

考試科目	成本與管理會計學	系所別	會計研究所 會計組	考試時間	2 月 4 日(四)第三節
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第一題：選擇題 (12%)

1. ACC Company manufactures part BC101 used in several of its engine models. Monthly production costs for 1,090 units are as follows:

Direct materials	\$46,000
Direct labor	10,500
Variable overhead costs	32,500
Fixed overhead costs	<u>22,000</u>
Total costs	<u>\$111,000</u>

It is estimated that 6% of the fixed overhead costs assigned to BC101 will no longer be incurred if the company purchases BC101 from the outside supplier. ACC Company has the option of purchasing the part from an outside supplier at \$94.75 per unit. While the company accepts the offer from the outside supplier, what are the monthly avoidable costs (costs that will no longer be incurred) total?

- A) \$90,320 B) \$89,000 C) \$111,000 D) \$112,320

2. Jason Cleaners has been considering the purchase of an industrial dry-cleaning machine. The existing machine is operable for three more years and will have a zero disposal price. If the machine is disposed now, it may be sold for \$170,000. The new machine will cost \$360,000 and an additional cash investment in working capital of \$170,000 will be required. The new machine will reduce the average amount of time required to wash clothing and will decrease labor costs. The investment is expected to net \$130,000 in additional cash inflows during the first year of acquisition and \$290,000 each additional year of use. The new machine has a three-year life, and zero disposal value. These cash flows will generally occur throughout the year and are recognized at the end of each year. Income taxes are not considered in this problem. The working capital investment will not be recovered at the end of the asset's life.

Please answer the following questions. What is the net present value of the investment, assuming the required rate of return is 6%? Would the company want to purchase the new machine?

- A) \$264,290; yes B) \$243,489.592; yes C) \$(243,489.592); no D) \$(264,290); no

3. Materials used by SS Company in producing Division C's product are currently purchased from outside suppliers at a cost of \$10 per unit. However, the same materials are available from Division A. Division A has unused capacity and can produce the materials needed by Division C at a variable cost of \$8.50 per unit. A transfer price of \$9.50 per unit is negotiated and 30,000 units of material are transferred, with no reduction in Division A's current sales. How much would SS's total income from operations increase?

- A). \$45,000 B) \$120,000 C). \$60,000 D). \$150,000

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4. All of the following except one are examples of prevention costs

A). preventive maintenance B). operator training C). design engineering D). testing activities

第二題 (23%)

Sunbeam company purchases chairs from Sunnys, Inc., throughout the year. However, in anticipation of late summer and early fall purchases, Sunbeam ramp up inventories from May through August. Sunbeam is billed when chairs are ordered. Invoices are payable within 60 days. From past experience, Sunnys' accountant projects 20% of invoices will be paid in the month invoiced, 50% will be paid in the following month, and 30% of invoices will be paid two months after the month of invoice. The average selling price for per chair is \$450.

To meet demand, Sunnys increases production from April through July, because the chairs are produced a month prior to their projected sale. Direct materials are purchased in the month of production and are paid for during the following month (terms are payment in full within 30 days of the invoice date). During this period there is no production for inventory, and no materials are purchased for inventory.

Direct manufacturing labor and manufacturing overhead are paid monthly. Variable manufacturing overhead is incurred at the rate of \$7 per direct manufacturing labor-hour. Variable marketing costs are driven by the number of sales visits. However, there are no sales visits during the months studied. Sunnys, Inc., also incurs fixed manufacturing overhead costs of \$5,500 per month and fixed nonmanufacturing overhead costs of \$2,500 per month.

Projected Sales

May 80 units	August 100 units
June 120 units	September 60 units
July 200 units	October 40 units

Direct Materials and Direct Manufacturing Labor Utilization and Cost are listed in the following table:

	Units per chair	Price per Unit	Unit
Wood	5	\$30	board feet
Synthetic leather	6	5	yard
Direct manufacturing labor	5	25	hour

The beginning cash balance for July 1, 2020, is \$10,000. On October 1, 2019, Sunnys had a cash crunch and

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borrowed \$30,000 on a 6% one-year note with interest payable monthly. The note is due October 1, 2020. Using the information provided, you will need to determine whether Sunnys will be in a position to pay off this short-term debt on October 1, 2020.

Required:

1. Prepare a cash budget for Sunnys for the months of July through September 2020. (18%)
2. Suppose Sunnys is interested in maintaining a minimum cash balance of \$10,000. Will the company be able to maintain such a balance during all three months analyzed? Following the above demand and cash budget, what suggestion do you propose for Sunnys having a suitable cash management strategy. (5%)

第三題 (35%)

Chihnan Public Clinic is a free outpatient clinic for public assistance patients. Among other services, the clinic provides visiting nurses for elderly patients in their homes. A homemaker who cleans and performs other household tasks, accompanies each nurse. When the nurses are not visiting clients, they work at the office preparing for visits. When the homemakers complete their visits, they go home.

