I. MULTIPLE CHOICE (40%). Choose the one best answer.

1. If breakeven point is 100 units, each unit sells for $30, and fixed costs are $1,000, then on a graph:
   (A) the total cost line will be zero at zero units sold
   (B) the revenue line will start at $1,000
   (C) the total revenue line and the total cost line will intersect at $3,000 of revenue
   (D) the slope of variable cost line is $30

2. An accelerated need for refined cost systems is due to:
   (A) global monopoly
   (B) a shift toward increased direct costs
   (C) rising prices
   (D) intense competition

3. The breakeven point using absorption costing depends on all of the following factors, *EXCEPT*:
   (A) the denominator level chosen for the fixed manufacturing overhead rate
   (B) the budgeted level of production
   (C) fulfillment of current production quotas
   (D) the number of units sold during the current period

4. An example of a performance measure with a long-run time horizon is:
   (A) direct materials efficiency variances
   (B) number of new patents developed
   (C) overhead spending variances
   (D) all of these answers are correct

5. Which of the following does NOT affect the direct/indirect classification of a cost?
   (A) the level of budgeted profit for the next year
   (B) the materiality of the cost in question
   (C) the design of operation
   (D) available technology to gather cost information

6. Cox Glass Company has a variable demand. Historically, its demand has ranged from 10 to 20 windows per day with an average of 15. Tom Cox works eight hours a day, five days a week. Each order is one window and each window takes 26 minutes. What is the cycle time for an order?
   (A) 56.4 minutes per window
   (B) 82.3 minutes per window
   (C) 26 minutes per window
   (D) 520 minutes per day

7. Mary-Queen Company sells optical equipment. King Company manufactures special glass lenses. Mary-Queen Company orders 5,200 lenses per year, 100 per week, at $20 per lens. King Company covers all shipping costs. Mary-Queen Company earns 30% on its cash investments. The purchase-order lead time is 2.5 weeks. Mary-Queen Company sells 125 lenses per week. The following data are available:

Relevant ordering costs per purchase order	$21.25
Relevant insurance, materials handling, breakage, and so on, per year	$2.50

   What is the economic order quantity for Mary-Queen Company?
   (A) 210 lenses (B) 161 lenses (C) 297 lenses (D) 325 lenses

8. Wild Water Company drills small commercial water wells. The company is in the process of analyzing the purchase of a new drill. Information on the proposal is provided below.

Initial investment:		*Operations (per year for four years):*	
Assets	$160,000	Cash receipts	$160,000
Working capital	$32,000	Cash expenditures	$88,000
Disinvestment:		*Discount rate:*	20%
Salvage value of drill	$16,000		

   What is the net present value of the investment? Assume there is no recovery of working capital.
   (A) $42,362 (B) $186,336 (C) $(62,140) (D) $10,336

9. The benefit-received criteria for allocating joint costs indicate market-based measures are preferred because:
   (A) other measures are more difficult to calculate
   (B) revenues are usually the best indicator of the benefits received
   (C) physical measures such as volume are a clearer basis for allocating cost than other measures
   (D) none of these answers is correct

10. The Rest Chair Company manufactures a standard recliner. During February, the firm's Assembly Department started production of 75,000 chairs. During the month, the firm completed 85,000 chairs and transferred them to the Finishing Department. The firm ended the month with 10,000 chairs in ending inventory. All direct materials costs are added at the beginning of the production cycle. Weighted-average costing is used by Rest. What were the equivalent units for conversion costs for February if the beginning inventory was 70% complete as to conversion costs and the ending inventory was 40% complete as to conversion costs?
   (A) 89,000 (B) 75,000 (C) 95,000 (D) 85,000

11. When deciding whether to discontinue a segment of a business, relevant costs include all of the following *EXCEPT*:
   (A) cost of goods sold
   (B) fixed supervision costs that can be eliminated
   (C) variable marketing costs per unit of good sold
   (D) future administrative costs that will continue

12. Targeting pricing:
   (A) estimates are based on customers' perceived value of the product
   (B) relevant costs are all variable costs
   (C) is used for short-term pricing decisions
   (D) is one form of cost-based pricing

13. Successful implementation of a cost leadership strategy will result in:
   (A) large favorable price-recovery and productivity components
   (B) large favorable productivity and growth components
   (C) large favorable growth and price-recovery components
   (D) only a large favorable growth component

14. Tiger Enterprises are using the kaizen approach to budgeting for 2009. The budgeted income statement for January 2009 is as follows:

Sales (84,000 units)	$ 500,000
Less: Cost of goods sold	300,000
Gross margin	200,000
Operating expenses (includes $50,000 of fixed costs)	150,000
Operating income	$ 50,000

   Under the kaizen approach, cost of goods sold and variable operating expenses are budgeted to decline by 1% per month. What is budgeted gross margin for March 2009?
   (A) $196,020 (B) $198,000 (C) $205,970 (D) $204,020

