**COMPUTER APPLICATONS**

(THEORY)

(Two Hours)

­­­­­­­­­­­­*This paper is divided into two sections.*

*You are to answer* ***all*** *questions from Section A, and* ***any four*** *questions from Section B.*

*The intended marks for questions or parts of questions are given in brackets* ***[ ].***

**SECTION-A (40 Marks)**

*Attempt* ***all*** *questions.*

**Question 1**

1. State the difference between **double** and **Double**. **[2]**
2. What is **continue** in while statement. **[2]**
3. What do you mean by **keyword**? **[2]**
4. What is meant by a finite loop? Give an example. **[2]**
5. State the difference between **equals** & **compareTo**. **[2]**

**Question 2**

1. Name the following **[4]**
	* 1. A package name which have **Math** class in it.
		2. A function that returns index of first occurrence of a specified character.
		3. A function to extract a part of string.
		4. OOPs principal that implement data hiding.
2. What do you mean by Wrapper class? **[2]**
3. Which of these are valid integers constant? **[4]**

 -400 3,000 045 2.00 +50 090 X12 0XAB

**Question 3**

1. Distinguish between ‘char’ and ‘String’. **[2]**
	* + - 1. Which of these are valid real constant. **[4]**

 -2.15 2,200.25 2E2 5.12 2E 3.10F 1.2E2.1 4.1 x 102

* + - * 1. What do you mean by **nested if** explain with syntax. **[2]**
				2. Find the value of z in the following program segment. **[2]**

 int y = 12, z;

z = y<<2 (ii) z = y>>1

**(e)** if String x = “Computer”, y = “Applications”; **[4]**

 What do the following functions return for?

* 1. x.equalsIgnoreCase(y);
	2. y.indexOf(‘T’,3);
	3. x.length( ) + y.length( );
	4. y.substring(4,9);
1. Rewrite the following code using switch statement. **[4]**

 if ( x == 5)

 { y = y – 5;

 System.out.println(“Value of y = “ + y );

 }

 else if ( x == 10)

 { y = y – 10;

 System.out.println(“Value of y = ” + y );

 }

 else

 { y = y – 15;

 System.out.println(“Value of y = ” + y );

 }

1. Difference between entry & exit controlled loop. **[2]**

**SECTION-B (60 Marks)**

*Attempt any* ***four*** *questions from this section.*

**Question 4** **[15]**

The standard form of quadratic equation is given by: ax2 + bx + c = 0, where d = b2 – 4\*a\*c , is known as discriminate which determines the nature of the roots of the equation accordingly :

If d >= 0 Roots are real

If d < 0 Roots are imaginary

WAP in Java to determine the roots of a quadratic equation (if d > 0) taking a, b, c as input, otherwise roots are Imaginary.

Where roots are given by the formula: r1 = , r2 =

**Question 5** **[15]**

In an election, out of 1249 voter in a booth, only 861 voters used their franchise correctly. If five candidates are contesting, write a program in Java to find:

* + - * 1. The number of invalid and valid votes and
				2. The percentage of the valid votes received by each candidate.

**Question 6** **[15]**

Write a program to input a number and display sum of first and last digit only.

 **e.g. input** num = 3459 **output** sum = 3 + 9 = 12

 num = 568 **output**  sum = 5 + 8 = 13

**Question 7** **[15]**

 Write a program to display following series

 1 2 3 4 5 4 3 2 1

 1 2 3 4 4 3 2 1

 1 2 3 3 2 1

 1 2 2 1

 1 1

**Question 8** **[15]**

Write a program to input a no and check no is PalPrime no or not. (PalPrime is a no which Palindrome as well as Prime)

 **e.g.**  131

----------x---------x----------x---------