PENINSULA COLLEGE GEORGETOWN DK266-03(P)

UNIVERSITY OF PLYMOUTH

FINAL EXAMINATION

Semester	:	**SEPTEMBER 2024 SEMESTER**
Programme Name	:	**BA (HONOURS) ACCOUNTING & FINANCE 3+0 IN COLLABORATION WITH UNIVERSITY OF PLYMOUTH**
Course Code & Name	:	**MAL2032 MANAGEMENT ACCOUNTING**
Duration	:	**3 HOURS**

INSTRUCTIONS TO CANDIDATES:

1. Please read the instructions given in the question paper **CAREFULLY.**
2. The question paper consists of **FIVE (5)** questions.
3. Answer any **FOUR (4)** questions in the question paper.
4. Answers to the questions are to be written into the examination booklet.
5. Electronic dictionaries, lecture notes, files or any unauthorised materials except writing equipment are strictly prohibited.

This question paper must be submitted along with all used and/or unused rough papers and/ or graph papers (if any). Candidates are **NOT ALLOWED** to take any examination paper(s) used or unused out of the examination hall.

WARNING:

The Examination Board of Peninsula College Georgetown regards cheating as a very serious offence and will not hesitate to mete out the appropriate punitive actions according to the severity of the offence committed, and in accordance with the clauses stipulated in the Students' Handbook, up to and including expulsion from Peninsula College Georgetown.

(*This booklet contains 6 printed pages including this page*)

DO NOT OPEN THIS BOOKLET UNTIL YOU ARE ALLOWED TO DO SO

Answer **ANY FOUR (4)** questions on the separate sheet provided. **[100 marks]**

1. Utoro Sdn Bhd is a jacket manufacturer. The organisation has three production departments and two service centres, which are cleaning and administration.

The budgeted overhead costs for the period based on 100,000 budgeted units are shown below:

	RM
Lighting and heating	150,000
Depreciation on equipment	280,000
Lubricants for equipment	130,000
Cleaning	20,000

Further information for each department is as follows:

	Total	Cutting	Sewing	Packing	Cleaning	Admini-stration
Floor space (sq metre)	6,000	2,400	1,200	1,000	800	600
Power usage	5,000	1,200	600	1,800	400	1,000
Equipment value	2,000,000	900,000	400,000	700,000		
Number of equipment	200	90	40	70		
Number of employees	64	16	32	8	4	4
Machine hours	170,000	100,000	10,000	60,000		
Direct labour hours	120,000	30,000	48,000	22,000	10,000	10,000
Direct labour costs (RM)	600,000	90,000	144,000	66,000	10,000	290,000

Additional information:

- Lighting and heating are apportioned based on power usage.
- Depreciation of equipment is apportioned based on the value of equipment while lubricants are apportioned based on the number of equipment.
- Cleaning cost is allocated entirely to the cleaning centre only.
- The step-down method is used to re-apportion the costs from the service centres to the three main departments starting with the administration centre.
- The cost of the administration centre is re-allocated based on total number of employees while the cost of the cleaning centre is re-allocated based on floor space.
- The three production departments are to be applied based on direct labour hours.

Required:

a) Prepare the overhead departmental budget for the five departments showing the allocation, apportionment, and reapportionment accordingly. Also, calculate the factory overhead application rate for three production departments. (11 marks)

b) Utoro Sdn Bhd has received a large order from one customer, Big Hypermarket Sdn Bhd. You are required to calculate the total cost (direct material cost, direct labour cost, and factory overhead cost) to be charged to the three main departments for Big Hypermarket Sdn Bhd.

Direct labour hours is the driver for both direct labour cost and factory overhead cost. Based on the large order for that customer, the direct material cost and the direct labour hours worked specifically for each department is as follows:

	Cutting	Sewing	Packing
Direct material	RM128	RM544	RM651
Direct labour hours	20 hours	40 hours	35 hours

(9 marks)

c) Regarding the same order from Big Hypermarket Sdn Bhd, the management accountant has suggested that the factory overhead costs for the three departments should be charged based on the activities approrpiately identified that are specific to each production department.

The management accountant has just identified the appropriate activities for the each production department.

Cutting	Machine hours
Sewing	Direct labour hours
Packing	Units ordered

The activities that are specific to the large order from Big Hypermarket Sdn Bhd are 30 machine hours, 40 direct labour hours, and 150 units ordered

Calculate the total factory overhead costs to be charged for each department using activity-based costing. (3 marks)

d) Based on the order from Big Hypermarket Sdn Bhd, suggest with justification to top management whether traditional overhead costing or activity-based costing should be used to charge the overhead costs to the three production departments.

(2 marks)
Total: [25 marks]

2. Asahi Sdn Bhd relies on quarterly rolling budgets and the chief accountant has prepared the budget for the next three quarters for the year 2025 as shown below. There is no opening stock in quarter one.

Budget for quarters one to three in 2025:

	Q1	Q2	Q3
Activity			
Sales (units)	25,000	55,000	40,000
Production (units)	30,000	60,000	45,000
Costs	**RM**	**RM**	**RM**
Direct material	60,000	120,000	90,000
Direct labour	180,000	360,000	270,000
Factory overheads	150,000	240,000	195,000
Administration	90,000	165,000	127,500
Selling and distribution	45,000	90,000	67,500

Instead of just relying on a rolling budget, the accountant now suggests that a flexible budget should be prepared for quarter four. You have been recently hired as a budget accountant.

Additional information to help you prepare the flexible budget in quarter four 2025:

- The flexible budget is to be prepared based on three sales volume of 40,000 units, 45,000 units, and 50,000 units.

