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Module 2 – Management Accounting

This examination is divided into TWO sections.

- Section A (20%). This consists of TWENTY compulsory multiple choice questions. You should allocate approximately 36 minutes in total for Section A.
- Section B (80%). This consists of FOUR compulsory written questions. You should allocate approximately 2 hours and 24 minutes in total for Section B.

Suggested time allocation (by marks):

Marks	Approximate time in minutes
1	2
2	3
3	5
4	7
5	9
6	11
7	12
8	14
9	16
10	18
11	20
12	21
13	23
14	25
15	27
16	29
17	30
18	32
19	34
20	36

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SECTION A – MULTIPLE CHOICE QUESTIONS (Total: 20 marks)

Answer **ALL** questions in this section. Choose the best answer for each question. Together they are worth 20% of the total marks for this examination.

Questions 1 to 20 carry 1 mark each. (20 marks – approximately 36 minutes)

1. Identify which of the following statements is INCORRECT.
- A Management accounting is concerned with information for the internal use of management.
 - B Management accounting is concerned with past, current and future information.
 - C Management accounting reports are prepared to conform to the legal requirements.
 - D Management accounting reports on various activities may be prepared on a daily, weekly or monthly basis.

2. The following information is extracted from the job cost sheet of a completed job in July:

	HK\$
Opening balance	10,000
Direct materials incurred	5,000
Direct labour incurred	8,000
Production overhead absorbed	9,000
Administration overhead absorbed	4,000
Adjustment for production overhead over-absorbed	2,500

Calculate the total production cost of the job.

- A HK\$29,500.
 - B HK\$33,500.
 - C HK\$34,500.
 - D HK\$38,500.
3. Determine in which of the following circumstances marginal costing will report higher profits than absorption costing.
- A When production volume exceeds sales volume.
 - B When production overheads decrease.
 - C When production overheads increase.
 - D When sales volume exceeds production volume.

4. Analyse which of the following statements is correct.
- A Asset turnover measures the ability of a company to generate profits from its assets.
 - B Capital gearing is concerned with the amount of debt in a company's long-term capital structure.
 - C Residual income is a relative measure of performance used to select proposals based on a relative increase in profits.
 - D Triple bottom line captures an expanded spectrum of values and criteria for measuring organisational and societal success from three perspectives: economy, efficiency and effectiveness.
5. Determine which of the following statements are correct.
- (1) A mission statement depicts the business rationale for a company's existence and a statement of its aspirations.
 - (2) Strategic objectives are quantified statements of what the company actually intends to achieve over a period of time.
 - (3) The triple bottom line focuses on people, planet and profit.
 - (4) Key performance indicators are measures of strategy that are crucial to determine the success of a company.
- A (1), (2) and (4) only.
 - B (1), (3) and (4) only.
 - C (2), (3) and (4) only.
 - D All of the above.
6. Identify which of the following statements is correct.
- A Variable costs are conventionally deemed to be constant per unit of output.
 - B Variable costs are conventionally deemed to be constant in total when activity level changes.
 - C Variable costs are conventionally deemed to be easily controlled by management.
 - D Variable costs are conventionally deemed to be increased in steps as activity level increases from one range to the next.

Answer Questions 7 and 8 with the information provided in the following scenario.

A company has recorded the following in the three most recent periods:

Month	Total cost of production HK\$	Volume of production Units
July	406,000	24,000
August	346,000	18,000
September	368,000	20,000

7. Using the high-low method, compute the best estimate of the company's fixed costs per period.

- A HK\$166,000.
- B HK\$166,667.
- C HK\$168,000.
- D HK\$180,000.

8. Compute the estimated cost of production for October if the volume of production is expected to be 22,000 units.

- A HK\$386,000.
- B HK\$387,000.
- C HK\$388,000.
- D HK\$400,000.

9. A company produces a single product and budgets to sell 200,000 units of the product next year. The opening and closing inventory of the product are expected to be 13,500 units and 15,000 units respectively.

Compute the units of the product to be produced next year.

- A 198,500 units.
- B 201,500 units.
- C 213,500 units.
- D 215,000 units.

10. Grace Industrial Limited is going to quote a one-off order. The order requires 300 units of material Y. There are 100 units of material Y in inventory which were purchased at a cost of HK\$20 per unit. They are not required for normal production and can be sold for HK\$18 per unit. The current purchase cost of material Y is HK\$23 per unit.

Compute the relevant cost of material Y for the one-off order.

- A HK\$6,000.
- B HK\$6,300.
- C HK\$6,400.
- D HK\$6,600.

Answer Questions 11 to 13 with the information provided in the following scenario.

