SDM College of Engineering & Technology, Dharwad – 2

Department of Computer Science & Engineering

Internal Assessment-I

Semester & Division: IV [A & B]

Date: 25/04/2024

Course Code & Title: 22UCSC401 & Object-Oriented Programming

Time: 09:30 – 10:30 AM

Max. Marks: 20

Course Instructors: Prof. Indira Umarji. & Govind Negalur

Note: Answer any one question from Q.No.1 & Q.No.2; Q.No.3 is COMPULSORY.

Q.No.1.

a) A vehicle is identified by how many wheels it has. Car and bike is identified by engine number, chassis number and manufacturer. **Car is-a vehicle** and **Bike is-a vehicle**. Using this information, write a Java Program that displays all the information of vehicle, car and bike. Also draw the class diagram for the above scenario.　　　　**[4+1=5M, CO1]**

b) You are asked to develop a simple media player application that can play different types of media files such as MP3, MP4, WAV and WMA. All the listed media players must provide the common features to play, pause, stop, rewind and forward the media being streamed.
Using the feature of interfaces, write a Java program that provides the implementation for the above problem definition. **Note:** It is sufficient to put relevant display statements.　**[5M, CO2]**

Q.No.2.

a) Using object-oriented concepts, write a Java program to implement Queue.　　**[5M, CO1]**

b) Explain the need for packages in Java with an illustrative example.　　**[2+3=5M, CO2]**

Q.No.3.

a) Using the concept of abstract class, write a Java program that calculates the area and perimeters of circle and triangle. The program should read inputs from the keyboard.　　**[4+1=5M, CO1]**

b) Write a Java Program that takes a string as command-line argument and checks whether the string is palindrome or not. If the string is palindrome, then print proper message; else, generate a used-defined exception **StringNotPalindromeException**. [**Hint:** use equals() method to check equality of two strings].　　**[5M, CO3]**

23/04/2024　**************

(Indira R. Umarji)

23/4/24

(Govind Negalur)