VALUE ADDED COURSES

VA105   REAL TIME APPLICATIONS DEVELOPMENT USING LabVIEW   30HOURS

UNIT 1: INTRODUCTION TO LABVIEW   (6)
Block Diagram and Front Panel - Controls and Indicators - Basic Arithmetic and Logical Operations - Data Types –Numeric, Boolean and String - Array and Matrix. Iterative computational methods using   If – else, Switch Case, For Loops, While Loops - Timing loop

UNIT 2: STRUCTURES AND FILE I/O OPERATIONS   (6)
Create and configure Case structures – Sequence structures – Event structures – Formula node - Create a cluster - Read and write clusters -   clusters with charts and graphs - X-Y Charts - Sub plot - Create file and folder paths - Write data to text file - Write multi-channel data to text file - Analyze data in a text file

UNIT 3: SUBVI AND INTERFACING WITH NI myDAQ   (6)
Create an icon - Configure the connector pane - Document a subVI - Calling a subVI- Overview of NI myDAQ hardware, connecting analog and digital signals – Programming with the NI myDAQ (eg., Street light on/off control, Measurement of acceleration)

UNIT 4: INTERFACING WITH NI ELVIS KIT   (6)
Overview of NI ELVIS hardware – Overview of NI ELVIS software -NI ELVISmx Instrument Launcher- working with NI multisim- Programming with the NI ELVIS (eg., Building voltage divider circuit, Measurement of current in electronic circuits)

UNIT 5: INTERFACING WITH NI myRIO   (6)
Overview of NI myRIO hardware, Interfacing with IoT and embedded systems - Control of rover vehicle using myRIO.

At the end of the course, the learner will be able to:

OUTCOMES:

CO1: Develop a customized user interface prototype for initial usability testing.
CO3: Comprehend the features of hardware used for data acquisition.
CO3: Build the real time control systems for industrial process.
CO4: Create communication with the field instruments by data acquisition.
CO5: Select the most appropriate hardware to implement the real time projects.