**TEST PAPER**

**Computer Knowledge (Programming)**

**Instructions**

1. You are NOT ALLOWED to open the exercise questions and solutions given.
2. You are ONLY ALLOWED to refer the teaching materials / tutorial notes that were given.
3. The first 4 questions are compulsory to answer and you should make attempts to solve them even if you are not sure of the answer.
4. Choose 1 out of 2 questions from question 5 & 6.
5. Choose 1 out of 2 questions from question 7 & 8.
6. You are required to score at least 50 Marks in order to pass this award.
7. You have 90 minutes to complete this test.

ANSWER ALL 4 COMPULSORY QUESTIONS

**Question 1: Mailing Address** (*Solved—9 Lines*) (5MARKS)

Create a program that displays your name and complete mailing address formatted in the manner that you would usually see it on the outside of an envelope. Your program does not need to read any input from the user.

**Question 2: Show Even Number** (*Solved—9 Lines*) (10MARKS)

Create a program to display the even numbers in the range of (1 to 50) by using WHILE LOOP. Your program does not need to read any input from the user.

**Question 3: Even or Odd?** (*Solved—13 Lines*) (10MARKS)

Write a program that reads an integer from the user. Then your program should display a message indicating whether the integer is even or odd.

**Question 4: Vowel or Consonant** (*Solved—16 Lines*) (15MARKS)

Create a program that reads a letter of the alphabet from the user. If the user enters **a, e, i, o** or **u** then your program should display a message indicating that the entered letter is a vowel. Otherwise your program should display a message indicating that the letter is a consonant.

CHOOSE 1 OUT OF THE FOLLOWING 2 QUESTIONS

**Question 5: Name that Shape** (*Solved—31 Lines*) (25MARKS)

Write a program that determines the name of a shape from its number of sides. Read the number of sides from the user and then report the appropriate name as part of a meaningful message. Your program should support shapes with anywhere from 3 up to (and including) 8 sides. If a number of sides outside of this range is entered then your program should display an appropriate error message.

**Question 6: Name that Triangle** (*Solved—20 Lines*) (25MARKS)

A triangle can be classified based on the lengths of its sides as equilateral, isosceles or scalene. All 3 sides of an equilateral triangle have the same length. An isosceles triangle has two sides that are the same length, and a third side that is a different length. If all of the sides have different lengths then the triangle is scalene. Write a program that reads the lengths of 3 sides of a triangle from the user. Display a message indicating the type of the triangle.

CHOOSE 1 OUT OF THE FOLLOWING 2 QUESTIONS

**Question 7: Admission Price** (*Solved—38 Lines*) (35MARKS)

A particular zoo determines the price of admission based on the age of the guest. Guests 6 years of age and less are admitted without charge. Children between 7 and 12 years of age cost $15.00. Seniors aged 65 years and over cost $20.00. Admission for all other guests (Adults) is $25.00. Create a program that begins by reading the ages of all of the guests in a group from the user, with one age entered on each line. The user will enter a blank line to indicate that there are no more guests in the group. Then your program should display the admission cost for the group with an appropriate message. The cost should be displayed using **two decimal places**.

**Question 8: Negatives, Zeros and Positives** (*Solved—38 Lines*) (35MARKS)

Create a program that reads integers from the user until a blank line is entered. Once all of the integers have been read your program should display all of the negative numbers, followed by all of the zeros, followed by all of the positive numbers. Within each group the numbers should be displayed in the same order that they were entered by the user. For example, if the user enters the values 3, -4, 1, 0, -1, 0, and -2 then your program should output the values -4, -1, -2, 0, 0, 3, and 1. Your program should display each value on its own line.