

**2019****MCA**3<sup>rd</sup> Semester Examination

( Answer All Questions )

Full Marks: 70

Times: 3 Hrs

1. (a) write a program in java to find all prime number between 1 to 100, using sieve of eratosthenes. [10]  
 (b) Distinguish between the following pair: [4]  
 i. >> and >>>  
 ii. final and finalize( ) .

**OR**

- (c) Match the Column A with Column B: [3]

**Column A**

\b

^

~

this

Super

static

**Column B**

non-instantiable

bit-wise complement

it invokes the constructor

refers to the current object.

bit-wise XOR

backspace

- (d) Write a java program to find GCD of two integer number using Euclidean algorithm. [5]  
 (e) Write a java program to declare a 3x3 matrix and find out summation of each cell of the matrix using for-each loop. [6]
2. (a) What is garbage collection? How finalize( ) method is related to garbage collection. [4]  
 (b) What is Varargs? Can we overload the varargs method? If yes, then Write a java program to demonstrate overloading of varargs method. [10]

**OR**

- (c) Explain the essence of **static** in java. Write a java program to demonstrate the distinction of static variables and methods. [6+4]  
 (d) Distinguish between the following pairs : [4]  
 i. equals( ) and ==  
 ii. BufferedReader and Scanner
3. (a) state the two applications of super keyword. Write a program to demonstrate the same. [6]  
 (b) Distinguish between Interface and abstract class? Is an Interface can extend another interface, justify your answer and write a program to demonstrate the same. [8]

**OR**

- (c) Write short notes: [3x3]  
 (i) Annotation.  
 (ii) Enumeration  
 (iii) Autoboxing  
 (d) Write a program to illustrate working of values() and valueOf() method enumeration. [5]

4. (a) What is a Thread? Explain different types of threads. Write a program to demonstrate multi threading both by extending Thread Class and by Runnable interface. [14]

**OR**

- (b) What is an Exception? Write a program to handle arithmetic Exception using multiple catch block. [7]  
(c) Write a program to set priority to the threads by implementing Runnable interface. [7]

5. (a) what is AWT ? Design a data receiving form comprises of Name, Address, Pincode with two set of button as Submit and Reset by extending the Applet class as container. [14]

**OR**

- (b) Write Short Note: [6+4+4]  
(i)Event and Different types of Event Class  
(ii) Adapter Class  
(iii) Event Listener