Dublin Business School

QQI

BA (HONS) ACCOUNTING & FINANCE

AUTUMN 2024 EXAMINATIONS

Module Code: **B8AF100**

Module Description: **Performance Management**

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Internal Moderator: **Norul Farida Abd Rahman**

External Examiner: **TBC**

INSTRUCTIONS TO CANDIDATES.

Time allowed is 3 hours
Answer 4 Questions out of 5 Questions
All questions carry 25 marks
Marks awarded for presentation & layout

By submitting your answers as part of this exam you certify that all work provided is wholly your own, done without the intervention, help or guidance of any third party

Question 1

FrostByte Technologies Inc., a software development firm, is eager to introduce a ground-breaking software tool to a highly competitive sector. Market testing has disclosed the subsequent demand curve for the software tool:

$$P = 350 - 0.001Q$$

The projected market size for the product is 800,000 units annually. FrostByte Technologies Inc. wishes to secure 20% of this market.

FrostByte Technologies Inc. has drafted a cost breakdown based on 120,000 units:

	Cost per unit
	€
Direct Materials	15
Direct Labour	30
Fixed development overhead	90
Total Costs	135

Required:

a) What price will the company have to charge in order capture its required market share of 20% and what is the desired target profit percentage.

(5 marks)

Identify the challenges noted in part (a) with respect to the aimed profit margin and offer recommendations for the management.

(10 marks)

b) Discuss the advantages and disadvantages of cost plus pricing

(6 marks)

c) Name 5 key factors influencing pricing

(4 marks)

(Total: 25 marks)

Question 2

DeltaTech Electronics Ltd. specializes in high-quality audio equipment. The Managing Director (MD), Sales Director, and Production Director are in a dispute regarding the operational efficiency of the company. The MD is concerned about rising costs and falling profit margins, the Sales Director argues that market demands are not accurately forecasted, leading to missed sales opportunities and excess inventory, while the Production Director insists that production is as efficient as it can be given the current technology and workforce capabilities. Despite a standard costing system in place, disagreements have arisen due to differing interpretations of recent variance reports, particularly regarding mix and yield variances, and their implications on the company's performance.

Part A:

Given the following standard and actual information for the month of July, perform the required calculations:

- Standard Cost Sheet per unit:
  - Material A: 2 kg @ €5/kg
  - Material B: 3 kg @ €4/kg
  - Labour: 1 hour @ €15/hour
- Standard Mix Ratio: 40% Material A, 60% Material B by weight
- Actual production: 10,000 units
- Actual Material Used:
  - Material A: 22,000 kg, €110,000
  - Material B: 31,000 kg, €120,000
- Actual Labour: 9,800 hours, €150,000

Required:

Part A:

a) Calculate the material cost variance, material mix variance, and material yield variance.

(10 marks)

b) Calculate the labour efficiency variance and labour rate variance.

(5 marks)

Part B:

Based on the scenario provided:

a) Discuss how the differing priorities of the MD, Sales Director, and Production Director might contribute to the interpretation of the standard costing variances.

(5 marks)

b) Suggest how DeltaTech Electronics Ltd. could address these disagreements to ensure a more collaborative approach to managing cost variances and operational efficiency.

(5 marks)

(Total: 25 Marks)

Question 3

Harmony Healthcare is a private hospital performing two major surgeries with the following direct costs per procedure:

	Cardiac Bypass	**Lumbar Fusion**
	€	€
Surgical	2,500	1,000
Anestetic	600	1,400
Total surgery hours	7	5

Harmony Healthcare calculates the overhead cost per procedure using the traditional method based on the total number of surgery hours.

The CFO has recently heard of Activity Based Costing and is considering implementing this in the hospital. She has identified the following costs incurred per week and associated drivers of cost:

Cost Pool	**Cost**	**Cost Driver**
Administrative costs	€2,400,000	Admin time per procedure
Nursing time	€4,500,000	Length of patient stay
Catering	€160,000	Number of meals
General costs	€25,000,000	Length of patient stay

The following cost driver breakdown is noted per procedure

	Cardiac Bypass	**Lumbar Fusion**
No. of surgeries	4,000	900
Admin time per procedure (hours)	5	3
Length of patient stay (hours)	72	24
Number of meals per patient	5	8

The hospital requires a profit margin of 45% per procedure.

Required:

a) Calculate the total unit cost and sales price per product using the traditional method.

(8 marks)

b) Calculate the total unit cost and selling price of each procedure using ABC (rounding to 1 decimal place)

(12 marks)

c) Discuss the benefits of applying Activity Based Costing for Harmony Healthcare and its impact on competitive pricing.

(5 marks)

(Total: 25 marks)

Question 4

GreenTech Solutions Ltd. is an innovative company specializing in renewable energy products, operating in Ireland. The company has seen rapid growth over the last five years due to the increasing demand for environmentally friendly energy solutions. However, with growth, operational challenges have emerged, particularly in managing environmental impacts and costs. The Managing Director (MD), Michael O'Connor, is committed to maintaining the company's green ethos and believes in investing in advanced pollution prevention technologies, even if it means lower short-term profits. Sarah Byrne, the Sales Director, argues that the company should focus on market expansion and sales growth, worrying that high environmental costs could affect competitive pricing. Meanwhile, Liam Kelly, the Production Director, insists on optimizing current production processes and is reluctant to make significant changes that could disrupt production efficiency.

Required:

1. **Understanding Environmental Accounting**

    - Explain the concept of environmental accounting and its significance for a company like GreenTech Solutions Ltd.

    (5 marks)

2. **Analysis of Environmental Costs**

    - Given the scenario, identify and describe at least four types of environmental costs that GreenTech Solutions Ltd. might incur. Provide examples relevant to the company's operations.

    (10 marks)

3. **Decision-making Framework**

    - Propose a decision-making framework that GreenTech Solutions Ltd. could use to balance environmental considerations with profitability. Include how the MD, Sales Director, and Production Director's viewpoints could be integrated.

    (5 marks)

4. **Strategic Recommendations**

    - Based on environmental accounting principles, recommend strategies GreenTech Solutions Ltd. could adopt to address the concerns of the MD, Sales Director, and Production Director, ensuring both environmental sustainability and business growth.

    (5 marks)

(Total: 25 Marks)

Question 5

Bright Green Technologies Ltd manufactures two types of eco-friendly appliances: Solar Panels (Product S) and Wind Turbines (Product W). Each product must go through two production phases, each requiring a different skill set of labour. The labour time for each phase is as follows:

	Time taken per unit (mins)	
	S	**W**
Dept 1	12	22
Dept 2	18	25

The machines used can only work on one product at a time.

Dept 1 has 720 minutes available per day of labour whilst Dept 2 has 1,110 minutes available. The maximum daily demand for S is 40 and for W is 30.
Cost cards for the two products are as follows:

	S	**W**
	€ per unit	**€ per unit**
Sales Price	85.00	135.00
Direct Materials	(18.00)	(26.00)
Direct Labour	(17.00)	(34.00)
Variable overheads	(6.50)	(13.50)
Fixed overheads	(20.00)	(34.00)

Total labour and overhead costs for the year are €375,000 and in a year 2,500 hours are worked (10 hours per day, 5 days per week for 50 weeks).

Required:

a) What is the optimal production plan for Bright Green Technologies and the resulting annual profit?

(15 marks)

b) Calculate the throughput accounting ratio (TPAR) for product W

(4 marks)

c) How can the throughput accounting ratio (TPAR) for product W be improved?

(4 marks)

d) Briefly describe a long-term solution for removing a bottleneck in a production system.

(2 marks)

(Total: 25 Marks)

END OF PAPER