

**COMPUTER APPLICATIONS  
SECTION A**

**Question 1**

1. What is meant by type conversion?
2. Identify the literals listed below:  
a) 0.5      b) 'A'      c) false      d) "125" [2]
3. What do you mean by a token in Java? [2]
4. What are the types of casting shown in the following examples? [2]  
double x=12.5; [2]  
int a=12;  
int y= (int) x;  
long b= a;
5. What is a variable in java? [2]

**Question 2**

1. What is an operator in Java? [2]
2. What is the difference between / and % in Java. Give examples. [2]
3. Write down the names of primitive data types used in Java. [2]
4. What is a keyword in Java? [2]
5. What is the difference between ; and = in java? [2]

**Question 3**

1. What is the output of the following;  
a) double m= Math.pow( 4,3)/ Math.min( 16,8); [2]  
b) double n= Math.sqrt( 100-36)
2. Write down the java expressions for the following: [2]  
a)  $b^2 - 4ac$   
b)  $\frac{x+y}{2x}$
3. Evaluate the following expressions [2]  
a) int m=5, n=3, p  
 $p= m*n/2+3\%m*n+ 9*(m+n)$   
b) int a= 5, b=7, c;  
 $c= (a+b) / a*b + 2*(a-b) / 2*( a-b)$
4. What do you mean by an identifier? Give two examples [2]
5. What is an expression in Java? What are the two types of expressions in Java. [2]

Each program should be written using Variable descriptions so that the logic of the program is clearly depicted.

#### Question 4

- a) Write a java program to input length and breadth of a rectangle. Calculate area, perimeter and diagonal of the rectangle.
- b) Write a Java program to input the diagonal of a square and calculate area and perimeter

#### Question 5

- a) In a class of n number of students, the number of boys is m . Write a program to input m and n . Find and print the percentage of boys and girls in the class.
- b) Write a java program to input time in seconds and convert it into hours, minutes and s

Example input :8000

Output : 2 hours 13 minutes 20 secs

#### Question 6

Write a java program to input the name of an employee and his basic salary. Calculate gross salary ,deduction and net salary based on the following.

DA=18% of basic salary

HRA=12% of basic salary

Gross salary = basic salary+ DA+HRA

PF=12.5% of basic salary

Tax=3% of Gross salary

Deduction=PF+ Tax

Net Salary=Gross salary-Deduction

#### Question 7

- a) Design a class named *numbers* to input three numbers as num1,num2,num3 and the following using a java program.
1. average of three numbers (avg)
  2. largest (max) and smallest (min) of three numbers.
- b) Write a java program to input the radius of a circle. Find and print the area and perimeter of that circle .

Area of a circle  $A = \pi r^2$

Perimeter of a circle  $P = 2\pi r$