114

RAJARATA UNIVERSITY OF SRI LANKA
FACULTY OF APPLIED SCIENCES

B.Sc. (General) Degree in Applied Sciences
Third Year – Semester I Examination – Oct/ Nov 2016

PHY3214–GRAPHICAL PROGRAMMING

Time: Two (02) hours

- Answer **All** Questions.
- Save each question as describe in respective questions on the **H:** drive.

1. During an experiment the temperature and the humidity of a room is measured continuously. Assume that the temperature and humidity fluctuate between 300 K and 305K and 50% and 52% respectively during the experiment. Using constant generators in LabView generate temperature and humidity as describe above. Save the program as Q3.
   a. Plot the temperature and the humidity as a function of time in two different waveform charts.
   b. Calculate the average and the standard deviation of above data.
   c. Plot the humidity vs. temperature variation in an XY graph.

(30 Marks)

2. Design a grade calculator using LabView with following data and save as **Q1**.

Marks	Grade
75<M<100	A
65<M<74	B
55<M<64	C
45<M<54	D
35<M<44	E
00<M<34	F

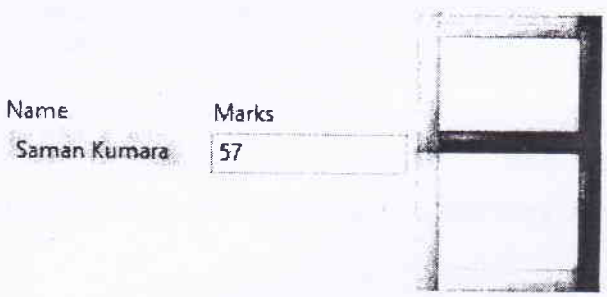
   a. Prompt user to enter his/her Name and Marks.
   b. Display the grade on the Front Panel next to his/her Name. (Ex. Saman Kumara – A)
   c. Make a sub.vi with two outputs (Name/Grade) and save it as **Q1sub**.

(30 Marks)

3. Design a **seven segment display** that can display English letters from A to F. Save the program as **Q2**. (Use square **LED** displays in the control pallet to create the seven segment display.)

a. Copy and paste the **Q1sub.SubVi** from the first question on to the **Q2** program and connect the output of the grade calculator to the input of the seven segment display. Save this as **Q2ab**.

b. The grade should be displayed on the seven segment display next to the name and the marks.



(40 Marks)

END.