Quiz#134

Consider the following statements for the N-bit R-2R ladder type DAC

1. **It is based on dual slope integration**
2. **It requires resistors of large spread in values**
3. **It requires roughly 2N resistors**
4. **It requires roughly N number of resistors**

Which of these statements is/are correct?

A) 1 only

B) 3 Only

C) 2 and 4

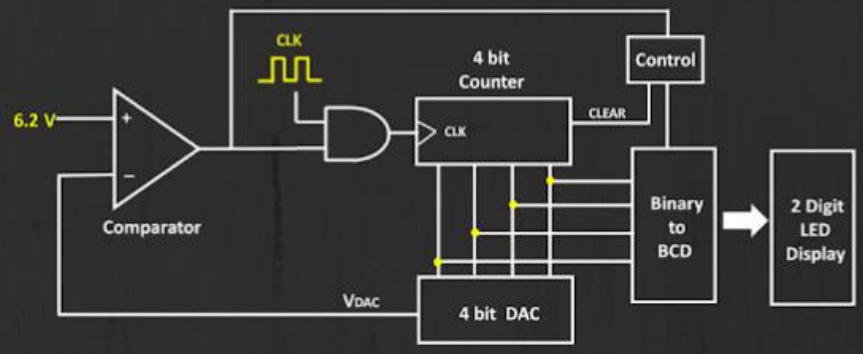
D) 1 and 3

Answer: https://youtu.be/QOYbS4cT75g

Quiz#135

In the following circuit, the comparator output is logic '1' if V+ > V- and '0' other wise.

The D/A conversion is done as per the relation $VDAC = \sum_{N=0}^{N=3} 2^{(N-1)} B_i$ **volts. Where, B_3 (MSB), B_2,B_1, B_0 (LSB) are the counter outputs. And the counter starts from the clear state. Find the stable reading of the LED display and the magnitude of error between Vin and V_{DAC}.**



A) 6 and 0.2 V

B) 13 and 0.3 V

C) 7 and 0.5 V

D) 12 and 0.2 V

Answer: https://youtu.be/QOYbS4cT75g

Quiz#136

A 12-bit counter type ADC is operated at 100 kHz frequency. For the uniform sampling, find out the maximum input signal frequency which can be converted by the ADC.

A) 120 Hz

C) 244 Hz

B) 12 Hz

D) 24 Hz

Answer: https://youtu.be/QOYbS4cT75g

Quiz#146

Match the list- 1 (N-bit ADCs) with the list-2 (Characteristics) and select the correct answer using the code given below the list:

List -1	List -2
A) Flash Type ADC	1) Integrating Type
B) Successive Approximation ADC	2) Fast Conversion
C) Counter Type ADC	3) Maximum Conversion Clock Periods = N Bits
D) Dual Slope ADC	4) Uses a DAC in its feedback path

Answer: https://youtu.be/P9wwZCL_bHU

Quiz#223

A linear ramp ADC uses a 10 bit counting register and a 15 kHz clock frequency. The register output is 1111111111 when the input voltage is 100 mV. The required ramp rate-of-change and the ADC conversion time are nearly

A) 1.5 V/S and 70 ms

B) 1.5 V/S and 90 ms

C) 2.5 V/S and 70 ms

D) 2.5 V/S and 90 ms

Answer: https://youtu.be/F8kt-ldkEyw

Quiz#181

Find the output voltage of 5-bit ladder type DAC which has a digital input of 11010. Assume '0' = 0V and '1' = 10 V.

A) 26V

B) 16.3 V

C) 10.3 V

D) 8.1 V

Answer: https://youtu.be/Yo8QxF2slek

Quiz#200

Consider the following statements for the Analog to Digital Converters

1)The flash Type ADCs are considered as the fastest

2)In the Successive Approximation Type ADCs, the conversion time depends on the magnitude of the analog voltage

3)The counter type ADCs work with fixed conversion time

4)The Dual Slope ADCs are considered as the slowest

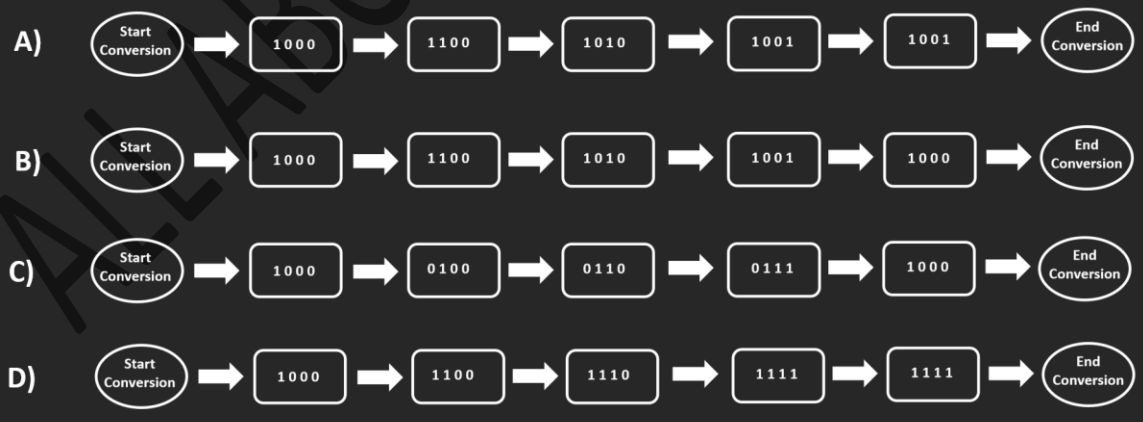
Which of the above statements are true ?

A) 2 and 3 only
B) 2 and 4 only
C) 1 and 3 only
D) 1 and 4 only

Answer: https://youtu.be/ICr20qDC8IM

Quiz#178

A 4 bit successive approximation type ADC has a full scale output voltage of 15 V. The sequence of states the SAR will traverse, for the conversion of an input of 8.15 V is



Answer: https://youtu.be/84sLENOxS44