OR

(b) Differentiate between abstract class and interface. Is it possible to declare method with both abstract and final keyword.

5. (a) Explain package in java. Is it possible to create user define packages in Java ? If yes then explain how we can create user define package and also explain the execution commands (compile and run) for package programs from command prompt. Also, explain static import in Java.   (CO2)

OR

(b) Explain default exception. Also explain the exception handling in Java. Create a user define exception "TooMinAmount" and "TooMaxAmount". Now Ask a user to enter imount using Scanner class and throw the user define exception if amount is less than ₹ 500 or if amount is greater than ₹ 10,000.   (CO3)

H   Roll No. ....

TBC–303/TBI–303

B. C. A./B. SC. (IT)
(THIRD SEMESTER)
MID SEMESTER
EXAMINATION, Oct., 2023

JAVA PROGRAMMING

Time : 1½ Hours

Maximum Marks : 50

Note : (i) Answer all the questions by choosing any *one* of the sub-questions.

(ii) Each sub-question carries 10 marks.

1. (a) Explain Identifiers. Also explain the rules for identifiers in java.   (CO1)

OR

(b) Explain the advantage of Inheritance. Also explain the constructor calling in multilevel inheritance.   (CO2)

P. T. O.

2. (a) Explain Command Line Arguments in Java, including how they are used. Write a Java program to input 3 digit number through command prompt and check whether the number is Armstrong or not.

(CO1)

OR

(b) Explain the use of Wrapper classes in Java. Also explain autoboxing and unboxing in Java.   (CO1)

3. (a) Differentiate between compile time polymorphism and run time polymorphism. Compute the area of circle, triangle and rectangle shapes. Write a java program to overload the area() method to compute the area of shapes.   (CO1)

OR

(b) Explain how we can declare and create arrays in Java. Ask a user to enter ten Integers using the Scanner class and Compute Sum and Average of Array Elements.   (CO1)

4. (a) Create a class Department having following fields name, departmentid, define parameterized constructor in Department class. Add a new method showDepartment()- to display department name. Create a child class Employee of Department class having empname, empid, no. of years and salary. Add following methods Employee class. (CO1)

getData(String empname, int empid, double salary)

showEmpData()- Will display details of employee

updateSalary() method will update employee salary according to number of year according to following conditions

(i)   if number of years >= 2 and <5 update salary by 5%

(ii) if number of years >= 5 and <8 update salary by 8%

(iii) if number of years >= 8 and < 14 update salary by 15%

(iv) else update salary by 2% of Account class.