

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

Subject Code: 2630002**Date: 03/06/ 2016****Subject Name: Fundamentals of Java Programming****Time: 02.30 PM 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 whether the following statements are true or false. Justify your answers if false. 07**
- i) We can implement destructor in java.
 - ii) We can't overload constructor in java.
 - iii) The size of "char" data type is 1 byte.
 - iv) Each reference variable always refers to different instances (object), i.e. two references variables cannot refer to the same instance.
 - v) Constructor cannot be declared within "Abstract class" in java.
 - vi) "Object" is a class in java.
 - vii) The default access specifier for members of a class in java is "public".
- b) i) How can we declare and use an array for primitive data type variables and user defined data type objects? 05**
- ii) How does "%" operator behave in java? Explain with java code. 02**
- Q.2 (a) i) What is the difference between "class" and "abstract class"? 07**
- ii) Differentiate between "class" and "enum" type. 07**
- (b) What will be the output of following code? Give the proper justification in case of error (compilation or runtime) in code and modify the error for generating output. 07**

```
class Student{
public void get_marks(){System.out.println("get marks of students"); }
}
class MCA_student extends Student{
public void get_marks(){ System.out.println("get marks of MCA students"); }
public void get_job(){ System.out.println("get jobs of MCA students "); }
}
public class Student_main{
public static void main(String args[]){
Student obj_ref1;
obj_ref1.get_marks();
obj_ref1.get_job();
MCA_student mobj_ref1;
mobj_ref1=new MCA_student();
mobj_ref1.get_job();
}
}
```

OR

- (b) i) What is the use of "interface" in java? 03**
- ii) A static block is declared within a class. But, object of that class is not created within an application.**

	Write down two java instruction code through which, static block of above mentions class, is executed without creation of object of that class.	04
Q.3	(a) i) Explain all available access specifiers associated with members of a class using inheritance in java.	03
	ii) Explain “implements” and “extends” keywords with java code.	04
	(b) i) Explain “method overriding” and “final” method within a class.	05
	ii) Explain “boxing” and “unboxing” conversions.	02
	OR	
Q.3	(a) i) Differentiate between “checked” and “unchecked” exceptions.	02
	ii) Explain the use of “throw”, “throws”, “catch” keywords with java code.	05
	(b) i) Explain the syntax and use of “Anonymous class” within an application.	04
	ii) What is the use of “File” class for managing files in file system?	03
Q.4	(a) i) What are the steps for creating a new thread of execution? Explain the steps with the help of class which is derived from “Thread” class or “Runnable” interface.	05
	ii) Explain daemon thread.	02
	(b) i) Write an application which creates a frame which is derived from “Frame” class and displays “Hello MCA Student” by overriding paint() of “Frame” class.	05
	ii) Write down the class hierarchy of “Panel” and “Frame” class	02
	OR	
Q.4	(a) i) Explain the various “Layout Managers” available in AWT.	04
	ii) Implement “FileDialog” class within java application.	03
	(b) Explain thread “synchronization” with java code.	07
Q.5	(a) What is the use of “Annotation” in java?	03
	Can we declare main () in applet application? Justify your answer.	04
	(b) Write a java application which takes the name of the directory as a command line argument and prints the list of files in the directory with its’ last modification date, file size, file name.	07
	OR	
Q.5	(a) Explain life cycle of “Applet” class.	07
	(b) Create an application which creates a Frame that has two text boxes .One text box for accepting integer value and 2 nd text box is used for display reverse integer value of input value. Application is capable to handle run time Exception (input error or any logical error) using Exception handling technique.	07
