C.U.SHAH UNIVERSITY

FACULTY OF: - Technology & Engineering
DEPARTMENT OF: -Instrumentation & Control Engineering
SEMESTER: - VI
CODE: -   4TE06VIN1
NAME – Virtual Instrumentation

Teaching & Evaluation Scheme

Subject Code	Subject Name	Teaching Hours/Week				Credits	Evaluation Scheme/Semester							
							Theory				Practical			
		Th	Tu	Pr	Total		Sessional Exam		University Exam		Internal		University	Total Marks
							Marks	Hrs	Marks	Hrs	Pr/Viva	TW	Pr	
4TE06VIN1	Virtual Instrumentation	0	0	2	2	1	--	--	--	--	--	50	50	**100**

Objectives:

1. To introduce the students about Virtual Instrumentation.
2. To make the students familiar with simulation.
3. To make student aware about how MMI works.

Pre-requisite:
 Virtual Instrumentation using LabVIEW.

Course Outlines

Sr. No.	Course Contents	No. of Hours
1.	Introduction to LabVIEW software and its features.	4
2.	Block diagram and Front panel tools and its introduction.	4
3.	Perform simple programs using arithmetic tools.	2
4.	Realize simple logic circuits and developing a commercial front panel	2
5.	Introduction to Control design and Simulation tool-box	2
6.	Simulation of 1st order TF and its response for standard signals	2
7.	Simulation and realization of P, PI and PID controller.	2
8.	Simulation of Level and Temperature control loops.	4
9.	Hardware Interfacing: Serial and LAN connections.	2
10.	Report Generation using LabVIEW	4

Learning Outcomes:

1. Concept of Virtual Instrumentation.
2. Simulation of single control loops using LabVIEW.
3. Hardware interfacing and Report Generation using LabVIEW.
4. Low level Commercial programs.

Books Recommended

1. Virtual Instrumentation Using LabVIEW by Jovitha Jeroeme.