

Instructions to Candidates

- 1) Answer ALL questions.**
- 2) Time allocated for the examination is three (03) hours.
- 3) If a page or a part of this question paper is not printed, please inform the Supervisor immediately.
- 4) Write your index number in all pages of answer script.
- 5) Staple all answer sheets at the end of the examination.

1. Write short answers for the followings:

a. What are the differences between 'Low level languages' vs. 'High level languages'? Provide examples for each of the category.

(6 marks)

b. Why we need 'Language translators' in programming languages? Name three 'Language translators'?

(6 marks)

c. What are the differences between 'Syntax errors' vs. 'Logical errors'? Provide an example for each of the category.

(6 marks)

d. What is a 'Variable' and why we need 'Variable/s' in programming languages?

(4 marks)

2. Write the output of each of the following expression.

In the statements a, b and c are whole numbers and initial values of a is 7 and b is 4.

a.

```
c=++a + ++b;  
printf("%d",c);
```

b.

```
c=a-- - b;  
printf("%d",c);
```

c.

```
c= a-- * --b;  
printf("%d",c);
```

d.

```
c = ++a / b --;  
printf("%d",c);
```

(8 marks)

3. Answer the followings:

a. Write a single C statement for the following expressions;

1. Assign the value 10 in variable p

2. Assign the value 125.50 in variable q

3. Assign a character C in variable r

(3 marks)

b. What are the three types of 'Repetition/Iteration (Loops)' available in C Language? Write Syntax of each of the loop.

(6 marks)

c. Write a single scanf statement to input values for integer variables X and Y.

(2 marks)

d. What are 'Logical operators' and when we can use them in programming?

(5 marks)

e. Explain the general format and the use of a 'switch' conditional structure.

(4 marks)

4. Allow the user to input 20 integer values and display the total count of 'Positives', 'Negatives' and 'Zeros' in the entered number series.

(6 marks)

5.

a. In C language functions you can write 'Functions' in four different ways. Name each of the function types.

(4 marks)

b. Use '**Finding highest out of two numbers**' as an example and write four different functions to explain the behavior and use of four different function types. (Function and the main method)

(12 marks)

c. Create a function which accept three integers as parameters to a function and find and return the average value. In the main function, input 3 numbers and call the function and display the average value.

(6 marks)

d. Compare and contrast the differences between 'recursion' vs. 'iteration'. You can use a sample program to explain the answer.

(4 marks)

6.

a. Write a single C program to perform the following tasks;

1. Declare a 'Single dimensional array' to store 10 integer values

(2 marks)

2. Input values into the above array.

(3 marks)

3. Display the values of the above array

(2 marks)

4. Display the highest value of the above array

(3 marks)

b. Write a C program to declare a multi-dimensional array with the size of 3 x 4. Allow the user input numbers with fractions (decimal values) in to the array and display the values in the form of matrix.

(8 marks)

End of Paper