15. Companies that would benefit from backflush costing include companies:
   (A) which have fast manufacturing lead time
   (B) whose inventories vary from period to period
   (C) which require audit trails
   (D) whose overhead cost allocations are reduced

The following information applies to questions 16 and 17:
Dakoil Corporation has two divisions, Refining and Production. The company's primary product is Power Oil. Each division's costs are provided below:

Production:	Variable costs per barrel of oil	$3
	Fixed costs per barrel of oil	$2
Refining:	Variable costs per barrel of oil	$10
	Fixed costs per barrel of oil	$12

The Refining Division has been operating at a capacity of 40,000 barrels a day and usually purchases 25,000 barrels of oil from the Production Division and 15,000 barrels from other suppliers at $20 per barrel.

16. What is the transfer price per barrel from the Production Division to the Refining Division, assuming the method used to place a value on each barrel of oil is 180% of variable costs?
(A) $5.40 (B) $9.00 (C) $18.00 (D) $23.40

17. Assume 200 barrels are transferred from the Production Division to the Refining Division for a transfer price of $6 per barrel. The Refining Division sells the 200 barrels at a price of $40 each to customers. What is the operating income of both divisions together?
(A) $2,400 (B) $2,600 (C) $3,600 (D) $6,800

18. To complete the first setup on a new machine took an employee 200 minutes. Using an 80% cumulative average-time learning curve indicates that the second setup on the new machine is expected to take:
(A) 160 minutes (B) 120 minutes (C) 80 minutes (D) 60 minutes

19. It is most difficult to estimate _____ because of the need to predict demand for the next few years.
(A) practical capacity (B) theoretical capacity
(C) master-budget capacity utilization (D) normal capacity utilization

20. Corporate-sustaining costs should be allocated to:
(A) motivate changes in customer behavior (B) evaluate distribution-channel managers
(C) determine selling price that will cover all costs (D) identify the most profitable customers

II. PROBLEMS

1. The management accountant of Rainbow Inc. would like to understand the cost behavior of electricity as measured against machine hours in one of its plants. Data collected over the most recent six months follow:

Month	Electricity cost	Machine hours
January	$1,100	4,500
February	1,110	4,700
March	1,050	4,100
April	1,200	5,000
May	1,060	4,000
June	1,120	4,600

Required: Using the method of least squares, estimate the cost function for electricity expense. Based upon the regression result, what is the predicted electricity expense for budgeted 4,300 machine hours in July? (12%)

2. Generally, companies follow one of two broad strategies: offering a quality product at a low price, or offering a unique product or service priced higher than the competition. Assume you are opening a small food outlet across the street from your campus. How might that business be operated under *each* of the two broad strategies? Consider the following specific operational areas: (1) target customers, (2) products offered, (3) product pricing, (4) location choice, (5) advertising content, and (6) advertising media. (20%)

3. The following cases are independent.
   (1) If scrap amounted to $8,000, common to all jobs, is returned to the storeroom and the time between the scrap being inventoried and its disposal is quite lengthy. Prepare a journal entry to record the scrap. (5%)
   (2) Springfield Sign Shop manufactures only specific orders. It uses a standard cost system. During one large order for the airport authority, an unusual number of signs were spoiled. The normal spoilage rate is 10% of units started. The point of first inspection is half way through the process, the second is three-fourths through the process, and the final inspection is at the end of the process. Other information about the job is as follows:

Signs started	3,000
Signs spoiled	450
Direct materials put into process at beginning	$60,000
Conversion costs for job	$120,000
Standard direct material costs per sign	$27
Standard conversion cost per sign	$54
Average current disposal cost per spoiled sign	$15
Average point of spoilage is the 3/4 completion point	

   Prepare necessary journal entries to record all spoilage. (8%)

4. CP3 Corporation produces a special line of basketball hoops. CP3 Corporation produces the hoops in batches. To manufacture a batch of the basketball hoops, CP3 must setup the machines and molds. Setup costs are batch-level costs because they are associated with batches rather than individual units of products. A separate Setup Department is responsible for setting up machines and molds for different styles of basketball hoops. Setup overhead costs consist of some costs that are variable and some costs that are fixed with respect to the number of setup hours. The following information pertains to March 2008.

	Static-budget amounts	**Actual amounts**
Basketball hoops produced and sold	30,000	28,000
Batch size (number of units per batch)	200	250
Setup hours per batch	5	4
Variable overhead cost per setup hour	$ 10	$ 9
Total fixed setup overhead cost	$22,500	$21,000

   Required:
   (1) Calculate the efficiency variance for variable setup overhead costs. (3%)
   (2) Calculate the spending variance for variable setup overhead costs. (3%)
   (3) Calculate the spending variance for fixed setup overhead costs. (3%)
   (4) Calculate the production-volume variance for fixed setup overhead costs. (3%)
   (5) Calculate the flexible-budget variance for fixed setup overhead costs. (3%)