Joyful Manufacturing Limited ("JML") manufactures and sells a single product. JML maintains a standard costing system. Standard cost of direct materials and direct labour for the year just ended are:

	HK\$
Direct materials (10 kg at HK\$5)	50
Direct labour (3 hours at HK\$60)	180

20,000 units were produced for the year just ended. Other actual data for the same year ended are as follows:

Direct materials purchased	210,000 kg
Direct material price variance (at the time of purchase)	HK\$42,000 Adverse
Direct material quantity/usage variance	HK\$50,000 Favourable
Direct labour	61,000 hours
Direct labour rate variance	HK\$305,000 Favourable

11. Compute the total cost of direct materials purchased for the year just ended.

- A HK\$1,008,000.
- B HK\$1,040,000.
- C HK\$1,092,000.
- D HK\$1,100,000.

12. Compute the direct materials used for the year just ended.
- A 190,000 kg.
 - B 200,000 kg.
 - C 210,000 kg.
 - D 220,000 kg.
13. Compute the direct labour actual rate per hour for the year just ended.
- A HK\$50.
 - B HK\$55.
 - C HK\$60.
 - D HK\$65.
14. Identify which of the following statements is correct.
- A Activity-based costing facilitates cross subsidisation of products.
 - B Activity-based costing is easily adopted in most servicing companies.
 - C A cost driver is a factor influencing the level of cost of an activity.
 - D A cost pool is a profit centre for which all the costs associated with the cost driver are grouped.
15. A company determines its order quantity for an inventory by using the Economic Order Quantity ("EOQ") model. The EOQ order quantity for last year was 300 units while the cost of placing a purchase order was HK\$50 and the cost of holding one unit of the inventory per annum was HK\$15.

Calculate the number of orders for last year.

- A 30 orders.
- B 45 orders.
- C 60 orders.
- D 90 orders.

16. Identify the possible causes of adverse labour efficiency variance.

- (1) Use of sub-standard materials.
- (2) Errors in allocating time to jobs.
- (3) Low staff motivation and commitment.

- A (1) and (2) only.
- B (1) and (3) only.
- C (2) and (3) only.
- D All of the above.

17. Identify the possible advantage(s) of participative budgets.

- A They decrease an operational manager's commitment to organisational objectives.
- B They decrease the period of time taken to draw up the budgets.
- C They are based on information from employees most familiar with the department.
- D All of the above.

18. A company's budgeted sales for last month were 20,000 units with a standard selling price of HK\$25 per unit and a standard contribution to sales ratio of 60%. Actual sales for last month were 21,000 units with total revenue of HK\$504,000.

Compute the sales price variance for last month.

- A HK\$20,000 Adverse.
- B HK\$20,000 Favourable.
- C HK\$21,000 Adverse.
- D HK\$21,000 Favourable.

Answer Questions 19 and 20 with the information provided in the following scenario.

The following data relates to the Polishing Department of Glory Production Limited for last year.

Budgeted production overhead cost	HK\$360,000
Budgeted labour hours	80,000
Actual production overhead cost	HK\$380,000
Actual labour hours	82,000

19. Calculate the pre-determined overhead absorption rate per labour hour for the Polishing Department for last year.
- A HK\$4.39 per labour hour.
 - B HK\$4.50 per labour hour.
 - C HK\$4.63 per labour hour.
 - D HK\$4.75 per labour hour.
20. Calculate the amount of the over- / under-absorbed production overhead cost for the Polishing Department for last year.
- A Over-absorbed production overhead cost of HK\$20,000.
 - B Under-absorbed production overhead cost of HK\$20,000.
 - C Under-absorbed production overhead cost of HK\$11,000.
 - D Under-absorbed production overhead cost of HK\$9,000.

* * * END OF SECTION A * * *

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SECTION B – WRITTEN QUESTIONS (Total: 80 marks)

Answer **ALL** questions in this section. Marks are indicated at the end of each question. Together they are worth 80% of the total marks for this examination.

Question 1 (30 marks – approximately 54 minutes)

East Wind Limited ("EWL") manufactures and sells two types of air purifier fan – Deluxe and Standard.

The following budgeted information relates to EWL for the forthcoming year:

	Deluxe	Standard
Per unit:	HK\$	HK\$
Selling price	8,000	6,000
Direct materials	800	600
Direct labour (HK\$80 per hour)	1,200	840
Production overheads	1,800	1,300
Administration overheads	300	200
Selling overheads	900	700
Production and sales (units)	30,000	20,000

The annual sales volumes for the forthcoming year are expected to be in a standard mix of 3:2 for Deluxe and Standard respectively.

