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Total No. of Pages : 03

Total No. of Questions : 07

**B.Sc (Information Technology) (Sem.-6)**

**ADVANCED JAVA**

**Subject Code : UGCA1967**

**M.Code : 91735**

**Date of Examination : 25-05-23**

**Time : 3 Hrs.**

**Max. Marks : 60**

**INSTRUCTIONS TO CANDIDATES :**

1. **SECTION-A is COMPULSORY** consisting of TEN questions carrying TWO marks each.
2. **SECTION-B contains SIX questions** carrying TEN marks each and students have to attempt any FOUR questions.

**SECTION-A**

**1. Write briefly :**

- a) Does the order of the catch blocks matter if the Exceptions caught by them are not subtype or supertype of each other?
- b) Can two threads call two different static synchronized methods of the same class?
- c) Write a short note on SWING PACKAGE.
- d) How to do session tracking?
- e) How to create a PopUp menu?
- f) How to compile a JavaFX program?
- g) How to start a tomcat server?
- h) How to create a frame based application?
- i) Why we use Event class?
- j) Write a note on painting in swing.

**SECTION-B**

2. Using JSP, write a program to read the name of the user on the page "first.jsp". On click of the submit-button the control should be transferred to page "second.jsp" where a welcome message is displayed to the end user. On the page "second.jsp" a string holding

a sequence of words is read. On submission of the input string, the control is transferred to the page “third.jsp” where the username is displayed along with the input string.

On the page “third.jsp”, a method named halfCaps() is written that converts the inputted sequence of words with alternating casing (lowercase, uppercase, lowercase, uppercase,...). The first word, third word, fifth word, and all other "odd" words should be in lowercase letters, whereas the second word, fourth word, sixth word, and all other “even” words should be in uppercase letters. Assume that whitespace is used to separate words.

Below is the sample output:

Input String : The Quick brown foX jumpED over the Sleepy student.

Output String : the QUICK brown FOX jumped OVER the SLEEPY student

3. HTTP is a stateless protocol so it is difficult to maintain connection with user to handle multiple requests. An alternative to maintain a session is using cookies but it suffers from several disadvantages. Suggest an alternative method to handle continuity of the connection (or session) between the client and the server in JSP. Also, highlight a method to invalidate a full session.
4. What is the difference when the synchronized keyword is applied to a static method or to a non-static method?
5. HTTP is a stateless protocol so it is difficult to maintain connection with user to handle multiple requests. An alternative to maintain a session is using cookies but it suffers from several disadvantages. Suggest an alternative method to handle continuity of the connection (or session) between the client and the server in JSP. Also, highlight a method to invalidate a full session.
6. Consider the following method :

```
public static void arrayMystery(String[] a) {  
  
    for (int i = 0; i < a.length; i++) {  
  
        a[i] = a[i] + a[a.length - 1 - i];  
    }  
}
```

What values would be stored in the array after the method arrayMystery executes each time, if the array below is passed as a parameter to it. Explain your answer in not more than five lines.

```
String[] al = {"a", "b", "c"};
```

```
arrayMystery(a1);
```

```
String[] a2 = {"a", "bb", "c", "dd"};
```

```
arrayMystery(a2);
```

```
String[] a3 = {"z", "y", "142", "w", "xx"};
```

```
arrayMystery(a3);
```

7. What are applets? How do they differ from application programs? Discuss the steps involved in creating and running an applet.

**NOTE : Disclosure of Identity by writing Mobile No. or Marking of passing request on any paper of Answer Sheet will lead to UMC against the Student.**