Unit 13 - Op-amps in Conversion Process

Course outline

Introduction

Introduction to Op-Amps

Basics of Op-Amp Practical Applications

Applications on Positive Feedback Operational Amplifiers

Applications on Positive Feedback Operational Amplifiers

Experiments Design and Development of Temperature Controlled Circuit using Op-Amp on DA OPTOMAP and Proportional and Integral Controllers

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Op-amp Practical Applications

Op-amps in Conversion Process

- Digital to Analog Conversion Circuitry and Design (e.g. 4-20mA DAC)
- DAC Design using Development Board - Introduction
- Understanding DAC IRC

Quiz - Week 11 Assessment

Assignment week 11 - Solution

Other Applications of Op-amps

Week 11 Assessment

The due date for submitting this assignment has passed. As per our records you have not submitted this assignment.

1. Reset the statements below

   Statement 1: True and Statement 2: False
   Statement 3: False and Statement 4: True
   Statement 5: False and Statement 6: True

   Birth statements are true

   a) No, the answer is incorrect.
   b) Yes, the answer is correct.

   Accepted Answer: Both statements are false

   2. The accuracy of A/D conversion is generally

   a) ±1LSB
   b) ±0.5LSB
   c) ±0.125LSB
   d) None of the above

   Accepted Answer: ±0.5LSB

   3. How many input channels are present in a 14 bit DAC?

   a) 1
   b) 10
   c) 20
   d) 256

   Accepted Answer: 256

   4. Find the resolution of a 16 bit ADC for an input range of 5V

   a) 1.9V
   b) 11.1V
   c) 22.2V
   d) 11.1mV

   Accepted Answer: 1.9V

   5. Only two values of resistors are required for which of the following types of DACs?

   a) Digital Weighted DAC
   b) Integrated Nand DAC
   c) R-Ladder Type DAC
   d) None of the above

   Accepted Answer: R-Ladder Type DAC

   6. A 4 bit BCD DAC has a reference voltage of 5 volts. What is the analog output for the input code 1011?

   a) 5V
   b) 4.5V
   c) 4V
   d) 0V

   Accepted Answer: 4V

   7. Which of the following is a drawback of R-Ladder type DAC?

   a) Lesser word length only can be used
   b) Higher value of resistances are required
   c) Non-linearity affects center in due to power dissipation
   d) None of the above are drawbacks

   Accepted Answer: None of the above

   8. Among the following which are errors associated with DACs?

   a) Non-linearity error
   b) Non-zero DC offset
   c) Non-zero AC offset
   d) None of the above

   Accepted Answer: Non-linearity error

   9. Which of the following are errors associated with DACs?

   a) Non-linearity error
   b) Non-zero DC offset
   c) Non-zero AC offset
   d) All of the above

   Accepted Answer: All of the above

   10. Need to read the statements below

   Statement 1: True and Statement 2: False
   Statement 3: False and Statement 4: True
   Statement 5: True and Statement 6: False

   Birth statements are true

   a) No, the answer is incorrect.
   b) Yes, the answer is correct.

   Accepted Answer: Both statements are true

Due on 2019-10-16, 23:59 IST.