Each year, the clinic receives a budget allotment from the government. The government does not allow the clinic to spend more than this allotment and any unused budget after the fiscal year-end has lapsed cannot be carried forward to the following year. The clinic, in turn, allocates its budget among its various programs. The visiting nurse program was authorized (and spent) \$2,503,960 in 2019 and \$2,794,760 in 2020 as follows:

	<u>2019</u>	<u>2020</u>
Nurses	\$1,353,781	\$1,450,193
Homemakers	600,459	714,999
Medical supplies	181,973	214,018
Cleansing supplies	68,936	92,160
Transportation	90,678	111,438
Clinic general overhead	<u>208,133</u>	<u>211,951</u>
Total expenditure	<u>\$2,503,960</u>	<u>\$2,794,760</u>
Home visits	4,312	5,101
Average cost per home visit	\$580.7	\$547.9

The nursing staff received a 5% increase in salary one-third of the way through 2020. The homemakers did not receive an increase in wages in 2019 or in 2020. The prices of medical supplies increased about 2% during 2020 compared to 2019. The prices of cleaning supplies were relatively constant across the two years.

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Transportation is provided by the nurses, who are reimbursed \$6 per kilometer. The clinic's general overhead is allocated to programs on the basis of budgeted program salaries.

Required:

Andy Chen, the newly promoted general manager of the clinic, is going discuss the 2020 results with Betty Young, the head of the visiting nurse program. Andy would like to have your insight into the following respects:

- (1) How to evaluate the performance of the visiting nurse program in 2020 with the information provided above? Provide a schedule showing your evaluation and comments on the 2020 results. How many patients should have been served in 2020 for \$2,794,760 if costs had been under control? (20%)
- (2) The number of visits reduced dramatically in the first quarter of 2020 due to the COVID-19 outbreak. Andy raised the question of why unused budget cannot be carryforward to the next period. Explain to Andy about the pros and cons of budget lapsing and what he can do to enjoy the benefits of the system while avoiding the undesirable consequences. (6%)
- (3) Andy just heard about participative budget and is evaluating the possibility of adopting such budgeting process. Explain to Andy what a participative budget is. What are the major advantages of participative budgets? What caution must be exercised in their use? (9%)

Write a memo to Andy Chen in response to his request. **Outline your response in bullet form or numbered points.**

第四題 (30%)

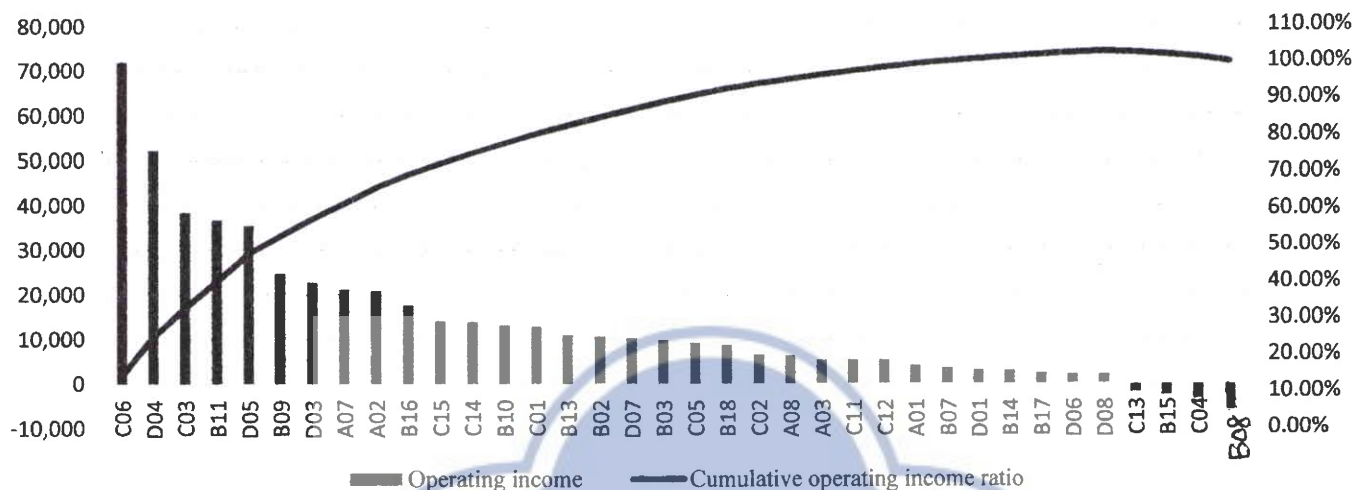
As product diversity and indirect costs increases, traditional costing system leads to inaccurate product and customer profit information. Activity-based costing (ABC) was introduced to refine the traditional costing system. Please answer the following questions related to ABC system:

