FEDERAL UNIVERSITY OF TECHNOLOGY, MINNA

SCHOOL OF INFORMATION AND COMMUNICATION TECHNOLOGY

DEPARTMENT OF INFORMATION AND MEDIA TECHNOLOGY

FIRST SEMESTER 2015/2016 EXAMINATION

COURSE CODE:	IMT 512
COURSE TITLE:	ADVANCED JAVA PROGRAMMING
CREDIT UNITS:	3
TIME ALLOWED:	2 HOURS
COURSE LECTURER(S):	MR. S.O. GANIYU
NUMBER OF QUESTIONS:	4
NUMBER OF PAGES:	3

INSTRUCTIONS

- Answer all questions
- Do **not** use red pen
- Please use a clear handwriting
- This exam is closed book, closed notes, closed laptop and closed cell phone
- Please use non-programmable calculators only

Question 1

(a) Briefly discuss Java Swing Framework. (**5 marks**)

(b) Describe two (2) differences and two (2) similarities between Panel and JPanel. (**4 marks**)

(c) Explain three (3) of the basic features of Java Swing Framework. (**6 marks**)

Question 2

(a) Explain the seven (7) steps used by web server to create JSP. (**7 marks**)

(b) Write an inner class called *ModuloFinder* to handle event generated by the two command buttons in Figure 1 below. The command actions of the buttons **Answer** and **Exit** are *Calc* and *Quit* respectively. Also, the first text field (showing 56) and second text field (showing 2) are known as *txtF* and *txtS* accordingly. The label displaying 112 is called *lblResult*.

The *ModulerFinder* should divide the value of *txtF* by *txtS* and display the remainder in *lblResult* when the **Answer** button is clicked (assume the two values are integer datatype). However, it should close the application when the **Exit** button is clicked. (**8 marks**)
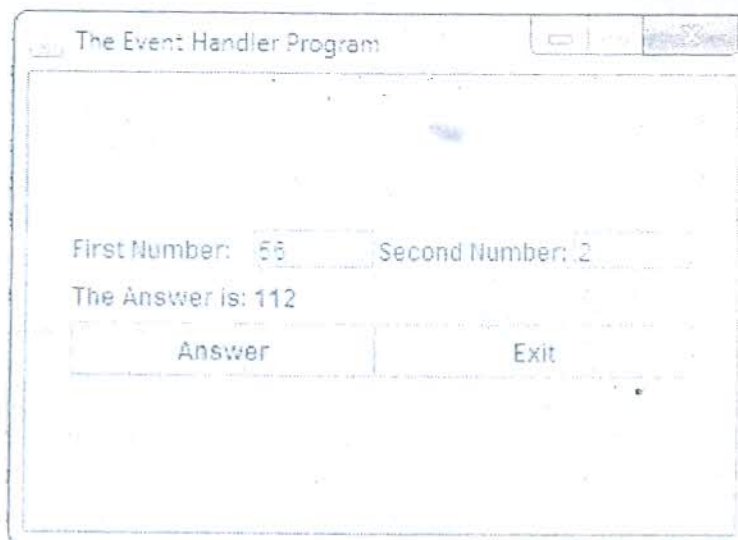
```
The Event Handler Program                    [ ] [ ] [x]

    First Number:  56        Second Number: 2
    The Answer is: 112
           Answer                      Exit
```

Figure 1

Question 3

(a) (i) Explain layout manager. (**4 marks**)

(ii) Describe the two (2) advantages of using Layout manager. (**2 marks**)

(iii) Explain CardLayout and GridBagLayout managers. (**4 marks**)

(b) The JSP snippet below contains some errors, identify the errors using line number as reference. (**5 marks**)

```
1.    <html>
2.    <head>
3.     <title>JSP Page</title>
4.    </head>
5.    <body>
6.       <%
7.       int lenght = 10;
8.       int breath = 5;
9.       int answer = 0;
10.       private class Megs{
11.          Megs(){}
12.      public int area(int i, int j){
13.          int ans = i * j ;
14.          return ans;
15.      }
16.      }
17.      Megs myM = new Megs()
18.    %>
19.       <h6>Today's date is <jsp:expression>
20.          new java.util.Date();
21.          </jsp:expression>
22.          <br/>
23.      The answer is: <%= myM.area(lenght, breath); %>
24.      </h6>
25.    </body>
26. </html>
```

Question 4

(a) (i) What is JSP implicit object? (**2 marks**)

(ii) List three (3) of the implicit objects. (**3 marks**)

(iii) List the three action elements of JavaBean. (**3 marks**)

(b) Write a Java snippet to connect a Desktop application running in Non JDK compliant environment (JVM) to MySQL database installed on same computer with the application. The database accepts connection through port *5643*. The snippet should connect using an existing database user called **HOD_IMT** with *imt512* as the password. It should fetch all the records in a table called *IMT* using **HOD_IMT** when it executes (assume all necessary classes were imported). (**7 marks**)

Best of Luck.