DHARMSINH DESAI UNIVERSITY, NADIAD
FACULTY OF TECHNOLOGY
B.TECH. – SEMESTER – V, IT
SUBJECT: [IT 510] CORE JAVA TECHNOLOGY

Examination	**:**	**Third Sessional**	**Seat No.**	**:**	
Date	**:**	**12/10/2017**	**Day**	**:**	**Thursday**
Time	**:**	**11:30 to 12:45**	**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**. **[12]**

(a) Write a code fragment for the following: [2]
Server receives a new connection from a client and then the server gets a character stream to write to the connected client.

(b) Explain use of PushBackReader and LineNumberInputStream. [2]

(c) Explain use of StreamTokenizer. [2]

(d) Explain <applet> tag, and discuss about codebase and archive attribute of tag. [2]

(e) Write down steps for establishing the connection between the servlet and an applet? [2]

(f) 1. State the restrictions imposed on Java applets? [2]
2. Explain: untrusted applets.

Q.2 Attempt ***Any Two*** from the following questions. **[12]**

(a) Write an applet that works as a simple calculator. Use a grid layout to arrange buttons for the digits and for the +, -,*, and / operations. Add a text field to display the result. Handle any possible exceptions like divide by zero. [6]

(b) Using CardLayout, write an applet which performs addition and multiplication of two numbers using two different cards of CardLayout. Create two Buttons, Add and Mul, on clicking of which appropriate card (addition or multiplication) should be displayed. Take appropriate awt components for labeling, taking input from user, and performing operation. [6]

(c) 1. Write a code snippet that demonstrates use of FileDialog. [3]
2. Write an applet to print message. A message and location co-ordinates of the message should be passed as parameters in <applet> tag. [3]

Q.3 Attempt ***ALL*** from the following questions. **[12]**

(a) One program is used for registration of students (Roll nos. 1 to 128) for some event. When each student gets registered, his/her roll no. is stored in a file rollnos.txt. Students do not maintain order of roll numbers when registering. [6]
Your aim is (i) to sort all roll numbers and to store them in file sortedrollnos.txt (ii) to store remaining roll numbers, who do not get registered, in a file remainingrollnos.txt. Write a program to fulfill above two requirements. The rollnos.txt file contains roll numbers with one roll no. on one line. Store results in the same format.

(b) Answer the following: [6]
1) There is a file named data.bin. The file contains two numbers in binary: first integer and second float. Write a code fragment that reads these two numbers and displays them on console.
2) Write important differences between wait() and sleep() methods in multi-threaded programs.
3) Discuss in brief: the concept of monitor and how it is achieved in Java.

OR

Q.3 Attempt ***ALL*** from the following questions. **[12]**

(a) Write two programs (Java classes) to achieve the following: [6]

One program (StoreStudentData.java) takes information for 10 students from the user through keyboard and stores it in a file st.txt. The student's information includes its name, height, and weight, which is written in the following format:

Ishan 167.5 56.5
Palash 164.25 62.0
…

Another program (SearchStudentData.java) takes a name from user through keyboard and searches the record for that student in the file st.txt. If the matching record is found the program displays that record, otherwise the program display "No such student exists".

(b) Write a console based client-server application. The client sends the name of a file (present on the server), to the server and the server opens that file and sends the content of file or an error, if occurs, to the client as a reply. After receiving the reply from the server, the client displays the reply on the console. [6]