

# 東吳大學 100 學年度碩士班研究生招生考試試題

第 1 頁，共 6 頁

系級	會計學系碩士班	考試時間	100 分鐘
科目	成本及管理會計學	本科總分	100 分

※ Round all of the related numbers to two decimal places if necessary.

**1. (10%) Multiple Choice:**

- (1) Costs incurred to reduce or eliminate pollution are commonly known as:
  - A. abatement costs.
  - B. hidden costs.
  - C. internal failure costs.
  - D. on-site remediation costs.
  - E. off-site remediation costs.
- (2) Assume that standard costing is adopted and machine hour is the cost driver for overhead. The difference between the actual variable overhead incurred and the applied variable overhead is the:
  - A. spending variance.
  - B. volume variance.
  - C. efficiency variance.
  - D. budget variance.
  - E. sum of the spending and efficiency variances.
- (3) All of the following are methods of costing by-products *except* the:
  - A. market value method.
  - B. recognition of net revenue method.
  - C. recognition of gross revenue method.
  - D. average unit cost method.
  - E. replacement cost method.
- (4) In a JIT system, velocity is inversely related to:
  - A. acceleration.
  - B. backflushing.
  - C. throughput time.
  - D. lean production.
  - E. zero inventory production.
- (5) A general calculation method for transfer prices that achieves goal congruence begins with the additional outlay cost per unit incurred because goods are transformed and then
  - A. adds the capital cost per unit to the organization because of the transfer.
  - B. subtracts the capital cost per unit to the organization because of the transfer.
  - C. adds the opportunity cost per unit to the organization because of the transfer.
  - D. subtracts the opportunity cost per unit to the organization because of the transfer.
  - E. adds the contribution margin per unit to the organization because of the transfer.

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- 2. (10%)** Giant Enterprises is a land developer and needs to decide which of two parcels of land to bid on for development. The developer assesses the chance of success on bids to be 60% for parcel A and 80% for parcel B. Development of either parcel will take two years, after which time parcel A is expected to generate a profit of \$250,000, and parcel B is expected to generate a profit of \$90,000. However, if the area in which parcel B is located can be rezoned, this parcel could generate a \$290,000 profit. Costs of \$10,000 would be incurred in preparing and presenting the case for rezoning to the review board. Giant Enterprises assesses the probability of a successful appeal for rezoning at 50%. An appeal for rezoning would not be undertaken unless parcel B were successfully acquired by bid.

*Required:*

Calculate the expected profits for each alternative that Giant Enterprises is considering. On which parcel should Giant Enterprises place a bid?

- 3. (10%)** East Company sells a number of products to many restaurants in the area. One product is a special meat cutter with a disposable blade. Blades are sold in a package of 12 at \$20 per package. It has been determined that the demand for the replacement blades is at a constant rate of 1,000 packages per month. The packages cost the company \$5 each from the manufacturer and require a three-day lead time from date of order to date of delivery. The ordering cost is \$1.20 per order, and the carrying cost percentage is 10% per year. The company uses the economic order quantity formula.

*Required:*

- (1) Compute the number of orders needed per year.
- (2) Compute the cost of ordering blades for the year.
- (3) Compute the cost of carrying blades for the year.
- (4) Determine the number of days until the next order should be placed, assuming that there is no safety stock and that the present inventory level is 400 packages. (360 days = 1 year.)

- 4. (12%)** Tampere Corporation began production of a new model at the beginning of this year. First quarter sales were 20,000 units and second quarter sales were 26,000 units at a unit price of \$10. Unit production costs each quarter were: direct materials, \$1; direct labor, \$2; and variable factory overhead, \$1.50. Fixed factory overhead was \$62,400 each quarter and, for absorption costing, is assigned to inventory based on actual units produced.

Each quarter, marketing and administrative expenses consisted of a \$15,000 fixed portion and a variable portion equal to 5% of sales. Units produced in the first and second quarters totaled 30,000 and 20,000, respectively. The fifo inventory costing method is used.

*Required:*

- (1) Compute the operating income for the second quarter under the absorption costing method.
- (2) Compute the operating income for the second quarter under the direct costing method.

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- 5. (12%)** West Company has used a straightforward cost-plus pricing system, marking its goods up approximately 25% of total cost. The company has been profitable for many years. However, it has recently lost considerable business to foreign competitors that have become very aggressive in the marketplace. These firms appear to be using target costing. An example of West's problem is typified by item 168, which has the following unit-cost characteristics:

Direct Materials .....	\$ 180
Direct Labor .....	450
Factory Overhead .....	300
Commercial Expenses .....	150

The going market price for an identical product of comparable quality is \$1,170, which is significantly below what West is charging.

*Required:*

- (1) What is West's current selling price of item 168?
  - (2) If West used target costing for item 168, by how much must costs change if the company desires to meet the market price and maintain its current rate of profit on sales?
- 6. (15%)** Taichung Company uses a process cost system with a fifo cost flow assumption to account for the production of plastic chairs, which are manufactured in two departments. Units of product are started in the Fabricating Department and then transferred to the Finishing Department, where they are completed. Units are inspected at the end of the production process in the Finishing Department. Good units are transferred to Finished Goods Inventory, and spoiled units are transferred to Spoiled Goods Inventory. Spoiled units are inventoried at their salvage value of \$12 each, and the unrecoverable cost of spoilage is charged to Factory Overhead Control. Data related to September operations in the Finishing Department are:

Units in beginning inventory (80% materials, 40% labor, 40% overhead) .....	1,200
Units received from Fabricating Department this period .....	6,000
Units transferred to the Finished Goods inventory this period .....	5,000
Units transferred to Spoiled Goods inventory this period .....	700
Units in ending inventory (100% materials, 60% labor, 60% overhead) .....	1,500

Costs charged to the department:	<u>Beginning Inventory</u>	<u>Added This Period</u>
Cost from preceding department .....	\$14,160	\$72,000
Materials .....	1,210	6,240
Labor .....	1,300	12,240
Factory overhead .....	3,250	30,600

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*Required:*

- (1) Calculate the cost transferred to Finished Goods inventory for September.
- (2) Calculate the spoilage charged to Factory Overhead Control.
- (3) Calculate the cost of ending Work in Process inventory for Finishing Department.

