java programs. [6]

OR

- Q.3** (a) What do you mean by an exception? Explain checked and unchecked exceptions with appropriate java programs. [6]
- (b) Write a java socket program for area-finding server and client. The server will greet to multiple clients with the server's date and time on connection and the clients will display the date and time. The clients can then send radius of a circle to the server and then server will calculate its area and the clients will display the result. [6]