



MARATHA VIDYA PRASARAK SAMAJ'S

Karmaveer Adv. Baburao Ganpatrao Thakare
College of Engineering, Nashik



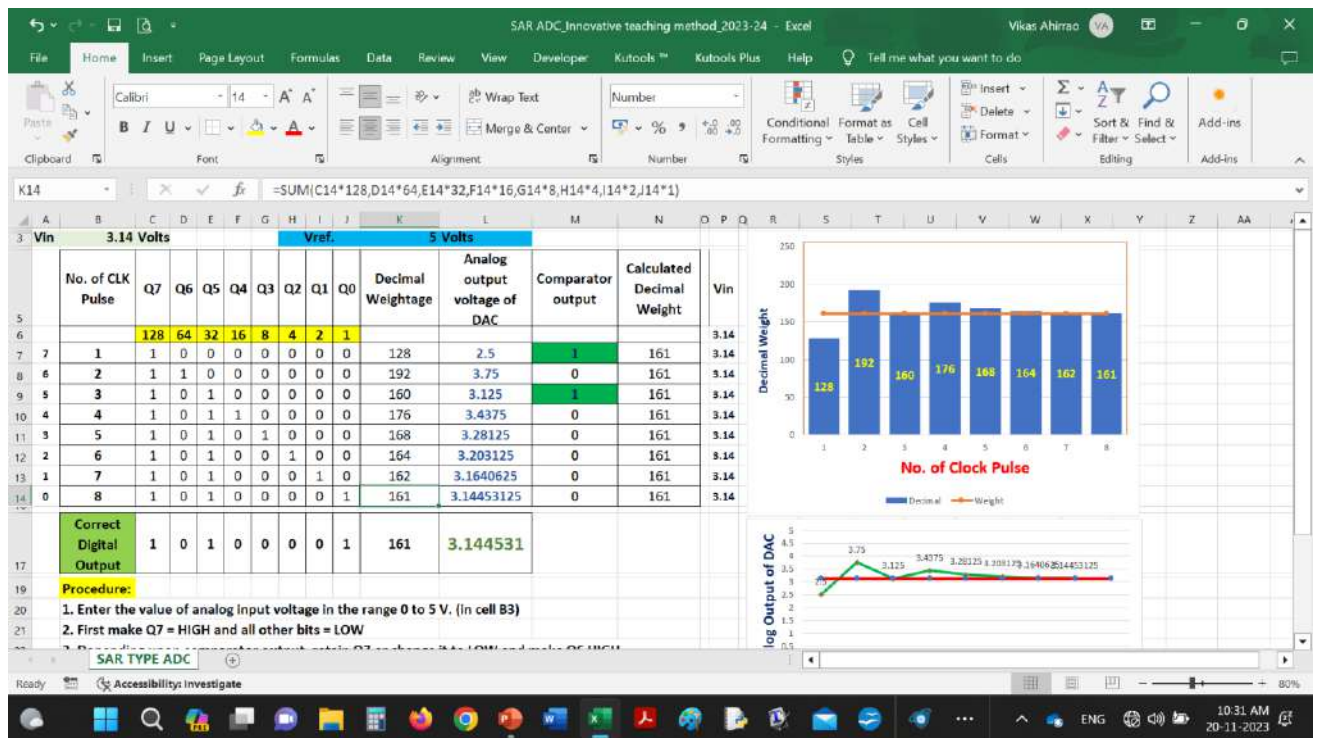
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Department of Instrumentation and Control

Innovative Teaching Method

Class:	S.E.
Name of Method:	Working principle of SAR TYPE ADC in Microsoft Excel (Experiential Learning)
Subject:	Electrical Measurements and Instrumentation
Name of Staff	Mr. V. A. Ahirrao
Date and Time:	20/11/2023
No of students:	13/43
Learning Objective: To learn step by step working of Successive Approximation Register type of ADC in Microsoft Excel.	
Outcome: On completion students will have understand the working of Successive Approximation Register type of ADC.	
Description: Students usually finds it difficult to understand working of Successive approximation type of ADC hence the same is being demonstrated in Microsoft excel and charts are prepared based on the step by processing of bits starting from MSB to LSB, output voltage variation of DAC and thereby the operation. This may prove to be helpful for students to make use of this by assuming various analog input voltages, reference voltages and verifying step by step working and observe simultaneously changes in excel charts.	
Impact of Innovative Method: Students may use the shared excel workbook for practicing the SAR ADC working simulation. Also, they will understand the use and importance of Excel.	
POs and PSOs: PO1, PO5, PO9, PSO1	

Screenshot of Innovative Method:



Mr. V. A. Ahirrao
Subject In-charge