A- Multiple Choice Questions (50 %)

1. **Which of the following correctly defines the relationship between profit margin and asset turnover?**
   a. ROA using DuPont model is calculated by subtracting asset turnover from profit margin
   b. ROA using the DuPont model is calculated by multiplying profit margin times asset turnover
   c. There is no relationship between profit margin and asset turnover
   d. ROA using the DuPont model is calculated by dividing profit margin asset turnover

2. **A company is planning to purchase a furnace that would cost $20,000 and save the company $4,000 pre-tax annually. It has an estimated useful life of seven years with no salvage value. The company would depreciate the furnace using the straight-line method. The company has an effective income tax rate of 30%. Assuming no change in working capital, the payback period for the furnace is**
   a. 4.12 years.
   b. 5.00 years.
   c. 5.47 years.
   d. 7.14 years.

3. **The dollar value of a company's ending inventory on its balance sheet was $500,000, $600,000, and $400,000 for Years 1, 2, and 3, respectively. In preparing a horizontal analysis with Year 1 as the base year, the percentage change shown for Year 3 would be**
   a. (25%).
   b. (20%).
   c. 20%.
   d. 80%.

4. **A company has $100,000 of sales, $60,000 of variable costs, and $30,000 of fixed costs. The degree of operating leverage is**
   a. 0.1.
   b. 0.3.
   c. 0.4.
   d. 4.0.

5. **A company has a portfolio of four products and incurs $175,000 of allocated fixed costs per year. Financial data for the four products are shown below.**

	Product A	Product B	Product C	Product D
Units sold	25,000	18,750	3,750	2,500
Revenue	$750,000	$600,000	$150,000	$100,000
Unit variable costs	24	24	37	41

Which product should the company discontinue?

a. Product A.
b. Product B.
c. Product C.
d. Product D.

6. A company produces and sells 2,000 units of finished goods and incurs $60,000 of fixed costs annually. The contribution margin is $60 per unit, and variable cost is $40 per unit. If the company expects sales quantities to increase by 10% next year, the operating profit will be

a. $60,000.
b. $72,000.
c. $120,000.
d. $132,000.

7. A financial analyst has gathered the following select financial data on three companies.

	Company A	Company B	Company C
Total current assets	€500,000	€1,250,000	€870,000
Total current liabilities	€445,000	€970,000	€620,000

On the basis of the information provided above, the financial analyst is able to conclude that

a. Company A and Company B both have a higher liquidity than Company C.
b. Company B has the highest liquidity.
c. Company B and Company C both have a higher liquidity than Company A.
d. Company A has the highest liquidity.

8. A company had $6 million in credit sales last fiscal year. The company's beginning accounts receivable balance was $1 million and its ending receivable balance was $1.25 million on its year-end financial statements. If the industry average period for the collection of accounts receivables is 90 days, the company's accounts receivable collection period is less than the industry average by approximately

a. 22 days.
b. 52 days.
c. 60 days.
d. 68 days.

9. Select information from a company's year-end balance sheet is shown below.

Balance Sheet
As of December 31, Year 1

Cash	$ 50,000
Accounts receivable	120,000
Inventory	75,000
Property, plant and equipment, net	250,000
Total assets	$495,000
Accounts payable	$ 35,000
Long-term debt	100,000
Total liabilities	135,000
Common stock	300,000
Retained earnings	60,000
Total equity	360,000
Total liabilities and equity	$495,000

Based on the above information, a common-size balance sheet for the company will show

a. long-term debt at 74%.
b. property, plant and equipment, net at 69%.
c. retained earnings at 17%.
d. accounts receivables at 24%.

10. Carnes Industries uses the Economic Order Quantity (EOQ) model as part of its inventory control program. An increase in which one of the following variables would increase the EOQ?

a. Carrying cost rate.
b. Purchase price per unit.
c. Ordering costs.
d. Safety inventory level.

11. A review of the inventories of Cedar Grove Company shows the following cost data for entertainment centers.

Invoice price	$400 per unit
Freight and insurance on shipment	20 per unit
Insurance on inventory	15 per unit
Unloading	140 per order
Cost of placing orders	10 per order
Cost of capital	25%

What are the total carrying costs of inventory for an entertainment center?

a. $105.
b. $115.
c. $120.
d. $420.

12. A firm is given payment terms of 3/10, net 90 and forgoes the discount paying on the net due date. Using a 360-day year and ignoring the effects of compounding, what is the effective annual interest rate cost?

a. 12.0%.
b. 12.4%.
c. 13.5%.
d. 13.9%.

13. Using the CAPM formula, calculate the required rate of return on a stock, assuming:
R_f = 7% (the risk-free rate on a US Treasury security)
β = 0.75 (the beta coefficient for the company)
K_m = 13% (the estimated return on the market portfolio)

a. 13%
b. 11.5%
c. 9.5%
d. 9%

14. If the demand for a good is elastic, then a(n)

a. decrease in price will increase total revenue.
b. increase in price will increase total revenue.
c. decrease in price will decrease total revenue.
d. increase in price will have no effect on total revenue.

15. Calvin Inc. is considering the purchase of a new state-of-art machine to replace its hand-operated machine. Calvin's effective tax rate is 40%, and its cost of capital is 12%. Data regarding the existing and new machines are presented below.

