

Name: \_\_\_\_\_

You are taking this exam under the College of Engineering Honor Code as a graduate engineer. After completing the exam, please write and sign "*I have neither given nor received aid on this exam, nor have I concealed any violation.*"

1. (20%) Identify the following, as they pertain to this course:

breakeven point

consistency

liability

owner's equity

premium time

prepaid service

project overhead

salvage

scheduled overtime

taxes payable

2. (30%) How much do you estimate it will cost Far East Electric (FAE) to build a 6 MT capacity plant in Rangoon in 2005?

FAE built a 4 MT capacity plant in Singapore in 1990 at a generator cost of \$12M and total cost of \$120M, which they have found is typical of the ratio of generator cost to total cost. FAE also found the cost capacity exponent of generator costs = 0.75. The Singapore plant cost index, an input index, was 180 in 1990, it was 240 in 1995, it is estimated that it will be 300 in 2005. The Rangoon index was 320 in 1995.

The overall productivity factor for Singapore is 1.20 versus Rangoon, indicating the effective productivity of labor and materials to build in Singapore is 18% higher than in Rangoon. Bad site conditions in Rangoon cause an additional cost increase of 15%, which results in a ground conditions factor = 1.15. In general, productivity has gone up since 1990, which provides a 15 year productivity factor of 1.10, for both Rangoon and Singapore. (Note: All numbers are fictitious.)

2. (50%) As is typical of many well run construction companies, Manila Construction counts wages paid and materials and subcontract bills received as costs, and billings to owners are counted as revenues, and these account balances at the end of the period are shown on the sheet below. As of the end of the period, Manila did additional counts and calculations, for which the figures below are not yet adjusted: End of period contract wages payable = **30**; on-site material = **9**; and subcontract work performed but not yet billed to Manila = **33**. Accurate calculation of percentage of completion and contract revenues showed actual period contract revenue = **762**. The warehouse had **5** less inventory than accounted for. Prepaid expenses used during the period (and not yet counted in G&A expense below) = **7**. Period depreciation = **62**.

Complete the worksheet below to reflect actual end of period financial statements. Income tax rate = **30%**.

	Unadjusted Trial Balance		Adjustments		Adjusted Trial Balance		Income Statement		Retained Income		Balance Sheet	
	Dr	Cr	Dr	Cr	Dr	Cr	Dr	Cr	Dr	Cr	Dr	Cr
Cash	94											
Accounts Receivable	205											
Contract Costs	578											
Unbilled Revenue												
Prepaid Expense	27											
Inventory	63											
Capital Assets	413											
Accum Deprec		254										
Accounts Payable		156										
Accrued Taxes		57										
Excess Billings												
Loss on Current Work												
Notes Payable												
Contract Revenues		783										
Retained Income		197										
Dividends Paid	29											
G & A Expenses	83											
Other Income		94										
Income Tax Expense	49											
Net Income												
Retained Income												
	1541	1541										

