(Knowledge for Development)

KIBABII UNIVERSITY (KIBU)

MAIN CAMPUS

UNIVERSITY EXAMINATIONS

2021/2022 ACADEMIC YEAR

SPECIAL/SUPPLEMENTARY EXAMINATION

SECOND YEAR SECOND SEMESTER EXAMINATION

FOR THE DEGREE OF BACHELORS OF SCIENCE IN

(INFORMATION TECHNOLOGY)

COURSE CODE: **BIT 221**
COURSE TITLE: **EVENT DRIVEN PROGRAMMING**

DATE: 27/07/2022   TIME: 11.00 A.M. – 1.00 P.M.   2HRS

INSTRUCTIONS TO CANDIDATES:
ANSWER QUESTIONS ONE AND ANY OTHER TWO.

Paper Consists of 4 Printed Pages. Please Turn Over

QUESTION ONE (COMPULSORY)   [30 MARKS]

a. Explain the meaning of the following terms as used in event driven programming:

  i.   Events   [2 marks]

  ii. Listeners   [2 marks]

  iii. Exception Objects   [2 marks]

  iv. Event Handlers   [2 marks]

  v.   Event-Driven Programming   [2 marks]

b. `public void setDefaultCloseOpreation (int operation)` sets the action that will happen by default when the user clicks the close-window button. Discuss **FOUR** defined constants supported as arguments for the above method.   [8 marks]

c. The ActionListener interface has one method heading that must be implemented. Give the signature for the implementation of the ActionListener interface.   [4 marks]

d. What does calling the super () method in the constructor of the subclass means?

                                                 [2 marks]

e. Consider the code excerpt below

   JButton endButton = new JButton ("Click to end program");

   Required:

   i. Register an action listener to the button.   [2 marks]

   ii. Add the above button to the JFrame using appropriate method.   [2 marks]

QUESTION TWO   [20 MARKS]

a. What is the purpose of a layout manager? Explain in detail **Three** different types of layouts used in creating and organizing a GUI window.   [7 marks]

b. Write an SQL statement that will:

   i. Create a table called "exam" with the following fields: regNo, courseCode, cat, exam, academicYear and yearOfStudy(use appropriate data type and sizes)

                                                 [3 marks]

   ii. Insert three students records with appropriate details(use your own data)

                                                 [3 marks]

   iii. Retrieve the exam information for all students who scored above 20 marks

                                                 [3 marks]

c.

   i. Write a java code that will Display the message I Love Java by using JOptionPane.

          [2 marks]

   ii. Using JOptionPane input dialog, write a statement to input the person's first name.

          [2 marks]
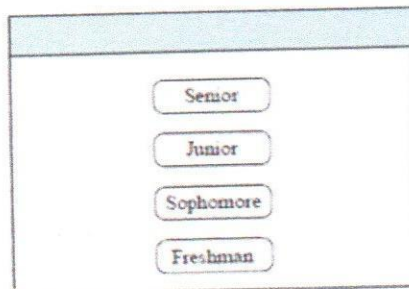
QUESTION THREE   **[20 MARKS]**

a. Write a Java statement to create a menu with the title("Programmes").   **[2 marks]**

b. Write Java statements to add menu items named "Bachelors of Information Technology", "Bachelors of Computer Science", "Bachelors of Information Science" and "Masters in Information Technology" to the menu created in (a) above. **[3 marks]**

c. Write Java statement to add the menu created in (b) above to the menu bar.   **[3 marks]**

d. Create a java GUI that allows the user to enter the desired user name and password. Provide a button that when clicked, a popup window appears informing the user that their account was successfully created. Include labels as appropriate.   **[12 marks]**

QUESTION FOUR   **[20 MARKS]**

a. Define a Jframe subclass that has four vertically positioned buttons. The labels for the four buttons are Senior, Junior, Sophomore, and Freshman. This is one possible layout:

When a button is clicked, display a message that identifies which button is clicked, using JOptionPane.   **[12 marks]**

b. Explain the meaning of the following arguments of the setDefaultCloseOpreation ()
method:

    i.   JFrame.DO_NOTHING_ON_CLOSE
                                              [2 marks]

    ii.   JFrame.HIDE_ON_CLOSE

                                              [2 marks]

    iii. JFrame.DISPOSE_ON_CLOSE

                                              [2 marks]

    iv.   JFrame.EXIT_ON_CLOSE

                                            [2 marks]

QUESTION FIVE

[20 MARKS]

a. Assume you have a database called "class_attendance" that is locally hosted, with the
user "root" having no password. Write a java code to create a class with the name
"ConnectionDB" that would connect the Java Program to the MySQL database.

[10 marks]

b. Discuss any **THREE** classes within each of the following java packages that are used to
create Graphical User Interface (GUI).

    i. Swing
                                     [5 marks]

    ii. AWT
                                       [5 marks]