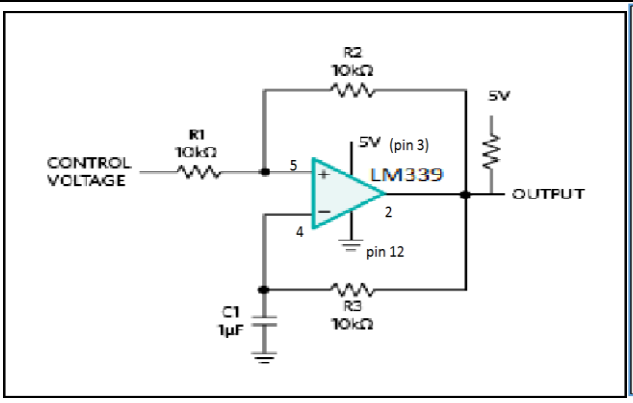
Department of Instrumentation and Control

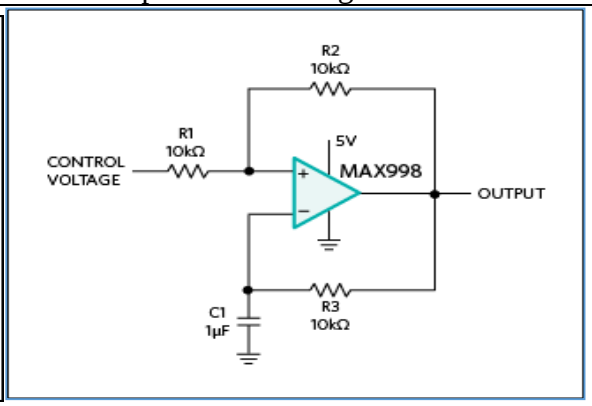
Innovative Teaching Method

Class:	**SE Instrumentation and Control Engg.**
Name of Method:	**Learning By Demo**

Learning Objective:

1. To demonstrate the use of alternative methods to implement existing circuit.





Outcomes: On completion students were able to
Demonstrate the LM339 comparator as pulse generator instead of MAX 998 IC (original circuit shown on https://www.maximintegrated.com/en/design/technical-documents/app-notes/5/5718.html).

The link of the video of the demonstration is available to department and teacher.(Photo at the last page.)

Impact of Innovative Method: Students see how existing circuit can be alternatively implemented; and how to use resources in optimum way.

Rubrics used:

Skills/Criterion/Category	Scale: 3 (Strongly achieved) Scale 2: Moderate Scale 1: Weakly achieved / Poorly achieved			Average Score
Whether you were present for Demonstration of Pulse Generator given on 8/2/2020? (Ethics)	Yes	No		
Which part was impressive for you as per the teacher demonstration of pulse	Changing the origianl circuit from theory-document and using LM339 and observing practical demo (3)	There is nothing new (1)		

generator?(PO3:design and development of solution to complex problem and Po1:use of engineering science):				
Did the control voltage 1,2 and 3 VDC changed pulse width? (PO4:Conduct Investigations of Complex Problems and data interpretation)	Yes. Pulse width was about 8ms, 9 ms and 13 ms approximately. (3)	No (1)		
Which resources you observed in the demonstration?(PO5 :Modern Tool usage: Create, select, and apply appropriate techniques, resources..)	Bread-board implementation,CRO and LM339 Comparator usage (3)	LCD projector(1)	None of above/these (1)	
How many of you seen demonstration at a time? (PO8:Ethics: Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.)	We all students in one group(1)	Group of 4 students at a time(3)	Group of 8 students at a time(1)	
Your feelings of learning by demonstration	Satisfied by demonstration(3)	Dis-satisfied(1)		
Any suggestions (Optional)				

Timestamp	Email Address	Whether you were present for Demonstration of Pulse Generator given on 8/2/2020? (Ethics)	Which part was impressive for you as per the teacher demonstration of pulse generator ?(PO3:design and development of solution to complex problem and Po1:use of engineering science)	Did you observe the pull-up resistor of 2.2 kohms connected at output of LM339 Comparator ? (PO2: Problem analysis)	Did the control voltage 1,2 and 3 VDC changed pulse width? (PO4:Conduct Investigations of Complex Problems and data interpretation)	Which resources you observed in the demonstration?(PO5:Modern Tool usage: Create, select, and apply appropriate techniques, resources..)	How many of you seen demonstration at a time? (PO8: Ethics : Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.)	Your feelings of learning by demonstration	Average Score
2/8/2020 16:39	nirmitbhange@gmail.com	Yes	3	3	3	3	3	3	3
2/8/2020 16:42	harshal.chaudhari7004@gmail.com	Yes	3	3	3	3	3	3	3
2/8/2020 17:42	priyankasonawane2001@gmail.com	Yes	3	3	3	3	3	3	3
2/10/2020 12:49	wajemeenal@gmail.com	Yes	3	3	3	3	3	3	3
2/14/2020 9:38	patilapoorva3799@gmail.com	Yes	3	3	3	3	1	3	2.67
2/17/2020 21:07	landeshivani04@gmail.com	Yes	3	3	3	3	3	3	3
Studnnets who did not respond	Piyush Chaudhari	Yes	3	3	3	3	3	3	3
	Rushikesh Suryawanshi	Yes	3	3	3	3	3	3	3

to online feedback forms ; a print was given to them later	Vishal Deore	Yes	3	3	3	3	3	3	3
	Chetan Patil	Yes	3	3	3	3	3	3	3
	Nikita Sapnar	Yes	3	3	3	3	3	3	3
	Shivani Musale	Yes	3	3	3	3	3	3	3
	Rutuja Bharambe	Yes	3	3	3	3	3	3	3
	Pranav Patil	Yes	3	3	3	3	3	3	3
	Halnor Yogesh	Yes	3	3	3	3	3	3	3
	Varada Joshi	Yes	3	3	3	3	3	3	3
	Nitesh Gupta	Yes	3	3	3	3	3	3	3
	Tejaswini Jadhav	Yes	3	3	3	3	3	3	3
	Pallavi Kadam	Yes	3	3	3	3	3	3	3

Concerned Faculty: Dr A R Kulkarni (kulkarni.abhijit@kbtcoe.org)