Production overheads for the current year are 20% fixed while administration overheads are 100% fixed. Selling overheads consist of a sales commission of 8% on sales value and the remaining overheads are fixed.

Required:

- (a) Prepare the budgeted statement of profit or loss using the marginal costing approach, showing the contribution margin for each product, for EWL for the forthcoming year. (15 marks)
- (b) Calculate, to TWO decimal places, the following for each of the TWO products for the forthcoming year:
- (i) contribution margin ratio;
 - (ii) breakeven point in units; and
 - (iii) margin of safety in percentage.
- (8 marks)
- (c) Assume the standard mix of 3:2 for Deluxe and Standard is no longer required and the direct labour hours available for the forthcoming year are 500,040 hours. The management intends to produce and sell at least 12,000 Deluxe and 10,000 Standard in the forthcoming year. Prepare the optimal production plan to maximise EWL's profit and calculate the total contribution margin of the plan for the forthcoming year. (7 marks)

Question 2 (20 marks – approximately 36 minutes)

Southern City Limited ("SCL"), a wholesaling company for rib-eye steaks, has the following budgeted information:

Month	Sales values (before trade discount) HK\$'000	Purchases HK\$'000	Operating costs HK\$'000
May	960	800	115
June	1,020	600	110
July	810	900	120
August	1,200	1,100	130
September	1,410	700	125

Additional information:

- (1) 20% of sales are cash terms and cash customers enjoy a 5% trade discount based on the selling price. The remaining sales are on credit terms, 70% of which are collected in the month following sale and 30% of which are collected in the second month following sale.
- (2) SCL sets its selling price on a uniform mark up of 50% of the cost of goods sold for both cash and credit sales.
- (3) All purchases are bought on credit and paid in the following month after purchase.
- (4) SCL will buy a new meat cutting machine at a cash price of HK\$300,000 on 1 August. The old meat cutting machine, with a cost and carrying amount of HK\$210,000 and HK\$156,000 as at 1 August, will be traded in against the new machine at a trade-in allowance of HK\$120,000. At all times, SCL has only one meat cutting machine in operation and it is the only non-current asset of the company.
- (5) The operating costs include the monthly depreciation expense of the meat cutting machine. All monthly operating costs, other than the depreciation expense, are paid in the month when they are incurred. Both the old and new meat cutting machines are depreciated at 20% per annum on a straight-line basis.
- (6) The expected cash balance as at 30 June is HK\$308,000.

Required:

- (a) **Prepare a monthly cash budget for July, August and September together with a total column for the quarter.**

(11 marks)
- (b) **Prepare the budgeted statement of profit or loss for the three months ended 30 September.**

(5 marks)
- (c) **Explain the incremental budgeting approach and one of its drawbacks.**

(4 marks)

Question 3 (16 marks – approximately 29 minutes)

West Knight Chemicals Limited ("WKCL") manufactures a product that undergoes two processes. WKCL uses the weighted average method of process costing. The following information relates to its final production process for last month:

- (1) Opening work-in-process was 6,000 units at HK\$86,000 and its breakdown was:

	Degree of completion	HK\$
Materials input from previous process	100%	40,000
Materials added in current process	70%	20,000
Conversion costs	40%	<u>26,000</u>
		<u>86,000</u>

- (2) Costs incurred during the period were:

Materials added	HK\$143,000
Materials input	30,000 units at HK\$201,500
Conversion costs	HK\$185,720

- (3) Closing work-in-process were 2,000 units and their degree of completion of individual components were:

Materials input	100%
Materials added	80%
Conversion costs	30%

- (4) Normal loss was 10% of the materials input. 3,500 units were actually disposed of last month at a cost of HK\$2 per unit. The completed units and the closing work-in-process had reached the inspection point in detecting the normal loss, and the normal loss was apportioned between the completed units and the closing work-in-process.

Required:

- (a) Calculate equivalent units and cost per equivalent unit of individual cost elements of WKCL for last month.

(10 marks)

- (b) Prepare the process account of WKCL for last month.

(6 marks)

Question 4 (14 marks – approximately 25 minutes)

North Star Restaurant Limited ("NSRL") is one of the leading restaurant chains in Hong Kong offering an a la carte menu of Spanish food to mid- to high-class customers. NSRL is dedicated to offering high quality products and services to its customers. The management has considered adopting the balanced scorecard approach for corporate performance measurement.

