



UNIVERSITY OF MINES AND TECHNOLOGY, TARKWA
SECOND SEMESTER EXAMINATIONS, MAY 2018

COURSE NO: EL 378

COURSE NAME: PROGRAMMING IN LABVIEW

CLASS:

EL 3

TIME: 3 hrs

Name: _____ Index Number: _____

Carefully read each question and select the appropriate answer. Answer all questions in this section in the answer booklet.

Section A

1. The user of a virtual instrument primarily uses which part of the virtual instrument?
 - a. Front panel
 - b. Functions palette
 - c. Block diagram
 - d. Controls palette
2. If you wanted to add a virtual on–off switch to a virtual instrument, the switches would be found on which palette?
 - a. Front panel
 - b. Functions palette
 - c. Block diagram
 - d. Controls palette
3. If you wanted to add a virtual on–off switch to a virtual instrument, where would the control be placed?
 - a. Front panel
 - b. Functions palette
 - c. Block diagram
 - d. Controls palette
4. A floating point number data type is represented by line colour.....
 - a. Orange
 - b. Green
 - c. Blue
 - d. Pink
5. A String data type is represented by line colour

 - a. Orange
 - b. Green
 - c. Blue
 - d. Pink

6. A Boolean data type is represented by line colour.....
 - a. Orange
 - b. Green
 - c. Blue
 - d. Pink

7. An integer data type is represented by line colour
 - a. Orange
 - b. Green
 - c. Blue
 - d. Pink
8.makes a loop execute until a condition is true.
 - a. Stop if True
 - b. Continue if True
 - c. Conditional Terminal
 - d. None of the above
9.makes a loop execute until condition is false.
 - a. Stop if True
 - b. Continue if True
 - c. Conditional Terminal
 - d. None of the above
10. In a While loop, the input is the.....terminal
 - a. Iteration
 - b. Conditional
 - c. Tunnel
 - d. Count
11. In a While loop, the output is the terminal
 - a. Iteration
 - b. Conditional
 - c. Tunnel
 - d. Count
12. In a For loop the input is theterminal
 - a. Iteration
 - b. Conditional
 - c. Tunnel
 - d. Count

Questions 13-16

Use the diagram to answer questions 13 to 16.

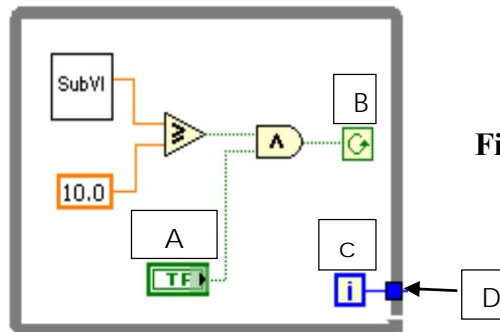


Figure 1

13. What loop is shown the figure 1?
 - a. For Loop
 - b. While Loop
 - c. Cluster
 - d. Repetition

14. From Figure 1, What data type is A?
- a. String
 - b. Boolean
 - c. Alphanumeric
 - d. Integer
15. From Figure 1, what is the meaning of the terminal labelled B?
- a. Refresh
 - b. Stop if True
 - c. Continue if True
 - d. Iteration terminal
16. From figure 1, what is the name of the terminal labelled C?
- a. Input terminal
 - b. Stop if True
 - c. Continue if True
 - d. Iteration terminal
17. The point labelled D in figure 1 is the ?
- a. Input terminal
 - b. Tunnel
 - c. Continue if True
 - d. Iteration terminal

Questions 18-20

Use figure 2 to answer questions 18 – 20.

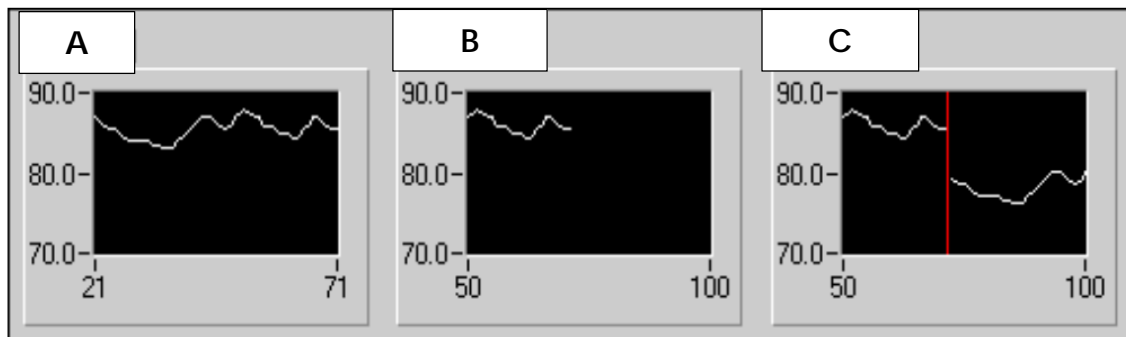


Figure 2

18. The chart labelled A is a.....
- a. Sweep Chart
 - b. Scope Chart
 - c. Strip Chart
 - d. Line Chart
19. The chart labelled B is a
- a. Sweep Chart
 - b. Scope Chart
 - c. Strip Chart
 - d. Line Chart
20. The chart labelled C is a
- a. Sweep Chart
 - b. Scope Chart
 - c. Strip Chart
 - d. Line Chart

Section B

Answer True/ False for each question. Answer all questions in the answer booklet

1. In an icon, the number represents the number of subVIs created. **True/ False**
2. LabVIEW has three main palettes. **True/ False**
3. Lines connecting arrays are thicker than lines connecting scalar variables. **True/ False**
4. The tunnel on loops pass information into and out of loops. **True/ False**
5. Shift registers cannot be used for both While and For loops. **True/ False**
6. Arrays uses offset to determine positions in the array. **True/ False**
7. Clusters are group of elements of the same type. **True/ False**
8. All numeric functions are polymorphic. **True/ False**
9. Cluster elements are numbered by index. **True/ False**
10. Waveforms graphs and charts plot data acquired at a constant rate. **True/ False**
11. XY graphs display data at a constant rate. **True/ False**
12. Select, formula nodes and case structures are used in decision making in LabVIEW. **True/ False**
13. Strings are only displayable ASCII characters. **True/ False**
14. High level File I/O functions are easy to edit. **True/ False**
15. Format into File function cannot append data to a file or overwrite a file. **True/ False**
16. Counter Gate specifies which part of the source signal to change the current count value. **True/ False**
17. A loop having three stacked shift registers can access three previous iteration data. **True/ False**
18. Stacking of shift registers can be done on both sides of the loop. **True/ False**
19. Array consists of elements, dimensions and indexes. **True/ False**
20. Feedback node are used for decision making. **True/ False**

Section C (20 marks)

Answer all questions in this section

1. Differentiate between

- i. While loop and For loop
- ii. Case structure and a Formula Node
- iii. Data flow programming and structured programming
- iv. Single-stepping and highlight execution

(8 marks)

2. List five considerations to note when selecting an instrument to connect to the LabVIEW.

(5 marks)

3. State the function of the probe.

(1 mark)

4. For the string inputs determine the output of the following functions

Input 1: LabVIEW is my favourite course

Input 2: It is interesting

Determine the output of the following functions

- i. Concatenate Strings
- ii. String subset of input 1 with offset of 8 and length of 2
- iii. Match pattern of input 1 with regular expression of W. write the outputs
 - a. Before substring
 - b. Match substring
 - c. After substring
 - d. Offset past match

(6 marks)