Reg. No. | | | | | | | | | | |

MANIPAL INSTITUTE OF TECHNOLOGY
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INSPIRED BY LIFE

III SEMESTER B.TECH. (INFORMATION TECHNOLOGY/COMPUTER AND COMMUNICATION ENGINEERING)

MAKEUP EXAMINATIONS, DECEMBER 2016

SUBJECT: OBJECT ORIENTED PROGRAMMING [ICT 2101]

REVISED CREDIT SYSTEM
(26/12/2016)

Time: 3 Hours   MAX. MARKS: 50

Instructions to Candidates:
❖ Answer **ALL** the questions.
❖ Missing data may be suitably assumed.

1A. Differentiate between method overloading and method overriding. Explain with suitable complete examples. **5**

1B. Write a program to create an array using command line arguments and display the occurrence of even numbers in sequence.
CommandLine Arguments: 10 50 52 25 67 41 44 46 31
Output: Even numbers 10,50 52 at starting index 0.
   Even numbers 44 46 at starting index 3

3

1C. Explain the following methods of Object class with syntax.
i)finalize   ii)equals

2

2A. Write a program to do the following.
   i)   Read an array of String objects
   ii) Remove duplicate strings in the given array.
   iii) Check if any of these strings is a palindrome. If so arrange these palindromes in a new array in alphabetical order. **5**

2B. Diffrentiate between ArrayList and Vector. Write a program to demonstrate the usage of an ArrayList.

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2C. Write the output of the following code snippets and justify your answer.
   i)   try{
           return;
        }
        finally{
        System.out.println("hi");
        }
        System.out.println("Hello");

   ii) String s1="abc";
       String s2="abc";
       System.out.print(s1==s2);

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3A. Write a program to define a class called Book with title,author and edition fields. Define suitable constructors for the Book class. Create a list of 6 Book objects and write them to a file. From this file display the books of the author "Harry" on the screen.

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3B. Write the difference with a relevant code snippet for the following.
  i.   extends and implements
  ii. serializable and synchronize
  iii. comparing Strings using == operator and equals().

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3C. Write the output for the following code snippet with suitable justification/s.
  i.   class increment {
       public static void main(string args[]) {
            char c1, c2;
             c1=88;
             c2='Y';
             System.out.println(c1 + + c2);

         }}
  ii. What code blocks are executed, and which are not?
       int smallNumber = 13;
       if ((smallNumber > 5) || (smallNumber < 10))   {
           System.out.println("Between 5 and 10");   }
       if ((smallNumber > 10) || (smallNumber < 15))   {
            System.out.println("Between 10 and 15");   }
        if ((smallNumber > 15) || (smallNumber <20)){
            System.out.println("Between 15 and 20");}

  iii. int arr[ ] = {0 , 1, 2, 3, 4, 5, 14, 7, 8, 20};
        int n = 9;
        int n1 = arr[n] / 2 ;
        n = arr[arr[n1] / 2];
        System.out.println("n1 " +n1);
        System.out.println(arr[n1] / 2);

4A. Create an interface called Utility with methods sort(Object o[]) and display(Object o[]).
Define two independent classes called Student with name and roll number field and an Employee class with name and salary field. Define a StuArray class and EmpArray class for implementing the interface method sort and display.
Sort method in EmpArray should sort the Employee objects according to salary and StuArray should sort according to roll number. Demonstrate sorting of student array and employee array in main using interface reference.

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4B. Explain the following with suitable examples:
  i.   Jump statements
  ii. Declaration of objects

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4C. What is an abstract class? Mention its importance.

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5A. Write a multithreaded program to check whether sum of all elements of a 2-dimensional matrix is a prime number or not. Use multiple threads. Each thread finds the sum of elements of a row using sum() method and main should add the sum value returned by each thread and check whether the total is a prime or not and display the result.

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5B. Write a swing application which accepts a three number and displays largest of the three numbers on click of a button. The message can be displayed using a label.

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5C. Show with a simple java program, how you can prevent overriding in case of multilevel inheritance?

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