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TCS-501/TIT-501

B. Tech. (CS/IT) (Fifth Semester)
Mid Semester EXAMINATION, 2017
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) member variables are shared by all instances of a class.
 - (b) The **this** reference is used in conjunction with non-static methods. (True/False)
 - (c) **nextInt** and **next** are two methods in the class.
 - (d) A subclass can call a constructor method defined by its super class by use of the keyword.
 - (e) A method declared with keyword cannot be overridden.

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2. Attempt any *five* parts : (3×5=15 Marks)
- Differentiate between C++ vs. Java.
 - Describe Garbage Collector.
 - What is protected and friendly access specifier ?
 - What is Overriding ? Demonstrate.
 - Mutable vs. Immutable string.
 - Boxing vs. Unboxing.

Section—B

3. Attempt any *two* parts of choice from (a), (b) and (c). (5×2=10 Marks)
- Explain the following :
 - Import and static import
 - Public static void main (String args [])
 - Explain final and finally keyword using suitable example.
 - What is JVM ? Also explain its architecture.
4. Attempt any *two* parts of choice from (a), (b) and (c). (5×2=10 Marks)
- Explain **this** and **super** keyword by using suitable examples.
 - What is dynamic method dispatch ? Explain it with suitable examples.
 - Differentiate between Abstract class and Interface.

[3]

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

- (a) A class Telcall calculates the monthly phone bill of a consumer. Some of the members of the class are given below :

Class name :

Data members/instance variable : phno (phone Number), sname (subscriber Name) n(number of calls made) and amt (bill amount).

Member function/methods :

Tel Call() : Parameterized constructor to assign values to data members.

Void compute() : to calculate the phone bill amount base on the slabs given below.

Void display() : to display the details in the specified format.

Number of calls Rate

1 – 100 ₹ 500	rental charge only
101 – 200	₹ 1.00 per call + rental charge
201 – 300	₹ 1.20 per call + rental charge

- (b) In Java only a single class can be extended. If there is need to extend more than one class, how can this be achieved ?
- (c) List and explain the features of Java.

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