

Seat No.: _____

Enrolment No. _____

GUJARAT TECHNOLOGICAL UNIVERSITY
MCA - SEMESTER– III• EXAMINATION – WINTER 2016

Subject Code:630002

Date:09/01/ 2017

Subject Name: FUNDAMENTALS OF JAVA PROGRAMING

Time:10.30 AM TO 01.00 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)** State which of the following are true or false. Justify your answer **07**
- i) JAVA is one platform.
 - ii) Applets are deployed on client machine.
 - iii) The main method of a JAVA application is written inside a class.
 - iv) The command used to compile JAVA source files is `javac`.
 - v) `goto` can be used to jump to a statement in JAVA.
 - vi) `instanceof` is a keyword in JAVA.
 - vii) Static variable cannot be modified.

- (b)**
- i) What is the difference between instance method and class method? **04**
 - ii) What is the difference between Instance Initializer block and Class Initializer block? **03**

- Q.2 (a)**
- i) Explain the uses of keyword “this” and “static”. Explain with code. **03**
 - ii) Explain the overloading of methods and constructors with an example. **04**
- (b)**
- i) Explain the uses of keywords “extends”, “super” and “final”. **04**
 - ii) What is meant by variable shadowing. Explain with example. **03**

OR

- (b)**
- i) How method overriding will be achieved in Java application? Explain with code. **03**
 - ii) What is the difference between abstract class and interface? **04**

- Q.3 (a)**
- i) Explain the purpose of `equals()` method in Object class. **03**
 - ii) Explain the uses of the keywords “package” and “import”. **02**
 - iii) Explain the boxing and unboxing conversions. **02**
- (b)**
- i) Explain the difference between Comparable and the Comparator interfaces. **05**
 - ii) Differentiate between `throw` and `throws` keyword. **02**

OR

- Q.3 (a)**
- i) What is enum type in Java? Explain with code. **04**
 - ii) Explain Top-level nested class using Java code. **03**
- (b)**
- i) In which package Pattern and Matcher classes belong? **01**
 - ii) Explain Pattern, Matcher class briefly with java code. **04**
 - iii) What is the role of Scanner class? **02**

- Q.4 (a)** i) Name the four top-level stream classes from the java.io package. **03**
ii) Write the Java code segment for listing files with size less than 1024 bytes. **04**
- (b)** i) Explain the two different ways of creating a new thread of execution. **05**
Justify your answer with java code.
ii) Which class has method sleep(long millis)? How sleep() method will be called in Java program? **02**
- OR**
- Q.4 (a)** i) What is the role of paint() method of Frame class? Explain with code. **05**
ii) List down various layout managers available in AWT. **02**
- Q.4 (b)** i) Explain the event delegation model used for handling events in JAVA. **05**
ii) Explain ObjectInputStream and ObjectOutputStream. **02**
- Q.5 (a)** i) List the life-cycle methods of an Applet. **05**
ii) What is annotation? **02**
- (b)** i) Write an application to create two threads. One thread displays odd numbers and another thread displays even numbers upto 10 and also displays its' name. **05**
ii) What are the role of hasMoreElements() and nextElement() of Enumeration Interface of java.util package. **02**
- OR**
- Q.5 (a)** i) Write an application to create a frame. Frame contains two buttons and one text box. Two buttons have labels "GTU", "MCA" respectively. When a button is clicked, its' label will be displayed into textbox. **05**
ii) Why main() method in Java class is declared as static? **02**
- (b)** i) What is Applet? What is the difference between Applet and Frame in Java application. **05**
ii) What are the adapter classes. **02**
