一、Multiple Choice Question (@4%, Total 40%)

01) Hicks sells 8,000 units resulting in $100,000 of sales revenue, $35,000 of variable costs, and $45,000 of fixed costs. To achieve $150,000 in operating income, sales must total _____.
A) $440,000
B) $160,000
C) $130,000
D) $300,000

02) The following information pertains to the January operating budget for Feng Chia Corporation, a retailer:
Budgeted sales are $200,000 for January
Collections of sales are 50% in the month of sale and 50% the next month
Cost of goods sold averages 70% of sales
Merchandise purchases total $150,000 in January
Marketing costs are $3,000 each month
Distribution costs are $5,000 each month
Administrative costs are $20,000 each month
For January, the amount budgeted for the nonmanufacturing costs budget is _____.
A) $78,000
B) $38,000
C) $168,000
D) $18,000

03) Feng Chia Inc. planned to use $150 of material per unit but actually used $147 of material per unit, and planned to make 1,100 units but actually made 900 units. The flexible-budget amount for materials is _____.
A) $165,000
B) $135,000
C) $161,700
D) $132,300

04) Feng Chia Corporation manufactured 3,000 chairs during June. The following variable overhead data relates to June:

Budgeted variable overhead cost per unit	$ 12.00
Actual variable manufacturing overhead cost	$49,900
Flexible-budget amount for variable manufacturing overhead	$47,800
Variable manufacturing overhead efficiency variance	$720 unfavorable

What is the variable overhead spending variance?
A) $1,380 favorable
B) $2,820 favorable
C) $2,820 unfavorable
D) $1,380 unfavorable

5) Feng Chia Company has the following information for the current year:

Beginning fixed manufacturing overhead in inventory	$190,000
Fixed manufacturing overhead in production	750,000
Ending fixed manufacturing overhead in inventory	50,000

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Beginning variable manufacturing overhead in inventory $20,000
Variable manufacturing overhead in production   100,000
Ending variable manufacturing overhead in inventory   30,000

What is the difference between operating incomes under absorption costing and variable costing?
A) $10,000
B) $100,000
C) $80,000
D) $140,000

06) A liability claim is an example of _____.
A) prevention costs
B) appraisal costs
C) internal failure costs
D) external failure costs

07) Relevant total costs in the economic order quantity decision model equal relevant ordering costs
    plus relevant _____.
A) carrying costs
B) stockout costs
C) quality costs
D) purchasing costs

08) Net present value is calculated using the _____.
A) internal rate of return
B) discount rate
C) risk-free rate
D) predetermined overhead cost rate

09) The range over which two divisions will negotiate a transfer price is _____.
A) between the supplying division's variable cost and the market price of the product
B) between the supplying division's variable cost and its full cost of the product
C) it could be anywhere above the supplying division's full cost of the product
D) between the supplying division's full cost and 180% above its full cost

10) A company which favors the residual income approach wants managers to _____.
A) concentrate on maximizing an absolute amount of dollars
B) concentrate on maximizing a percentage return
C) maximize the investment turnover ratio
D) maximize return on sales

二、Feng Chia Corporation applies overhead based upon machine-hours. Budgeted factory overhead was $266,400 and budgeted machine-hours were 18,500. Actual factory overhead was $287,920 and actual machine-hours were 19,050. Before disposition of under/overapplied overhead, the cost of goods sold was $560,000 and ending inventories were as follows:

Direct materials	$ 60,000
Work in process	190,000
Finished goods	250,000
Total	$500,000

Required: (12%)
1. Determine the budgeted factory overhead rate per machine-hour.
2. Compute the over/underapplied overhead.
3. Prepare the journal entry to dispose of the variance using the write-off to cost of goods sold approach.
4. Prepare the journal entry to dispose of the variance using the proration approach.

三、Feng Chia Cookie Company manufactures and sells three flavors of cookies: Macaroon, Sugar, and Buttercream. The batch size for the cookies is limited to 1,000 cookies based on the size of the ovens and cookie molds owned by the company. Based on budgetary projections, the information listed below is available:

	Macaroon	Sugar	Buttercream
Projected sales in units	500,000	800,000	600,000

PER UNIT data:

	Macaroon	Sugar	Buttercream
Selling price	$0.80	$0.75	$0.60
Direct materials	$0.20	$0.15	$0.14
Direct labor	$0.04	$0.02	$0.02

Hours per 1000-unit batch:

	Macaroon	Sugar	Buttercream
Direct labor hours	2	1	1
Oven hours	1	1	1
Packaging hours	0.5	0.5	0.5

Total overhead costs and activity levels for the year are estimated as follows:

Activity	Overhead costs	Activity levels
Direct labor		2,400 hours
Oven	$210,000	1,400 oven hours
Packaging	$152,250	1,050 packaging hours
	$362,250	

Required: (18%)
1. Determine the activity-cost-driver rate for packaging costs.
2. Using the ABC system, for the sugar cookie:
   a. compute the estimated overhead costs per thousand cookies.
   b. compute the estimated operating profit per thousand cookies.

四、Tyglycka sells fabrics to a wide range of industrial and consumer users. One of the products it carries is denim cloth, used in the manufacture of jeans and carrying bags. The supplier for the denim cloth pays all incoming freight. No incoming inspection of the denim is necessary because the supplier has a track record of delivering high-quality merchandise. The purchasing officer of Tyglycka has collected the following information:

Annual demand for denim cloth	26,400 yards
Ordering cost per purchase order	$165
Carrying cost per year	20% of purchasse costs
Safety-stock requirements	None
Cost of denim cloth	$9 per yard

The purchasing lead time is 2 weeks. Tyglycka is open 250 days a year (50 weeks for 5 days a week).
Required: (15%)
1. Calculate the EOQ for denim cloth. **(5%)**
2. Calculate the number of orders that will be placed each year. **(5%)**
3. Calculate the reorder point for denim cloth. **(5%)**

五、The Telecomps Corporation makes wire harnesses for the aircraft industry only upon receiving firm orders from its customers. Telecomps has recently purchased a new machine to make two types of wire harnesses, one for Boeing airplanes (B7) and the other for Airbus Industries airplanes (A3). The annual capacity of the new machine is 6,000 hours. The following information is available for

next year:

Customer	Annual Average Number of Orders	Manufacturing Time Required	Selling Price per Order If Average Manufacturing Cycle Time per Order Is		Variable Cost per Order	Inventory Carrying Cost per Order per Hour
			Less Than 200 Hours	More Than 200 Hours		
B7	125	40 hours	$15,000	$14,400	$10,000	$0.50
A3	10	50 hours	13,500	12,960	9,000	0.45

Required: (15%)

1. Calculate the average manufacturing cycle times per order (a) if Telecomps manufactures only B7 and (b) if Telecomps manufactures both B7 and A3. **(10%)**

2. Even though A3 has a positive contribution margin, Telecomps's managers are evaluating whether Telecomps should (a) make and sell only B7 or (b) make and sell both B7 and A3. Which alternative will maximize Telecomps's operating income? Show your calculations. **(5%)**

4.