1. Explain the relationship between value chain analysis and ABC system? (5%)
2. Explain how ABC system refines traditional costing system? (5%)

Guam food company was established in 2000. Its product categories are quite diverse, including alcoholic beverages, juices, pasta, and snacks, etc. After 10 years of stagnant growth and in order to solve the cost problems, the ABC system was implemented in 2019. The information generated by ABC system was available in 2020 as follows:

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Cumulative profitability for products in 2020



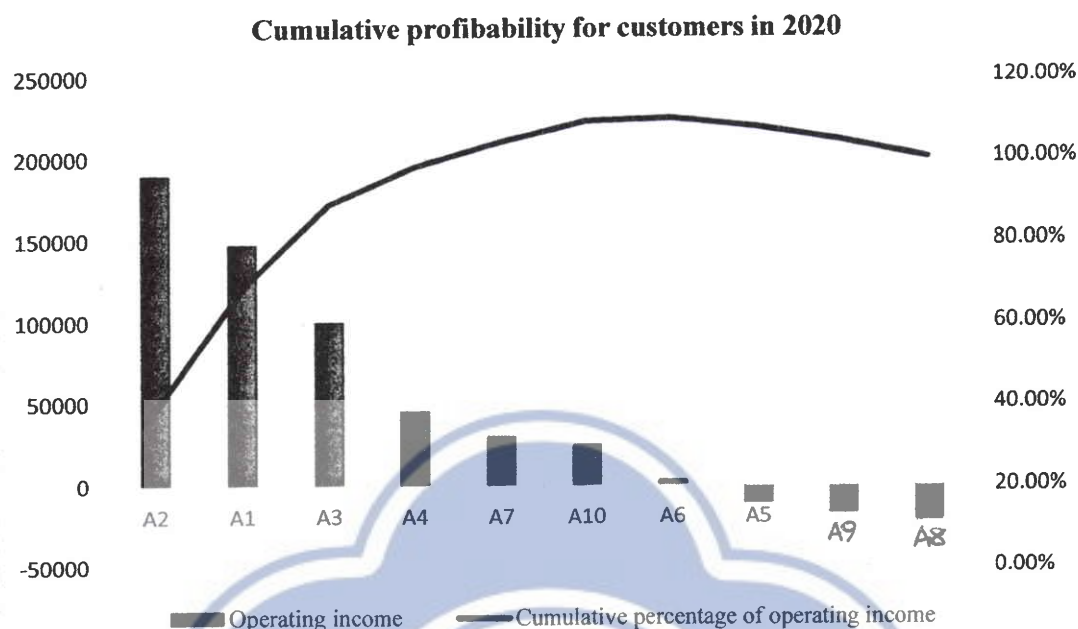
Top five products in operating profit

Product	Operating income	Revenue	Operating income ratio	Cumulative percentage of operating income
C06	\$70,000	\$320,000	21.88 %	18.42%
D04	50,000	400,000	12.50 %	31.58%
C03	38,000	425,000	8.94 %	41.58%
B11	37,500	250,000	15.00 %	51.45%
D05	36,000	150,000	24.00 %	60.92%

Bottom five products in operating profit

Product	Operating income	Revenue	Operating income ratio	Cumulative percentage of operating income
D08	\$2,000	\$125,000	1.60 %	102.86%
C13	-2,000	115,000	-1.74 %	102.47%
B15	-3,000	100,000	-3.00 %	101.93%
C04	-3,500	80,000	-4.38 %	101.22%
B08	-6,000	20,000	-30.00 %	100.00%

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Customer-profitability analysis for Guam Co., 2020

Customer	Operating income	Revenue	Operating income ratio	Cumulative percentage of operating income	Salesman
A2	\$190,000	\$787,500	24.13%	38.58%	George
A1	147,450	900,000	16.38%	68.51%	Mary
A3	100,000	390,000	25.64%	88.81%	John
A4	45,000	217,500	20.69%	97.95%	Patricia
A7	30,000	153,000	19.61%	104.04%	Robert
A10	24,645	132,000	18.67%	109.04%	Jennifer
A6	3,000	54,000	5.56%	109.65%	Michael
A5	-10,500	142,500	-7.37%	107.52%	Elizabeth
A9	-16,050	72,000	-22.29%	104.26%	James
A8	-21,000	78,000	-26.92%	100.00%	Linda

Required:

You work in the management accounting department of Guam Co. The CEO asks you to analyze the information above. Please provide the report to the CEO, including suggestions, reasons, and actions. (20%)

備註	一、作答於試題上者，不予計分。 二、試題請隨卷繳交。
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