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

Faculty of Engineering

End Sem (Odd) Examination Dec-2017

IT3OE14 Computer Programming-II (JAVA)

Programme: B.Tech.   Branch/Specialisation: IT

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.   Java is a........... language.   **1**
      (a) Weakly typed   (b) Strongly typed
      (c) Moderate typed   (d) None of these

      ii. Size of int in Java is: **1**
      (a) 16 bit   (b) 32 bit   (c) 64 bit   (d) None of these

      iii. What is the output for the below code?   **1**
      class A{
          int k;
          boolean istrue;
          static int p;
          public void printValue(){
              System.out.print(k);
              System.out.print(istrue);
              System.out.print(p); } }
      public class Test{
          public static void main(String argv[]){
              A a = new A();
              a.printValue(); } }
      (a) 0 false 0   (b) 0 true 0   (c) 0 0 0   (d) Compile error

      iv. Which method is used in place of Destructors in Java?   **1**
      (a) Garbage   (b) Finalize   (c) Get   (d) None of these

      v.   Which is a valid declaration of a String?   **1**
      (a) String s1 = "Hello";   (b) String s2 = 'null';
      (c) String s3 = (String) 'abc'; (d) String s4 = (String) '\ufeed';

vi. Which of the following classes is not a member class of java.io package? **1**
    (a) String   (b) StringReader
    (c) Writer   (d) File

vii. What is the output for the below code? **1**

```
public class Foo
{
    public static void main(String[] args)
    {
      try
      {
        return;
      }
      finally
      {
        System.out.println( "Finally" );
      }
    }
}
```

    (a) Finally
    (b) Compilation fails
    (c) The code runs with no output
    (d) An exception is thrown at runtime.

viii. What is the name of the method used to start a thread execution? **1**
    (a) Init()   (b) Start()   (c) Run()   (d) Resume()

ix. What does AWT stands for? **1**
    (a) All Window Tools   (b) All Writing Tools
    (c) Abstract Window Toolkit (d) Abstract Writing Toolkit

x. Applet class is a subclass of the panel class, which is again a subclass of the _____class. **1**
    (a) Object   (b) Component (c) Awt   (d) Container

Q.2 i. What is the significance of Java's byte code? **2**
    ii. Explain the internal architecture of JVM. **3**
    iii. Explain Implicit & Explicit Type conversion with an example. **5**

OR iv. Write a program to demonstrate the functioning of a stack by using the methods 'push' and 'pop' for implementing the relevant operations. **5**

Q.3 i. Explain the concept of dynamic method dispatch. **3**
    ii. What are Constructors? Design a class Box & display its length, breadth & height with the help of non-parameterized Constructor, parameterized constructor & Copy Constructor. **7**
OR iii. What do you understand by interfaces? Write a program to implement an interface Shapes with methods getArea () and getVolume (). Reuse these methods to calculate the area of circle and volume of cube. **7**

Q.4 i. Explain any three methods of StringBuffer class. **3**
    ii. What do you mean by tokenizing a string? Write a program to demonstrate String Tokenizer with relevant output. **7**
OR iii. State that why String is called Immutable? Justify with an example. Explain in short any 3 methods of String class. **7**

Q.5 i. Explain the keywords throw, throws and finally. **3**
    ii. What do you mean by Exception? Explain its types with examples. Write a program that can handle the exception. **7**
OR iii. Explain the advantages of multithreading. Write a program to demonstrate multithreading by the use of Runnable Interface. Also, mention any two methods of Thread class. **7**

Q.6 i. Define Applet. Write any one way of executing applets. **2**
    ii. Write a program to draw a string through an applet. Explain the life cycle of an applet and any two html tags associated with applets. **8**
OR iii. Write a program to create a simple frame. Explain briefly any four components used in Awt. Also explain, how is a Panel different from a Frame? **8**

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Marking Scheme

Q.1	i.	(b) strongly typed	**1**
	ii.	(b) 32 bit	**1**
	iii.	(a) 0 false 0	**1**
	iv.	(b) finalize	**1**
	v.	(a) String s1 = "Hello";	**1**
	vi.	(a) String	**1**
	vii.	(a) Finally	**1**
	viii.	(b) start()	**1**
	ix.	(c) Abstract Window Toolkit	**1**
	x.	(d) Container	**1**

Q.2	i.	2 marks for byte code significance	**2**
	ii.	3 marks for architecture	**3**
	iii.	2 marks for explicit	**5**
		2 marks for implicit	
		1 mark for example	
OR	iv.	2 marks for push method logic	**5**
		2 marks for pop method logic	
		1 mark for main method execution of stack array	

Q.3	i.	3 marks for dynamic method dispatch	**3**
	ii.	2 marks for definition	**7**
		5 marks for program	
OR	iii.	2 marks for interface explanation	**7**
		5 marks for program	

Q.4	i.	1 marks for each method (1 mark * 3 = 3 marks)	**3**
	ii.	2 marks for string tokenization concept	**7**
		5 marks for program	
OR	iii.	1 mark for giving reason why string is immutable	**7**
		3 marks for justification	
		3 marks for three methods.	

Q.5	i.	1 marks for each keywords (1 mark * 3 = 3 marks)	**3**
	ii.	1 mark for Exception definition	**7**
		2 marks for types	
		4 marks for program	
OR	iii.	2 marks for advantages	**7**
		3 marks for program	
		2 marks for Thread classes	

Q.6	i.	1 mark for applet definition	**2**
		1 mark for way of execution	
	ii.	3 marks for program	**8**
		3 marks for life cycle of applet	
		2 marks for html tags	
	iii.	2 marks for program	**8**
		4 marks for components	
		2 marks for difference between panel and frame.	

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