DAYANANDA SAGAR UNIVERSITY

USN No: ENG 18 CA 0009

II Semester B.C.A. Examinations – May 2019 / June 2019

Course Title: Principles of Programming
Course Code: 16CA107
Duration: 03 Hours
Date: 31-05-2019
Time: 10:00 AM to 01:00 PM
Max Marks: 60

Note:
1. **Answer 5 full questions choosing one from each Section**
2. **Each Section carries 12 Marks**
3. **Draw neat sketches wherever necessary**
4. **Missing Data may be suitably assumed**

SECTION – 1

1.a. Summarize about various OOP's principles. (06 Marks)

1.b. Explain about different access specifiers available in Java. (06 Marks)

OR

2.a. Compare different types of inheritance as applied to OOP. (06 Marks)

2.b. Illustrate the concept of method overloading in Java with an example. (06 Marks)

SECTION – 2

3.a. Explain in brief about Scope and lifetime of a variable. (06 Marks)

3.b. What is narrowing and widening? Why is it required in programming? Explain it with an example each. (04 Marks)

3.c. Write a Java program to read the price of an item in decimal form(like 75.95) and print the output in paise(7595 paise). (02 Marks)

OR

4.a. A set of two linear equations with two numbers X_1 and X_2 are given below: $ax_1+bx_2=m$, $cx_1+dx_2=n$ The equations unique solutions are $x_1=(md-bn)/(ad-cb)$, $x_2=(na-mc)/(ad-cb)$ provided the denominator value (ad-cb) is not equal to zero. Develop a java program that will read the values of constants a, b, c, d, m and n and compute the values of x_1 and x_2. An appropriate message should be printed if ad-cb=0. (06 Marks)

(P.T.O.)

4.b. In what ways does a switch statement differ from if- else statement? Justify. (04 Marks)

4.c. Write a Java program to convert the given temperature in fahrenheit to celsius using the following conversion formula C=(F-32)/1.8 and display the values. (02 Marks)

SECTION – 3

5. Define Interface. Explain how to define, extend, implement and assign variables in interface to perform "One interface multiple method". (12 Marks)

OR

6. Demonstrate the creation of user defined package, accessing it and using it with an example. (12 Marks)

SECTION – 4

7.a. Describe about Termination or Resumptive models. (06 Marks)

7.b. Create a Java program that throws "Number is too small" customised exception when the number entered is in the range between 0 to 0.5. (06 Marks)

OR

8.a. Design a Java program that explains the mechanism of try, catch and finally keyword in exception handling. (08 Marks)

8.b. Compare and contrast the use of throw and throws keyword in Java. (04 Marks)

SECTION – 5

9.a. Elaborate in detail about thread life cycle with a neat diagram. (08 Marks)

9.b. Implement multiple threads in Java and write about the working of it. (04 Marks)

OR

10. Explain: (12 Marks)
(i) Thread Synchronization (ii) Daemon Threads (iii) Thread Groups

Dayananda Sagar University

School of Engineering
Department of Computer Applications

Internal Assessment Test - I

Class: II Semester, BCA
Course: **PRINCIPLES OF PROGRAMMING**
Course code: **16CA107**

Date: 18/02/2019
Time: 02:30 to04.00pm

Max. Marks: 50

Note: ***Answer any FIVE full questions***

Q. No.	Questions	Marks
1	(a) Explain in detail about the Object oriented programming and Procedure oriented programming.	10
2	(a) Define Inheritance and Polymorphism. Explain them in detail.	10
3	(a)Compare Class and Object. (b)Write a statement to show how to create an Object 'Book' of class 'Library'. (c) Describe about various Access Specifiers in brief.	02 02 06
4	Explain briefly about Constructors and Destructors with an example.	10
5	Develop a java program to implement any 5 mathematical functions.	10
6	(a)Define (1) Data abstraction (2) Strings (3) Encapsulation. (b)Develop a java program to input three sides of a triangle and check whether a triangle is possible or not. If possible, then display whether it is an Equilateral, an Isosceles otherwise display Triangle is not possible.	06 04