- 7. (15%)** Nagoya Company manufactures a variety of industrial valves and pipe fittings. Currently, the company is operating at about 65 percent capacity. Management has been approached by Fukuoka Industries Ltd. with an offer to buy 120,000 units of a pressure valve. Fukuoka Industries manufactures a valve that is almost identical to Nagoya's pressure valve; however, a fire in Fukuoka Industries' valve plant has shut down its manufacturing operations. Fukuoka needs the 120,000 valves over the next three months to meet commitments to its regular customers. Fukuoka is prepared to pay \$26.50 each for the valves. Nagoya's total product cost for the pressure valve is \$30, calculated as follows:

Direct materials .....	\$ 7.50
Direct labor .....	9.00
Manufacturing overhead .....	<u>13.50</u>
Total product cost .....	<u>\$30.00</u>

Manufacturing overhead is applied to production at the rate of \$27 per direct-labor hour. This overhead rate is made up of the following components.

Variable manufacturing overhead .....	\$ 9.00
Fixed manufacturing overhead (traceable) .....	12.00
Fixed manufacturing overhead (allocated) .....	<u>6.00</u>
Applied manufacturing overhead rate .....	<u>\$27.00</u>

Additional costs incurred in connection with sales of the pressure valve include sales commissions of 5 percent and freight expense of \$1.50 per unit. However, the company does not pay sales commissions on special orders that come directly to management. In determining selling prices, Nagoya adds a 40 percent markup to total product cost. This provides a \$42.00 suggested selling price for the pressure valve. The Marketing Department, however, has set the current selling price at \$39.50 in order to maintain market share. Production management believes that it can handle the Fukuoka Industries order without disrupting its scheduled production. The order would, however, require additional fixed factory overhead of \$20,000 per month in the form of supervision and clerical costs. If management accepts the order, 40,000 pressure valves will be manufactured and shipped to Fukuoka Industries each month for the next three months. Fukuoka's management has agreed to pay the shipping charges for the valves.

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*Required:*

- (1) Determine how many direct-labor hours would be required each month to fill the Fukuoka Industries order.
- (2) Prepare an analysis showing the impact of accepting the Fukuoka Industries order.
- (3) Calculate the minimum unit price that Nagoya Company's management could accept for the Fukuoka Industries order without reducing net income.

- 8. (16%)** World Sports is a wholesale distributor supplying a wide range of moderately priced sports equipment to large chain stores. About 60 percent of World Sports' products are purchased from other companies while the remainders of the products are manufactured by World Sports. The company has a Plastics Department that is currently manufacturing molded fishing tackle boxes. World Sports is able to manufacture and sell 8,000 tackle boxes annually, making full use of its direct-labor capacity at available work stations. The selling price and costs associated with World Sports tackle boxes are as follows:

Selling price per box .....	\$91.00	
Costs per box:		
Modeled plastic .....	\$13.00	
Hinges, latches, handle .....	9.00	
Direct labor (\$15 per hour) .....	18.75	
Manufacturing overhead .....	12.50	
Selling and administrative cost .....	<u>17.00</u>	<u>70.25</u>
Profit per box .....		<u>\$20.75</u>

Because World Sports' sales manager believes the firm could sell 12,000 tackle boxes if it had sufficient manufacturing capacity, the company has looked into the possibility of purchasing the tackle boxes for distribution. Maple Products, a steady supplier of quality product, would be able to provide up to 9,000 tackle boxes per year at a price of \$73 per box delivered to World Sports' facility.

World Sports' production manager, John, has come to the conclusion that the company could make better use of its Plastics Department by manufacturing skateboards. John has a market study that indicates an expanding market for skateboards and a need for additional suppliers. John believes that World Sports could expect to sell 17,500 skateboards annually at a price of \$50 per skateboard.

After his lunch with the company president, John worked out the following estimates with the assistant controller.

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Selling price per skateboard .....	\$50.00	
Coats per skateboard:		
Modeled plastic .....	\$10.50	
Wheels, hardware .....	7.00	
Direct labor (\$15 per hour) .....	7.50	
Manufacturing overhead .....	5.00	
Selling and administrative cost .....	<u>9.00</u>	<u>39.00</u>
Profit per skateboard .....		<u>\$11.00</u>

In the Plastics Department, World Sports uses direct-labor hours as the application base for manufacturing overhead. Included in the manufacturing overhead for the current year is \$50,000 of factory-wide, fixed manufacturing overhead that has been allocated the Plastics Department. For each unit of product that World Sports sells, regardless of whether the product has been purchased or is manufactured by World Spoils, there is an allocated \$6 fixed overhead cost per unit for distribution that is included in the selling and administrative cost for all products. Total selling and administrative costs for the purchased tackle boxes would be \$10 per unit.

*Required:* in order to maximize the company's profitability, prepare an analysis that will show which product or products World Sports Company should manufacture or purchase.

- (1) Calculate the contribution margin per direct-labor hour for tackle box and skateboard manufactured, respectively.
- (2) Determine which of World Sports' options makes the best use of its scarce resources. How many skateboards and tackle boxes should be manufactured? How many tackle boxes should be purchased?
- (3) Calculate the improvement in World Sports' total contribution margin if it adopts the optimal strategy rather than continuing with the status quo.