

Seat No. \_\_\_\_

King Mongkut's University of Technology Thonburi  
Final Examination of the 2nd/2010 Semester

Course : CPE 454(2) Selected Topic in CPE IV

(Noise Reduction Technique in computer)

Date : Wednesday 2nd March 2011

Time : 1.00 p.m. - 4.00 p.m.

For : CPE 3-4 (A-D)

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- Instruction:
1. closed-Book Examination
  2. A calculator is allowed.
  3. A Sc.-Formula ruler is allowed.
  4. there are 5 problems in 7 pages.
  5. Do all problems for 30% keeping.
  6. Each problem has 10 marks.
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Student's Name : \_\_\_\_\_ (capital Letter)

Student's ID : \_\_\_\_\_

Problem 1	___	(10 marks)
Problem 2	___	(10 marks)
Problem 3	___	(10 marks)
Problem 4	___	(10 marks)
Problem 5	___	(10 marks)
Total	==	(50 marks)
keep	==	(30%)

Assoc. Prof. Boonruk CHIPPOP  
Designer

. [1] Explain the following words :

- Equivalent Noise Bandwidth

- Thermal Noise

- Shot Noise

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- Contact Noise

- Popcorn Noise

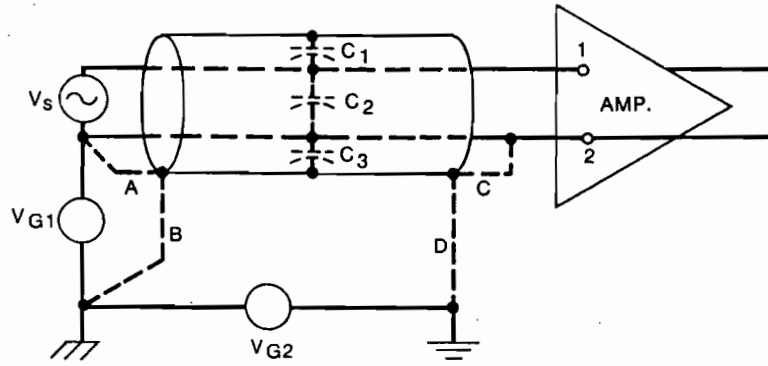
[2] Draw the frequency range of all types of capacitor as you know. Page 4

[3] Show that balancing can reduce noise in circuit.

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[4] One electronic system: composes of analog, mixed-signal and computer boards which are operated under frequency range 10 Hz to 50 Hz. Show how to ground this system.

[5] In the figure below, where is the best shield connection? why? Explain. Page 7



Ammaiah