H

TCS/TIT–406

B. TECH. (CS/IT)
(FOURTH SEMESTER)
MID SEMESTER EXAMINATION, 2019
JAVA PROGRAMMING

Time : 1 : 30 Hours

Maximum Marks : 50

Note : (i) This question paper contains two Sections.

(ii) Both Sections are compulsory.

Section—A

1. Fill in the blanks/True-False : (1×5=5 Marks)

   (a) All methods in an abstract class must be declared as abstract methods. (True/False)

   (b) A static import declaration (usually the packageName.className.*) enables you to refer to imported static members of a class without the className and a (.) dot.

   (True/False)

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(c) _____ keywords are a reference to the current object on which the method was invoked.

(d) A method declared with _____ modifier cannot be overridden.

(e) _____ method is given parameter via command line arguments.

2. Attempt any *five* parts :   (3×5=15 Marks)

   (a) Differentiate between C++ *vs*. Java.

   (b) Describe Garbage Collector.

   (c) How we can execute any code even before main method ?

   (d) What do you mean by instance member hiding problem and how it can be solved ?

   (e) Mutable *vs*. Immutable string.

   (f) What is the difference between equals( ) and = = ?

Section—B

3. Attempt any *two* parts of choice from (a), (b) and (c).   (5×2=10 Marks)

   (a) Explain the following :

      (i) import and static import

      (ii) public static void main(String args [ ])

   (b) Explain final, finally and finalize( ) using suitable example.

   (c) Make a program to generate a password, user enters 2 strings and 2 integer values. The password is generated by using the first letter of smaller string followed by the bigger string and the digit in the integer value which is at the position defined by second integer value when traversed reversely.

   (**Hint** : First String = "Graphic"

   Second String = "Era"

   First Number = 78153

   Second number = 2

   Output : **EGraphic5**

4. Attempt any *two* parts of choice from (a), (b) and (c).   (5×2=10 Marks)

   (a) What do you mean by run time polymorphism ? How "one interface multiple method" form of polymorphism can be achieved ? Explain.

(b) Calculate the sum of rows and columns of matrix having size 5 × 5 in the format given below :

	Quarter 1	Quarter 2	Quarter 3	Quarter 4	Total
Salesman 1					
Salesman 2					
Salesman 3					
Salesman 4					
Total					

(c) Differentiate between Abstract class and Interface.

5. Attempt any *two* parts of choice from (a), (b) and (c).   (5×2=10 Marks)

(a) What's the access scope of public, protected, default and private access specifier ?

(b) Draw and explain JVM architecture.

(c) Design a class to represent a bank account, include the Data members (Name of the Depositor, Account number, Type of account and Balance

amount in the account). Methods (To assign initial values, To deposit an amount, To withdraw an amount after checking balance and To display the name and balance).

Create a class Account that stores customer name, account number and type of account. From this drive the classes Curr-acct and Sav-acct to make them more specific to their requirements. Include the necessary methods in order to achieve the following tasks :

(i). Accept deposit from a customer and update the balance.

(ii) Display the balance.

(iii) Check for the minimum balance, impose penalty, if necessary, and update the balance.