



# ISRA UNIVERSITY

Islamabad Campus

Department of Electrical Engineering

Program: B.E. (Electrical)

Semester – Spring 2016

HS-321 Engineering Economics & Management

Quiz – 4

Marks: 10

Handout Date: 01/06/2016

Question # 1:

|                                  | 2006      |
|----------------------------------|-----------|
| Net Sales                        | 2,479,131 |
| Cost of goods sold               | 1,758,980 |
| Selling, general & admin expense | 405,376   |
| De pre ciation expense           | 19,371    |
| Earnings before interest & tax   | 295,404   |
| Net interest expense             | 16,560    |
| Earnings before tax              | 278,844   |
| Income tax expense               | 87,523    |
| Earnings after tax               | 191,321   |
| Dividends                        | 10,000    |

|                     | 2006      |                                   | 2006      |
|---------------------|-----------|-----------------------------------|-----------|
| Net fixed assets    | 518,000   | Owners equity                     | 2,336,000 |
| Cash                | 50,000    | Long term debt                    | 650,000   |
| Accounts receivable | 2,816,000 | Short term debt                   | 680,000   |
| Inventories         | 2,394,000 | Accounts payable                  | 1,950,000 |
| Prepaid expenses    | 42000     | Accrued expenses                  | 204,000   |
| Total assets        | 5,820,000 | Total liabilities & owners equity | 5,820,000 |

Calculate the following

- Gross Profit Margin, Operating Profit Margin, Net Profit Margin and Retained Earnings
- Financial Structure, Capital Structure and Asset Structure
- Inventory Holding Period, Collection Period, Payment Period and Operating cycle

Solution

$$\text{Gross Profit Margin} = \text{Gross profit} / \text{Sales revenue} \times 100\%$$

$$\text{Operating Profit Margin} = \text{EBIT} / \text{Sales revenue} \times 100\%$$

$$\text{Net Profit Margin} = \text{EAT} / \text{Sales revenue} \times 100\%$$

$$\text{Retained Earnings} = \text{EAT} - \text{Dividends}$$

$$\text{Financial Structure} = \text{Invested capital} / \text{Owners Equity}$$

**Capital Structure = Owners Equity / Long term liabilities**

**Asset Structure = Fixed assets / Current assets**

**Inventory Holding Period = Inventories / COS x 365**

**Collection Period = Accounts receivable / Sales revenue x 365**

**Payment Period = Accounts payable / COS x 365**

**Operating Cycle =  
Inventory Holding Period + Collection Period - Payment Period**