UTHM
Universiti Tun Hussein Onn Malaysia

# UNIVERSITI TUN HUSSEIN ONN MALAYSIA

## FINAL EXAMINATION
## (TAKE HOME)
## SEMESTER II
## SESSION 2019/2020

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|---|---|
| COURSE NAME | : PRODUCTION AND OPERATION COSTING |
| COURSE CODE | : BPC 32603 |
| PROGRAMME CODE | : BPB / BPP |
| EXAMINATION DATE | : JULY 2020 |
| DURATION | : 24 HOURS |
| INSTRUCTION | : ANSWER **ALL** QUESTIONS<br>**OPEN BOOK EXAMINATION** |

THIS QUESTION PAPER CONSISTS OF **FOUR (4)** PAGES

**Q1** (a) You were talking to your friend taking economic major, about cost-volume-profit (CVP) analysis and the approaches that are used to calculate the break-even point. You also described the assumptions that underlie this type of analysis. Your friend proclaimed, "Wow, people learning accounting are pretty simple. Do you realize how unrealistic it is to assume that, no matter how many units you sell, you will realize the same price per unit? And, I have never heard any person suggest that costs are linear. How can you possibly state that assumption? In your world, profit maximization is simple, just produce maximum number amount possible."

Justify the above assumptions in conducting CVP analysis that will satisfy your friend.

(4 marks)

(b) OPTRA Industries had sales in 2018 of RM6,400,000 and a gross profit of RM1,100,000. The sales volume was 800,000 units. Management is considering two alternative budget plans to increase gross profit in 2019.

Alternative 1: Selling price per unit would increase from RM8.00 to RM8.40. Sales volume would decrease to 95 percent of its 2018 sales level at 760,000 units. The ending inventory should be equal to 5 percent of the 2019 sales units.

Alternative 2: Selling price per unit would decrease by RM0.50 to RM7.50. The marketing department expects that the sales volume would increase by 150,000 units to 950,000 units. The ending inventory should equal to 50,000 units.

Each unit produced will cost RM1.80 in direct labour, RM2.00 in direct materials and RM1.20 in variable overhead. The fixed overhead for 2019 should be RM1,895,000.

(i) Prepare the production budget for 2019 under each plan showing the physical units and costs in the budget table.

(4 marks)

(ii) Analyze the production cost per unit under each plan.

(7 marks)

(iii) Propose which alternative that should be accepted based on calculations of the gross profits at the new sales volume of each plan.

(5 marks)

**Q2** (a) Fazer Company makes three models of phasers: Stunner, Double-Set and Mega-Power. Information on the three products is given below as **Table Q2(a)** :

**Table Q2 (a): Cost Information for Three Models of Phasers**

| Item | Stunner (RM) | Double-Set (RM) | Mega-Power (RM) | Total (RM) |
|---|---|---|---|---|
| Sales | 300,000 | 500,000 | 200,000 | 1,000,000 |
| Variable Expenses | 150,000 | 200,000 | 140,000 | 490,000 |
| Contribution Margin | 150,000 | 300,000 | 60,000 | 510,000 |
| Fixed Expenses | 120,000 | 225,000 | 90,000 | 435,000 |
| Net Income | 30,000 | 75,000 | (30,000) | 75,000 |

Additional information:

- Fixed expenses consist of RM300, 000 of common costs allocated to the three product based on relative sales. The common cost will be incurred regardless of how many models are produced.
- The common cost of RM300,000 will be allocated to the remaining product line according to their relative sales if a model is discontinued.
- Additional fixed expenses are allocated to :
  - Stunner - RM30,000
  - Double Set - RM75,000
  - Mega Power -RM30,000

- The additional fixed expenses on the eliminated model will be absorbed in the proportion of 50:50 for the remaining model.

The marketing executive of the company feels that Mega-Power line should be discontinued to increase the company's net income.

(i) Analyze the net income by product line and in total for Fazer Company if the company discontinues Mega-Power product line.

(7 marks)

(ii) Recommend to Fazer Company whether to continue or eliminate the Mega-Power product line, based on the analysis in **Q2(a)(i)**.

(4 marks)

(b) Mamilow Company makes a cologne called Irresistible. The standard cost for one bottle of Irresistable is shown in **Table Q2(b)** below :

**Table Q2(b): Standard Cost for One Bottle**

| Manufacturing Cost Elements | Standard | | | | |
|---|---|---|---|---|---|
| | Quantity | X | Price(RM) | = | Cost(RM) |
| Direct material | 6 oz | X | 0.90 | = | 5.40 |
| Direct labour | 0.5 hrs | X | 12.00 | = | 6.00 |
| Manufacturing overhead | 0.5 hrs | X | 4.80 | = | 2.40 |
| Total Cost | | | | | 13.80 |

During the month, the following transactions occurred in the manufacturing of 10,000 bottles of Irresistible.

- 58,000 ounces of material were purchased at RM1.00 per ounce.
- All the materials purchased were used to produce the 10,000 bottles of Irresistible
- 4,900 direct labour hours were consumed at a total cost of RM56,350
- Variable manufacturing overhead and fixed overhead incurred were RM15,000 and RM10,400, respectively.

The manufacturing overhead rate of RM4.80 is based on the normal capacity of 5,200 direct labour hours. The total budget at this capacity is RM10,400 fixed and RM14,500 variable.

(i) Compute the total variance.

(5 marks)

(ii) Compute the direct material price variance.

(5 marks)

(iii) Compute the direct labour quantity variance.

(5 marks)

(iv) State **ONE (1)** purpose of computing the overhead volume variance.

(1 mark)

(v) Discuss **TWO (2)** reasons for unfavorable direct manufacturing labor efficiency variance.

(3 marks)

**-END OF QUESTIONS-**