Required:

- (a) Explain what a balanced scorecard is and TWO features of a good balanced scorecard. (5 marks)
- (b) For each of the following performance indicators, state the related balanced scorecard perspective being measured.
- (i) Number of suggested new dishes per employee;
 - (ii) Return on investment from new restaurants;
 - (iii) Amount of food discarded;
 - (iv) Number of customer complaints; and
 - (v) Time from order to delivery of food.
- (5 marks)
- (c) One of the directors is concerned about the high inventory level of ingredients. He asks you, as the management accountant of NSRL, about the just-in-time ("JIT") inventory system. Explain the features of JIT inventory system to him and advise whether it is appropriate to be adopted by NSRL. (4 marks)

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Module 2

Management Accounting

Answers

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SECTION A – MULTIPLE CHOICE QUESTIONS (Total: 20 marks)

Questions	Answers	Marks allocation
1.	C	1
2.	A	1
3.	D	1
4.	B	1
5.	B	1
6.	A	1
7.	A	1
8.	A	1
9.	B	1
10.	C	1
11.	C	1
12.	A	1
13.	B	1
14.	C	1
15.	B	1
16.	D	1
17.	C	1
18.	C	1
19.	B	1
20.	C	1

* * * END OF SECTION A * * *

SECTION B – WRITTEN QUESTIONS (Total: 80 marks)

Answer 1(a)

Budgeted statement of profit or loss for the forthcoming year:

	Deluxe HK\$'000	Standard HK\$'000	Total HK\$'000
Sales	<u>240,000</u>	<u>120,000</u>	<u>360,000</u>
Less: Variable costs:			
Direct materials	24,000	12,000	36,000
Direct labour	36,000	16,800	52,800
Production overheads – variable	43,200	20,800	64,000
Selling overheads – variable	<u>19,200</u>	<u>9,600</u>	<u>28,800</u>
	<u>122,400</u>	<u>59,200</u>	<u>181,600</u>
Contribution margin	<u>117,600</u>	<u>60,800</u>	<u>178,400</u>
Less: Fixed costs:			
Production overheads – fixed			16,000
Administration overheads			13,000
Selling overheads – fixed			<u>12,200</u>
			<u>41,200</u>
Net profit			<u>137,200</u>

Answer 1(b)(i)

Contribution margin ratio:

Deluxe: $\text{HK\$}117,600,000 \div \text{HK\$}240,000,000 \times 100\% = 49\%$

Standard: $\text{HK\$}60,800,000 \div \text{HK\$}120,000,000 \times 100\% = 50.67\%$

Answer 1(b)(ii)

Breakeven point in units:

Deluxe: $\text{HK\$}41,200,000 \div (\text{HK\$}117,600,000 \div 30,000 \times 3 + \text{HK\$}60,800,000 \div 20,000 \times 2) \times 3$
 $= 6,928.25$ or 6,929 units

Standard: $\text{HK\$}41,200,000 \div (\text{HK\$}117,600,000 \div 30,000 \times 3 + \text{HK\$}60,800,000 \div 20,000 \times 2) \times 2$
 $= 4,618.67$ or 4,619 units

Answer 1(b)(iii)

Margin of safety in percentage:

Deluxe: $(30,000 - 6,929) \div 30,000 \times 100\% = 76.90\%$

Standard: $(20,000 - 4,619) \div 20,000 \times 100\% = 76.91\%$

Answer 1(c)

Profitability ranking:

	Deluxe	Standard
Contribution margin per unit	HK\$3,920	HK\$3,040
Direct labour hours per unit	15	10.5
Contribution per direct labour hour	HK\$261.33	HK\$289.52
Ranking	2nd	1st

Optimum production plan:

	Direct labour hours
Total available direct labour hours	500,040
Less: Deluxe (12,000 units × 15)	<u>180,000</u>
Balance	320,040
Less: Standard (30,480 units × 10.5)	<u>320,040</u>
	<u>-</u>

Total contribution margin of the plan:

$$12,000 \times \text{HK\$}3,920 + 30,480 \times \text{HK\$}3,040 = \text{HK\$}139,699,200$$

Answer 2(a)

Cash budget for the period from July to September:

	July HK\$	August HK\$	September HK\$	Total HK\$
Opening balance	<u>308,000</u>	<u>547,000</u>	<u>268,400</u>	<u>308,000</u>
<u>Add: Cash receipts:</u>				
Cash sales	153,900	228,000	267,900	649,800
Receipts from credit customers:				
Sales in May	230,400	-	-	230,400
Sales in Jun	571,200	244,800	-	816,000
Sales in Jul	-	453,600	194,400	648,000
Sales in Aug	-	-	<u>672,000</u>	<u>672,000</u>
Total receipts	<u>955,500</u>	<u>926,400</u>	<u>1,134,300</u>	<u>3,016,200</u>
<u>Less: Cash payments:</u>				
Payments to suppliers	600,000	900,000	1,100,000	2,600,000
Purchase of new machine	-	180,000	-	180,000
Operating costs	<u>116,500</u>	<u>125,000</u>	<u>120,000</u>	<u>361,500</u>
Total payments	<u>716,500</u>	<u>1,205,000</u>	<u>1,220,000</u>	<u>3,141,500</u>
Closing balance	<u>547,000</u>	<u>268,400</u>	<u>182,700</u>	<u>182,700</u>

