

**GUJARAT TECHNOLOGICAL UNIVERSITY****MCA – SEMESTER – III • EXAMINATION – SUMMER 2018****Subject Code: 2630002****Date: 29-May-2018****Subject Name: Fundamentals of Java Programming (Java)****Time: 02.30 pm to 5.00 pm****Total Marks: 70****Instructions:**

1. Attempt all questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.

- Q.1**
- (a)
1. State and explain two best features of java programming language? **02**
  2. How does Java support the use of irregular array? **02**
  3. Differentiate an applet with an application. **02**
  4. How would you define a group of constants that will be used by many classes? **01**
- (b)
1. What is the use of following java keywords? **04**  
static, final, synchronized, throws.
  2. What is MVC? Are Swing components based on MVC? Justify your answer. **03**
- Q.2**
- (a)
1. What is “class-initializer” block? Explain with example code. **03**
  2. What role does an interface play in multiple inheritance? Explain with suitable example. **04**
- (b)
1. What is an abstract class? How is it different from an interface? **02**
  2. What are the three methods using which a running thread may be brought to suspended state? **02**
  3. What will happen when you try to compile and execute the following code? **03**  

```
class Test{
    public static void main(String args[]){
        String t1 = “The World”;
        String t2 = new String(“The World”);
        if(t1.equals(t2))
            System.out.println( t1.concat(“ is beautiful !”));
        else
            System.out.println(t1.concat(“ is not beautiful !”));
    }
}
```

    - a) compile time error
    - b) runtime error
    - c) will compile and print “The World is beautiful !”
    - d) will compile and print “The World is not beautiful !”

**OR**

- (b)
1. What are the daemon threads? **02**
  2. What is the use of RandomAccessFile? **02**
  3. What will happen when you try to compile and execute the following code? **03**  

```
class Test{
    public static void main(String args[]){
        String t1 = “The World”;
        String t2 = new String(“The World”);
```

```

if(t1==t2))
System.out.println( t1.concat(" is beautiful !"));
else
System.out.println( t1.concat(" is not beautiful !"));
}
}

```

- a) compile time error
- b) runtime error
- c) will compile and print "The World is beautiful !"
- d) will compile and print "The World is not beautiful !"

- Q.3 (a)** 1. What is method overriding? Write a java program to demonstrate it. **03**  
 2. What is multithreading? Write a java program to demonstrate multithreading. **04**
- (b)** 1. What is an exception? Which keywords are used to handle exceptions? **03**  
 2. Explain customized exception with an example. **04**
- OR**
- Q.3 (a)** 1. Which is the super class of every class in java? List out its important methods and explain any one of them. **03**  
 2. List out the states of thread and explain the thread life cycle? **04**
- (b)** 1. Differentiate between checked and unchecked exception. **03**  
 2. Write a java program which generates an exception if negative number is given as an argument to method being called. **04**
- Q.4 (a)** 1. What are the wrapper classes? Explain the use of a wrapper class by giving an example. **03**  
 2. What is Generics? How it is used in Collection framework? **04**
- (b)** Write a java program that takes the name of a text file as command line argument and prints every line of the text file in lowercase letter. **07**
- OR**
- Q.4 (a)** 1. Differentiate "Iterator" interface with "Enumeration". **03**  
 2. List out the important methods of "List" and "ListIterator" interfaces. **04**
- (b)** Write a java program that counts the number of words in a text file whose name is accepted from standard input. **07**
- Q.5 (a)** 1. What are the features of swing components? **03**  
 2. What are the layout managers? Explain any one in detail. **04**
- (b)** Explain the event delegation model used for handling events in Java. **07**
- OR**
- Q.5 (a)** 1. What are the various dialog boxes available in swing? How are they used? **03**  
 2. What is the use of an adapter class? Explain with an example. **04**
- (b)** Write an applet that draws a circle inside its visible area. Use three radio buttons to color it with red, blue or green color. **07**

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