Code: IT4T3

II B.Tech - II Semester – Regular/Supplementary Examinations
October 2020

JAVA
(INFORMATION TECHNOLOGY)

Duration: 3 hours   Max. Marks: 70

PART – A

Answer **all** the questions.   All questions carry equal marks

11 x 2 = 22

1.

a) Define bytecode. What is the main benefit of generating bytecode?

b) What is the need of "this" keyword? Demonstrate its usage through sample code.

c) Discuss the procedure to define and import a package.

d) Contrast between Abstract class and Interface.

e) How do applets differ from application program?

f) Differentiate throw and throws in exception handling.

g) What is an adapter class? Explain with an example.

h) Describe two key features of swing.

i) List two limitations of AWT.

j) Explain the communication between client and server.

k) What are the differences between JTogglebutton and Radio button?

PART – B

Answer any ***THREE*** questions.   All questions carry equal marks.

3 x 16 = 48 M

2. a) Java is a platform-independent and secure language. Justify and also describe each word in the following statement.
public static void main(String[] args)   8 M

b) Write a Java method that accepts two strings as parameters and returns a string that contains all unique two-character strings whose first character comes from the first string and second character comes from the second string. All two-character strings in your returned string should be separated by a space. Use ordinary string concatenation in your solution.

Look at the examples below for a "hint" on how to proceed and look at the String API for methods you can use to simplify your solution

First string	Second string	Returned string
ABCD	EFGH	AE AF AG AH BE BF BG BH CE CF CG CH DE DF DG DH
ACDC	ABBA	AA AB CA CB DA DB

8 M

3. a) How to Create Interface? When they are implemented and
      extended? Explain with Example.   8 M

   b) Create three classes with the names Shape, Rectangle and
      Circle and make use of functions getdata(), printdata() and
      area(). To find the area of circle and rectangle, which type
      of inheritance is suitable? Why? Explain.   8 M

4. a) Differentiate between usage of Thread class and Runnable
      interface for creating Threads. With syntax, explain the
      uses isAlive() and join() methods.   8 M

   b) Write a program using an applet which will print "Key
      Pressed" on the status window when you press the key,
      "Key released" on status window when you release the key
      and when you type the characters it should print "Hello" at
      co-ordinates (50, 50) on Applet.   8 M

5. a) Write a java program to create AWT radio buttons using
      check box group.   8 M

   b) Explain the following with examples   8 M
      i.   Events
      ii. Event Sources
      iii. Event Listeners.

6. a) Write a temperature conversion program that converts the temperature given in Fahrenheit to Celsius. The Fahrenheit temperature should be entered from the keyboard (via JTextfield). A JLabel should be used to display the converted temperature.   8 M

   b) Explain the following   8 M
      i.   Sockets
      ii. Server Sockets
      iii. java.net package