Answer 2(b)

Budgeted statement of profit or loss for the three months ended 30 September:

	HK\$	HK\$
Sales – Cash		649,800
– Credit		<u>2,736,000</u>
		3,385,800
Less: Cost of goods sold		<u>2,280,000</u>
Gross profit		1,105,800
Less: Operating costs	375,000	
Loss on disposal of old machine	<u>36,000</u>	
		<u>411,000</u>
Net profit		<u><u>694,800</u></u>

Answer 2(c)

The incremental budgeting approach uses previous budgets or actual results as the base and then adds an incremental amount or deducts a certain amount to reach the budget for the new budget period.

Major drawbacks include:

- It is an inefficient method of budgeting as it follows habitual or mechanical budgeting behaviour based on the past data or assumption. Wastefulness will result when there is a lack of review of the continuous usage of existing activity.
- It encourages the malpractice of using up the balance of budgeted resource so as to avoid the reduction of resources allocated for future budgets.

Answer 3(a)

Calculation of equivalent unit and cost per equivalent:

	Total	Materials input	Materials added	Conversion costs
Completed units	30,500	30,500	30,500	30,500
Closing work-in-process ("WIP")	2,000	2,000	1,600	600
Normal loss	3,000	-	-	-
Abnormal loss	<u>500</u>	<u>500</u>	<u>500</u>	<u>500</u>
Equivalent units	<u><u>36,000</u></u>	<u><u>33,000</u></u>	<u><u>32,600</u></u>	<u><u>31,600</u></u>
		HK\$	HK\$	HK\$
Costs – Opening WIP		40,000	20,000	26,000
– Incurred in last month		201,500	143,000	185,720
– Disposal cost of normal loss		<u>6,000</u>	-	-
		<u><u>247,500</u></u>	<u><u>163,000</u></u>	<u><u>211,720</u></u>
Cost per equivalent unit		<u><u>HK\$7.5</u></u>	<u><u>HK\$5</u></u>	<u><u>HK\$6.7</u></u>

Answer 3(b)

Process account:

Process account					
	Units	HK\$		Units	HK\$
Opening WIP	6,000	86,000	Finished goods	30,500	585,600
Input materials	30,000	201,500	Normal loss	3,000	0
Materials added		143,000	Abnormal loss	500	9,600
Conversion costs		185,720	Closing WIP	2,000	27,020
Disposal cost of normal loss		6,000			
	36,000	622,220		36,000	622,220

Answer 4(a)

A balanced scorecard is a strategic management technique for communicating and evaluating the achievement of the mission and strategy of the company. It balances traditional financial measures of success with non-financial measures of the drivers of future financial performance. It measures the organisation's performance across four different but linked perspectives that are derived from the organisation's mission, strategy and objectives. The four perspectives are the financial perspective, customer perspective, internal business process perspective, and learning and growth perspective.

The features of a good balanced scorecard are that:

- It articulates a sequence of cause-and-effect relationships among the various perspectives that describes how the strategy of the organisation will be implemented.
- It helps communicate the strategy to all members of the organisation by translating the strategy into a coherent and linked set of understandable and measurable operational targets.
- It limits the number of measures, identifying only the most critical ones so as to focus the manager's attention on measures that most affect the implementation of strategy.
- It emphasises non-financial measures as part of a programme to achieve future financial performance. When financial and non-financial performance measures are properly linked, most of the non-financial measures serve as indicators of future financial performance.

Answer 4(b)(i)

Learning and growth perspective

Answer 4(b)(ii)

Financial perspective

Answer 4(b)(iii)

Internal business process perspective

Answer 4(b)(iv)

Customer perspective

Answer 4(b)(v)

Internal business process perspective

Answer 4(c)

The just-in-time ("JIT") inventory system aims to produce the required items, at the required quality and in the required quantities, at the right time. It purports to hold no or minimum level of inventory and only produces to demand. The absence of inventory means that goods must be produced right the first time as there will be no buffer inventory on hand.

Yes. JIT is appropriate for NSRL as it offers an a la carte menu in that dishes are not prepared until the orders are received. Careful planning has to take place to link the demand for dishes with the purchase of the appropriate ingredients.

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