Name: KEY Id#

ISE 307, Term 153

ENGINEERING ECONOMIC ANALYSIS

Quiz# 1

Date: Wednesday, July 20, 2016

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# **Q1.** List the Fundamental Principles in Engineering Economics.

1. An earlier dollar is worth more than a later dollar.
2. All that counts is the difference among alternatives.
3. Marginal revenue must exceed marginal cost.
4. Additional risk is not taken without additional return.

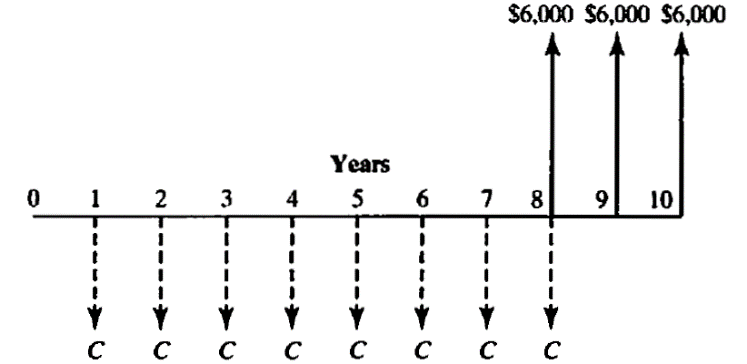
**Q2.** Compute the value of P for the accompanying cash flow diagram. Assume i=6% per year.

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P = A (P/A, I, N) + G (P/G, i, N) = 200\*4.9173 + 100\*11.4594

= 983.46 + 1145.94 = $2129.4

# **Q3.** From the following cash flow diagram, find the value of C that will establish economic equivalence between the deposit series and the withdrawal series at an interest rate of 8% compounded annually.



C (F/A, 8%, 8) = 6000 (P/A, 8%, 2) + 6000

C\*10.6366 = 6000\*1.7833 + 6000

C\*10.6366 = 16699.8

C = 16699.8/10.6366 = $1570.03

Another solution:

𝑃8 = 6000 + 6000(1.08)−1 + 6000(1.08)−2 = $16699.59

𝑃8 = 𝐹 → 𝐶 = 𝐴 = (𝐴⁄ , 𝑖, 𝑁) = 16699.59(𝐴⁄𝐹 , 8%, 8) = 16699.59(0.0940) = $1569.76