- The company expects the closing stock for quarter four to be nil.
- Direct material cost per unit is expected to rise by 10%.
- Variable factory overhead cost per unit is expected to rise by 5%.
- Fixed administration cost is expected to rise by 8%.
- Variable selling and distribution cost is calculated based on sales units.
- Fixed selling and distribution cost is expected to rise by 10%.
- The cost per unit for opening stock is expected to be similar to the cost per unit for the previous quarters.
- The selling price per unit is RM20. However, the price is expected to drop by 10% if the company sells more than 48,000 units per quarter. The price is also expected to increase by 10% if it sells less than 43,000 units per quarter.
- The company uses marginal costing in the preparation of the flexible budgeted profit statement. Fixed cost is not included in the calculation of the opening stock. Variable cost and fixed cost are to be shown separately.

Required:

a) Prepare a detailed flexible budgeted profit statement for quarter four based on three levels of sales and the corresponding production volume. (21 marks)

b) Asahi Sdn Bhd heavily relies on top-down decision making including budget preparation. Discuss **TWO (2)** challenges expected if Asahi Sdn Bhd were to implement beyond budgeting. (4 marks)

Total: [25 marks]

3. Magneton (MT) manufacture biometric cards that provides secure payments for cardholders around the world.
The standard cost for the plastic that goes into making a card is RM4 per kg and each card uses 40 g of plastic after an allowance for waste. In November, 100,000 cards were produced and sold by MT and this was well above the budgeted sales of 60,000 cards.

The actual cost of the plastic was RM5.25 per kg and the production manager (who is responsible for all buying and production issues) was asked to explain the increase. He said 'World oil price increases pushed up plastic prices by 20% compared to our budget and I also decided to use a different supplier who promised better quality and increased reliability for a slightly higher price. I know we have overspent but not all the increase in plastic prices is my fault. The actual usage of plastic per card was 35 g per card and again the production manager had an explanation. He said 'The world-wide standard size for biometric cards increased by 5% due to a change in the card reader technology, however, our new supplier provided much better quality of plastic and this helped to cut down on the waste.'

MT operates a just in time (JIT) system and hence carries very little inventory.

Required :

a) Discuss the behavioural problems that can arise from using standard costs and ways to prevent them. (4 marks)

b) Analyse the above total variances into component parts in as much detail as the information allows for:

i) Planning price variance (2 marks)

ii) Planning usage variance (2 marks)

iii) Operational price variance (2 marks)

iv) Operational usage variance (2 marks)

c) Assess the performance of the production manager. (8 marks)

d) Discuss the drawbacks of implementing just-in-time (JIT) system. (5 marks)

Total: [25 marks]

4. The Boron division (Division B) and the Carbon division (Division C) are two divisions of a large, manufacturing company. Whilst both divisions operate in almost identical markets, each division operates separately as an investment centre. Each month, operating statements must be prepared by each division and these are used as a basis for performance measurement for the divisions. Last month, senior management decided to recharge head office costs to the divisions.

Consequently, each division is now going to be required to deduct a share of head office costs in its operating statement before arriving at 'net profit', which is then used to calculate return on investment (ROI). Prior to this, ROI has been calculated using controllable profit only. The company's target ROI, however, remains unchanged at 20% per annum. For each of the last three months, Divisions B and C have maintained ROIs of 22% per annum and 23% per annum respectively, resulting in healthy bonuses being awarded to staff. The company has a cost of capital of 10%.

The budgeted operating statement for the month of June is shown below:

	B	C
	RM'000	RM'000
Sales revenue	1,300	1,500
Less variable costs	(700)	(800)
Contribution	600	700
Less controllable fixed costs	(134)	(228)
Controllable profit	466	472
Less apportionment of head office costs	(155)	(180)
Net profit	311	292
Divisional net assets	RM23.2m	RM22.6m

Required:

a) Calculate the expected annualised Return on Investment (ROI) using the new method as preferred by senior management, based on the above budgeted operating statements, for each of the divisions. (2 marks)

The divisional managing directors are unhappy about the results produced by your calculations in (a) and have heard that a performance measure called 'residual income' may provide more information.

b) Calculate the annualised residual income (RI) for each of the divisions, based on the net profit figures for the month of July. (3 marks)

c) Discuss the expected performance of each of the two divisions, using both ROI and RI, and making any additional calculations deemed necessary. Conclude as to whether, in your opinion, the two divisions have performed well. (6 marks)

Division B has now been offered an immediate opportunity to invest in new machinery at a cost of RM2.12 million. The machinery is expected to have a useful economic life of four years, after which it could be sold for RM200,000. Division B's policy is to depreciate all of its machinery on a straight-line basis over the life of the asset. The machinery would be expected to expand Division B's production capacity, resulting in an 8·5% increase in contribution per month.

d) Recalculate Division B's expected annualised ROI and annualised RI, based on July's budgeted operating statement after adjusting for the investment. State whether the managing director will be making a decision that is in the best interests of the company as a whole if ROI is used as the basis of the decision. (5 marks)

e) Explain any behavioural problems that will result if the company's senior management insist on using solely ROI, based on net profit rather than controllable profit, to assess divisional performance and reward staff. (4 marks)

f) Discuss the disadvantages of using ROI to assess divisional performance. (5 marks)

Total: [25 marks]

5. The growth in computer power and storage has driven the usage of big data in organisations. Apart from that, another recent trend is the emergence of environmental management accounting. A CEO of a company is interested to know how the organisation can leverage big data usage for environmental management accounting.

Required:

a) Discuss how big data affects environmental management accounting. (5 marks)

b) Discuss **FOUR (4)** techniques in accounting for environmental costs (20 marks)

Total: [25 marks]

- END OF QUESTIONS -