

Name

ID No

PRINCE OF SONGKLA UNIVERSITY
FACULTY OF ENGINEERING

Mid-term examination : semester 1

Academic Year : 2011

Date : August 6,2011

Time : 13.30 – 16.30

Subject : 225-346 Engineering Economy

Room : A400 A401 S104

Robot

Instruction

1. Attempt all questions.
2. Write answers in this examination paper.
3. Total examination papers are pages.
4. The points are as follows ;

Question No	1	2	3	4	5	Total
Full points scored	20	10	10	10	10	70
Scored						

ทูลจรตในการสอบ โทษขันต่ำ คอ ปรบตกลในรายวิชาที่ทูลจรต
และพัทการเรยน 1 ภาคการศึกษา

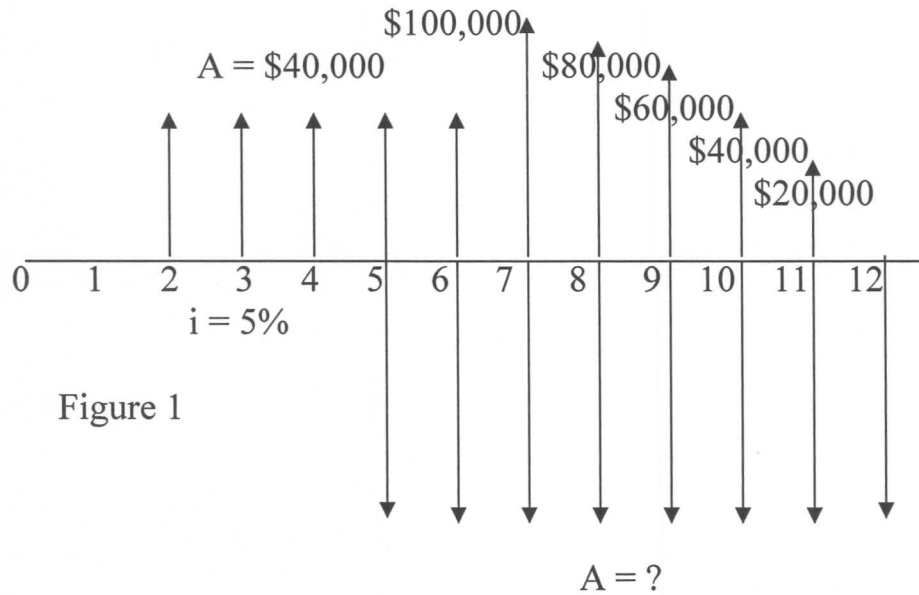
Boonrueing Manasurakarn

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1. Find the value of the unknown quantity in the accompanying cash-flow diagram, figure 1, to establish equivalence of cash flow inflows and outflows. (20 points)

Note : the end year 0 – 5 using only arithmetic gradient formula.



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2. A glass plant receives an order to produce 500 glasses. By allocated method, only this project the fixed costs is 20,000 baht, the variable cost is 15 baht per glass and the selling price of glass is 50 baht per glass. How do you set up the policy of this order? (10 points)

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3. A new machine is purchase for \$1,200,000 and is estimated to have a life of 8 years. The estimated salvage value of the machine is \$200,000 at the end of 8 years, $x = 2$. Assume an interest rate of 6.5%. Determined (only answer the value on the blanks) :

3.1 by straight line method, the book value at the end of sixth year.

..... (2 points)

3.2 by the sum-of-the-years' digits method, depreciation during the third year.

..... (2 points)

3.3 by declining balance method, cumulative depreciation through year 7.

..... (2 points)

3.4 by sinking fund method, the book value at the end of fifth year.

..... (2 points)

3.5 by declining balance switching to straight line method at the end of fourth year.

..... (2 points)

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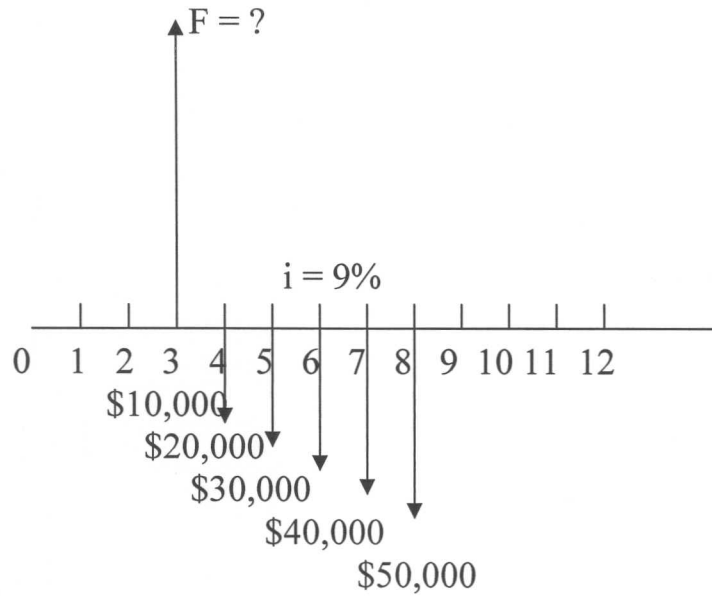
4. An investment of \$10,000 can be made in a fully depreciable (no salvage value) project that will produce a uniform annual revenue of \$4,838 for 5 years. From this revenue, \$2,000 per year will have to be paid for operation and maintenance costs and \$200 per year for property taxes and insurance. The company is willing to accept any project which MAAR = 10%, before income taxes, on all invested capital. Show whether this is a desirable investment using the internal rate of return method. (10 points)

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5. Find the formula and the value of the unknown quantity in the below accompanying cash-flow diagram, figure 1, to establish equivalence of cash flow inflows and outflows.

5.1



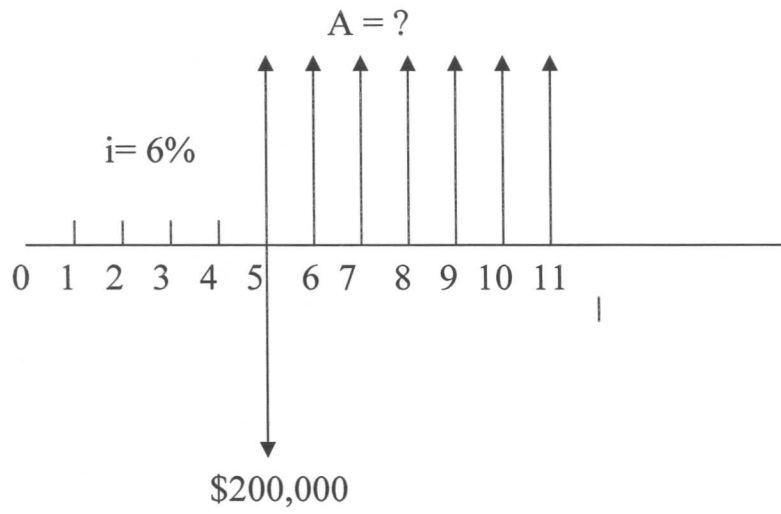
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5.2



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