

國立臺北大學 106 學年度碩士班一般入學考試試題

系（所）組別：會計學系

科 目：成本與管理會計學

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1. Company A is examining a new project. Company A expects to sell 500 units per year at \$20 net cash flow a piece for the next 4 years from this project. These cash flows will be collected in the end of each year. The required rate of return is 10%, and the initial investment is \$35,000.

Required:

- (1) What is the NPV of the new project? (10%)
- (2) Now suppose that there are two possible sales levels: 750 units and 250 units. If 750 units are sold in the first year, sales in years 2 through 4 will be 750 units. If 250 units are sold in the first year, sales in years 2 through 4 will be 250 units. The two sales levels in year 1 is equally likely. Further assume that after the first year, the project can be abandoned and sold for \$25,000 in the beginning of year 2. What is the value of the option to abandon? (20%)
2. Silver Lake Cabinets is approached by Ms. Lee, a new customer, to fulfill a large one time only special order for a product similar to one offered to regular customers. The following per unit data apply for sales to regular customers:

Direct materials	\$ 100
Direct labor	125
Variable manufacturing overhead	60
Fixed manufacturing overhead	75
Total manufacturing costs	360
Markup (60%)	216
Targeted selling price	576

Silver Lake Cabinets has excess capacity. Ms. Lee wants the cabinets in cherry rather than oak, so direct material costs will increase by \$30 per unit.

Required:

- (1) For Silver Lake Cabinets, what is the minimum acceptable price for this order? (10%)
- (2) Other than price, what other items should Silver Lake Cabinets consider before accepting this order? (10%)
3. Taiwan Company manufactures a high-class vacuum cleaner. To increase market share, the top managers of the company think that they need to promote their marketing activities. For planning marketing activities for next year, actual data for 2016 was provided by the controller of Taiwan Company:

Unit produced	25,000
Units sold	20,000
Selling price	\$20
Variable costs per unit produced:	
Direct materials	\$2
Direct manufacturing labor	2
Manufacturing overhead	3
Nonmanufacturing overhead (including marketing, distribution, and customer service)	5
Fixed costs	
Manufacturing costs	\$25,000
Administrative	100,000

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Required:

- (1) Calculate the differences in breakeven point in units between variable costing and absorption costing. (10%)
 - (2) In 2017, the company will spend an additional \$25,000 on advertising while earning the same operating income as in 2016. Calculate the breakeven point in units according to absorption costing. Assume that selling price, units produced, and related costs are the same as in 2016. (5%)
4. The customer service department of the NTPU Company allocates indirect costs using traditional activity based costing (ABC). The department performs three activities: processing customer orders, handling customer inquiries, and performing credit checks. The department's total expenses amount to \$585,000 for its first fiscal quarter of 2016. NTPU has two kinds of customers: Individual and Enterprise. Ann, the controller of NTPU Company, is concerned that traditional ABC is too expensive to build and maintain. She considers implementing time-driven ABC (TDABC). Ann decides to collect the related data and explore whether TDABC is also valuable for understanding and managing costs. Ann calculates the cost per time unit based on practical capacity, assumed here at 80% of theoretical full capacity (812,500 minutes), for the department's first fiscal quarter of 2016. She determines that it takes 10 minutes to process an order, 30 minutes to handle an inquiry, and 40 minutes to perform a credit check. Ann reported the following data for the department's first fiscal quarter of 2016:

Activity	% of Time Spent	Activity Quantity	Cost Driver
Process orders	74%	48,000	Number of orders
Handle inquiries	7%	1,500	Number of inquiries
Perform credit checks	19%	3,000	Number of credit checks

Customer	Enterprise (Activity Quantity)	Individual (Activity Quantity)
Number of orders	40,000	8,000
Number of inquiries	500	1,000
Number of credit checks	500	2,500

Note: Individual customers' gross margin is \$259,000 and enterprise customers' gross margin is \$500,000 in 2016.

Required:

- (1) Use TDABC information to compute the operating income of Individual customers in 2016 (suppose the department's total expenses is the only customer-level costs). (10%)
 - (2) Calculate the cost of the unused capacity. (5%)
5. NTU Clothing Company, a clothing manufacturer, produces three types of T-shirt: A, B, and C. The company uses an operation-costing system. All products are processed using at least two out of three operations in order: cutting, sewing, and checking. Direct materials are added at the beginning of the process. The operations information, cost data, and production data for these three types of T-shirt, started and completed in March 2016, are as follows:

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Operations information

Types of T-shirt \ Operations	T-shirt A	T-shirt B	T-shirt C
Cutting	Use	Use	Use
Sewing	Use	Use	Do not use
Checking	Do not use	Use	Use

Direct materials costs

Types of T-shirt	Direct materials costs
T-shirt A	\$12,000
T-shirt B	8,000
T-shirt C	10,000

Conversation costs

Operations	Conversation costs allocated
Cutting	\$20,400
Sewing	22,400
Checking	12,012

Production data

	Cutting	Sewing	Checking
T-shirt A			
Started	10,000	6,000	
Completed and transferred out	6,000	5,000	
Work in process, ending inventory	4,000 (80%)	1,000 (50%)	
Spoilage	0	0	
T-shirt B			
Started	8,000	6,000	5,500
Completed and transferred out	6,000	5,500	5,000
Work in process, ending inventory	2,000 (60%)	500 (40%)	500 (60%)
Spoilage	0	0	0
T-shirt C			
Started	4,000		4,000
Completed and transferred out	4,000		3,800
Work in process, ending inventory	0		200 (70%)
Spoilage	0		0

Note: () denotes degree of completion of ending work in process.

Required:

- (1) Calculate the total cost of units completed for T-shirt A. (10%)
- (2) Calculate the total cost of units in ending work in process for T-shirt C. (10%)

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