Enrollment No......................................

Faculty of Science
End Sem (Odd) Examination Dec-2019
BC3EC01 Programming in JAVA

Programme: B.Sc. (CS)   Branch/Specialisation: Computer Science

Duration: 3 Hrs.   **Maximum Marks: 60**

Note: All questions are compulsory. Internal choices, if any, are indicated. Answers of Q.1 (MCQs) should be written in full instead of only a, b, c or d.
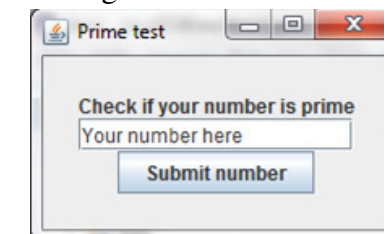
Q.1   i.   In order to run Java program, we need to install _____ **1**
application program.
(a) jdk   (b) sdk   (c) bdk   (d) None of these

ii.   What do you mean by JRE? **1**
(a) Java runtime environment
(b) Java runtime exception
(c) Java runtime execution
(d) None of these

iii.   Which of the following statements is/are TRUE regarding JAVA? **1**
   I. Constants that cannot be changed are declared using the 'static' keyword.
   II. A class can only inherit one class but can implement multiple interfaces.
(a) Only I is true   (b) Only II is true
(c) Both I and II is true   (d) Neither I nor II is true

iv.   Java object-oriented programming concepts is/are **1**
(a) Encapsulation   (b) Inheritance
(c) Polymorphism   (d) All of these

v.   In java multi-threading, a thread can be created by **1**
(a) Extending Thread class
(b) Implementing Runnable interface
(c) Using both
(d) None of these

vi.   class Main {   **1**
           public static void main(String args[]) {
               int x = 0;
               int y = 10;
               int z = y/x;
           }
       }
       (a) Compiler Error
       (b) Compiles and runs fine
       (c) Compiles fine but throws Arithmetic Exception
       (d) None of these

vii.   Which package provides many event classes and Listener interfaces   **1**
       for event handling?
       (a) java.awt   (b) java.awt.Graphics
       (c) java.awt.event   (d) None of these

viii. Give the abbreviation of AWT?   **1**
       (a) Applet Window Toolkit
       (b) Abstract Window Toolkit
       (c) Absolute Window Toolkit
       (d) None of these

ix.   What is the name of the Swing class that is used for frames?   **1**
       (a) Window   (b) Frame   (c) JFrame   (d) SwingFrame

x.   The size of a frame on the screen is measured in: **1**
       (a) Inches   (b) Nits   (c) Dots   (d) Pixels

Q.2   i.   What do you mean by JVM?   **2**
       ii.   Why java is called platform independent?   **3**
       iii.   What are constants in java? Explain its types with suitable examples.   **5**
OR   iv.   Write java code for the following output.   **5**
              1
              22
              333
              4444
              55555

Q.3   i.   Explain the following string methods in brief: **2**
              (a) toLowerCase()   (b) CharAt(n)
              (c) compareTo()   (d) concat()
       ii.   Create a Date class in Java having day, month and year data   **8**
              members. Create constructors for initializing data members,
              functions for validating date, getting values of data members
              and displaying the date.
OR   iii.   Explain following: **8**
              (a) Constructors and its syntax
              (b) Methods Overloading

Q.4   i.   What do you mean by inter thread communication?   **3**
       ii.   What is error and exception handling in Java? How would you   **7**
              handle the exception using *Try* and *Catch*?
OR   iii.   Write a program which uses all methods of Thread class.   **7**

Q.5   i.   Distinguish between Swing and AWT.   **4**
       ii.   Write a java program to implement any six AWT controls.   **6**
OR   iii.   Explain with examples, the various graphics methods supported by   **6**
              AWT. How color of an object can be changed?

Q.6   Attempt any two:
       i.   Describe the Delegation Event Model. What are the Event Sources   **5**
              and Event Listeners?
       ii.   Explain with an example Java code, how various mouse events are   **5**
              handled?
       iii.   Write a program using swing that checks if a number is prime or not.   **5**
              You might want to create a method that returns a boolean if a
              number is prime or not. Result must appear in dialogbox. Your frame
              for input must look like figure shown below.

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Marking Scheme
BC3EC01 Programming in JAVA

Q.1 i. In order to run Java program, we need to install _____ **1**
application program.
(a) jdk

ii. What do you mean by JRE? **1**
(a) Java runtime environment

iii. Which of the following statements is/are TRUE regarding JAVA? **1**
(b) Only II is true

iv. Java object-oriented programming concepts is/are **1**
(d) All of these

v. In java multi-threading, a thread can be created by **1**
(c) Using both

vi. class Main { **1**
   public static void main(String args[]) {
(c) Compiles fine but throws Arithmetic Exception

vii. Which package provides many event classes and Listener interfaces **1**
for event handling?
(c) java.awt.event

viii. Give the abbreviation of AWT? **1**
(b) Abstract Window Toolkit

ix. What is the name of the Swing class that is used for frames? **1**
(c) JFrame

x. The size of a frame on the screen is measured in: **1**
(d) Pixels

Q.2 i. Meaning of JVM **2**

ii. Why java is called platform independent **3**
Reason

iii. Constants in java | 2 marks | **5**
Its types with examples | 3 marks

OR iv. Write java code for the following output. **5**
Input | 1 mark
Logic | 3 marks
Output | 1 mark

Q.3 i. Explain the following string methods in brief: **2**
0.5 mark for each | (0.5 mark * 4)

ii. Create a Date class in Java **8**

Input | 1 mark
Logic | 6 marks
Output | 1 mark

OR iii. Explain following: **8**
(a) Constructors and its syntax | 4 marks
(b) Methods Overloading | 4 marks

Q.4 i. Meaning of inter thread communication **3**

ii. Error and exception handling in Java | 3 marks | **7**
Handling the exception using *Try* and *Catch* | 4 marks

OR iii. Write a program which uses all methods of Thread class. **7**
Input | 1 mark
Logic | 5 marks
Output | 1 mark

Q.5 i. Distinguish between Swing and AWT. **4**
1 mark for each point | (1 mark * 4)

ii. Write a java program to implement any six AWT controls. **6**
1 mark for each control | (1 mark * 6)

OR iii. Various graphics methods supported by AWT. How color of an **6**
object can be changed?
Input | 1 mark
Logic | 4 marks
Output | 1 mark

Q.6 Attempt any two:
i. Delegation Event Model | 2 marks | **5**
Event Sources and Event Listeners | 3 marks

ii. Explain with an example Java code, how various mouse events are **5**
handled?
1 mark for each event | (1 mark * 5)

iii. Write a program using swing **5**
Input | 1 mark
Logic | 3 marks
Output | 1 mark

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