Name: **Id#**

ISE 307, Term 153
ENGINEERING ECONOMIC ANALYSIS

Quiz# 5

Date: Sunday, August 28, 2016

Q1. Peabody Corporation has the following base-case estimates for its new small engine assembly project:

- Price per unit= $450 increasing at a rate of 10%
- Variable costs = $200 per unit increasing at a rate of 8%
- Fixed costs = $1 million increasing by 100,000 each year
- Demand = 12,000 units per year decreasing at a 5% rate
- Capital investment = $7 million at year 0
- Product life = 5 years
- Salvage value = $2,000,000
- Depreciation method: Seven-year MACRS
- Tax rate= 35%
- MARR = l5%

a) Calculation the depreciation for each year over the product life, the book value at the end of year 5 and the Tax Gains or Losses.

b) Develop the project's cash flows over its project life.

c) Determine the net present worth (NPW) of the project at the company's MARR of 15%. Is this project acceptable?

MACRS Depreciation Schedule with Half Year Convention for 7-Year MACRS property

1	2	3	4	5	6	7	8
14.29	**24.49**	**17.49**	**12.49**	**8.93**	**8.92**	**8.93**	**4.46**

Income Statement						
	0	1	2	3	4	5
Revenues						
Unit Price						
Demand(Units)						
Sales Revenue						
Expenses						
Unit Variable Cost						
Variable Cost						
Fixed Cost						
Depreciation						
Taxable Income						
Income Taxes (35%)						
Net Income						
Cash Flow Statement						
Operating Activities						
Net Income						
Depreciation						
Investment Activities						
Investment						
Salvage						
Gains Tax						
Net Cash Flow						
PW(15%)						