	Existing Machine	New Machine
Original cost	$50,000	$90,000
Installation cost	0	4,000
Freight and insurance	0	6,000
Expected end salvage value	0	0
Depreciation method	straight-line	straight-line
Expected useful life	10 years	5 years

The existing machine has been in service for seven years and could be sold currently for $25,000. If the new machine is purchased Calvin expects to realize a $30,000 as annual reduction before-tax in labor costs.

If the new machine is purchased, what is the net amount of the initial cash outflow at Time 0 for net present value calculation purposes?

a. $65,000.
b. $75,000.
c. $79,000.
d. $100,000.

16. Regis Company, which is subject to an effective income tax rate of 30%, is evaluating a proposed capital project. Relevant information for the proposed project is summarized below.

Initial investment	$500,000
Annual operating cash inflows for the first three years.	
Year 1	185,000
Year 2	175,000
Year 3	152,000

Depreciation will be calculated under the straight-line method using an 8-year estimated service life and a terminal value of $50,000. In determining the estimated total after-tax cash flow in Year 2 of the project, Regis should consider the after-tax operating cash

a. inflow only.
b. inflow plus annual depreciation expense.
c. inflow plus annual depreciation tax shield.
d. inflow plus the net impact of the annual depreciation expense and depreciation tax shield.

17. Thomas Company's capital structure consists of 30% long-term debt, 25% preferred stock, and 45% common equity. The cost of capital for each component is shown below.

Long-term debt	8%
Preferred stock	11%
Common equity	15%

If Thomas pays taxes at the rate of 40%, what is the company's after-tax weighted average cost of capital?

a. 7.14%.
b. 9.84%.
c. 10.94%.
d. 11.90%.

18. The enterprise risk management model looks at:

a. Financial risk
b. Operating risk
c. Compliance risk
d. All of the above

19. The risk identification framework considers
   a. Only external threats
   b. Both external and internal threats
   c. Only internal threats
   d. Risk priorities

20. In a management decision process, the cost measurement of the benefits sacrificed due to selecting an alternative use of resources is most often referred to as a(n)
   a. relevant cost.
   b. sunk cost.
   c. opportunity cost.
   d. differential cost.

B- Answer the below Exercises

Exercise # 1 (20 %)

The following information is given for the Vendor Company:

Fixed costs	$30,000 per period
Variable cost	$5/unit
Selling Price	$8/unit

Required: (show your calculations on your answer sheet)

a. Calculate the Break-Even sales in units and in dollars.
b. Calculate the margin of safety at the 12,000 unit level.
c. Find the net income when sales are $120,000
d. Compute the sales in units required to produce a net income of $10,000
e. Compute the sales in units required to produce a net income of 10% of sales
f. Find the break-even in units if variable costs are increased by $1 Per unit and if total fixed costs are decreased by $5,000.

Exercise #2 (14%)

Consider an investment which has the following cash flows:

Year	Cash Flows
0	$(31,000)
1	10,000
2	20,000
3	10,000
4	10,000
5	5,000

Given: PV Factor at 14%

Year 0	Year 1	Year 2	Year 3	Year 4	Year 5
1.000	0.877	0.769	0.675	0.592	0.519

(show your calculations on your answer sheet)

1. Compute the following:
   a. Payback period
   b. Net present value (NPV) at 14 percent cost of capital
2. Based on (b) in part 1, make a decision.

Exercise #3 (16 %)

Star Corporation is the leading retailer and roaster of specialty coffee in Lebanon, selling freshly brewed coffee, pastries, and coffee beans. Data from the company's financial statements are as follows:

Star Corporation Comparative Balance Sheet (dollars in millions)	This Year	Last Year
Assets		
Current assets:		
Cash	$ 281	$ 313
Marketable securities	$ 157	$ 141
Accounts receivable	$ 288	$ 224
Inventories	$ 692	$ 636
Other current assets	$ 278	$ 216
Total current assets	$1,696	$1,530
Property and equipment, net	$2,890	$2,288
Other assets	$ 758	$ 611
Total assets	$5,344	$4,429

Liabilities and Stockholders' Equity (dollars in millions)	This Year	Last Year
Current liabilities:		
Accounts payable	$ 391	$ 341
Short-term bank loans	$ 710	$ 700
Accrued payables	$ 757	$ 662
Other current liabilities	$ 298	$ 233
Total current liabilities	$2,156	$1,936
Long term liabilities	$ 904	$ 265
Total liabilities	$3,060	$2,201
Stockholders' equity:		
Preferred stock	$ 0	$ 0
Common stock and additional paid-in capital	$ 40	$ 40
Retained earning	$2,244	$2,188
Total stockholder equity	$2,284	$2,228
Total liabilities and stockholders' equity	$5,344	$4,429

Star Corporation Income Statement (dollars in millions)	This Year
Sales	$9,411
Cost of goods sold	$3,999
Gross margin	$5,412
Selling and administrative expenses:	
Store operating expenses	$3,216
Other operating expenses	$ 294
Depreciation and amortization	$ 467
General and administrative expenses	$ 489
Total selling and administrative expenses	$4,466
Net operating income	$ 946
Plus interest and other income	$ 110
Interest expenses	$ 0
Net income before taxes	$1,056
Income taxes (about 36%)	$ 384
Net income	$ 672

Required: (show your calculations on your answer sheet)

1. Compute the return on total assets (ROA).
2. Compute the return on equity (ROE)
3. Compute the current ratio.
4. Compute the acid-test ratio.
5. Compute the inventory turnover.
6. Compute the average sale period (days' sales in inventory)
7. Compute the debt-to-equity ratio.

_______________________________ ***GOOD WORK!***