

Certificate in Management Accounting

ASE3024

Level 3

Friday 9 November 2012

Time allowed: 3 hours

Information

- There are 5 questions in this examination.
- Total marks available: 100
- All questions carry equal marks.

Instructions

- Do **not** open this paper until you are told to do so by the supervisor.
 - Answer **all questions**.
 - Write your answers in blue or black ink/ballpoint. You can only use pencil for graphs, charts, diagrams, etc.
 - Please ensure your answers are written clearly.
 - Begin your answer to each question on a new page.
 - All answers must be correctly numbered but need not be in numerical order.
 - Workings must be shown.
 - You may use a calculator provided the calculator gives no printout, has no word display facilities, is silent and cordless. The provision of batteries and their condition is your responsibility.
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QUESTION 1

Hobson Ltd manufactures and sells a single product at a current selling price of £250.00 per unit.

The variable production costs and variable selling costs of the product are currently £150.00 and £12.50 per unit respectively.

In the next period, fixed costs are budgeted at £927,500 and the budgeted production and sales are 16,000 units.

The current selling price and variable costs are budgeted to remain unchanged in the next period.

REQUIRED

- (a) Calculate, for the next period, the:
- (i) budgeted break-even point (in sales revenue) (3 marks)
 - (ii) budgeted margin of safety (expressed as a percentage) (3 marks)
 - (iii) selling price required to maintain the current contribution/sales ratio if the variable production costs and the variable selling costs increase by 9.5% and 16% per unit respectively. (5 marks)

Hobson Ltd, which has sufficient unused production capacity, is considering reducing the selling price by 5% in the next period in order to generate a forecast 12.5% increase in sales units.

This would result in the following cost increases:

Variable production costs	5.5% per unit
Variable selling costs	£0.25 per unit
Fixed costs	£83,300

REQUIRED

- (b) Assuming that the selling price is reduced by 5% for the next period, calculate the revised budgeted:
- (i) break-even point (in sales revenue) (5 marks)
 - (ii) net profit. (4 marks)
- (Total 20 marks)**

QUESTION 2

Jin Yan manufactures and sells four products.

Details of the four products are as follows:

	Product Alpha	Product Beta	Product Delta	Product Gamma
	£ per unit	£ per unit	£ per unit	£ per unit
Selling price	214	178	262	186
Less costs:				
Direct materials (at £24 per kilo)	72	48	60	36
Direct labour (at £16 per hour)	40	32	64	48
Variable overheads	30	24	48	36
Fixed overheads	<u>50</u>	<u>40</u>	<u>80</u>	<u>60</u>
	<u>192</u>	<u>144</u>	<u>252</u>	<u>180</u>
Profit per unit	22	34	10	6
Forecast sales demand in the next period	1,200 units	4,250 units	2,100 units	3,600 units

Fixed overheads are absorbed on the basis of the direct labour hours required to satisfy the sales demand.

The same type of material and grade of labour are used in the manufacture of the four products.

The availability of direct material will be limited to 18,500 kilos and of direct labour to 32,000 hours, for the next period.

No finished goods or direct material stocks are held.

REQUIRED

For the next period:

- (a) Determine which of the resources (direct material or direct labour) is the limiting factor, showing clearly your workings. (5 marks)
- (b) (i) prepare a production schedule that will maximise profit (7 marks)
- (ii) calculate the amount of the profit. (4 marks)
- (c) Briefly explain the meaning of the terms:
- (i) avoidable cost (2 marks)
- (ii) sunk cost. (2 marks)

(Total 20 marks)

QUESTION 3

Coren Evens manufactures a single product, is budgeting to make and sell 150,000 units of the product at £24.00 per unit in the coming year.

The product's unit production costs as a percentage of its selling price are as follows:

	%
Direct materials	33
Direct labour	18
Production overheads	24

The following information is also available:

- (1) Production and sales are expected to occur evenly throughout the year.
- (2) Production is expected to take place with an average cycle of 8 days.
- (3) Direct materials are expected to be held in stock for an average of 5 days before being issued to production.
- (4) Work-in-progress is expected to be 100% complete in terms of direct material input and 60% complete in terms of direct labour and production overheads.
- (5) Finished products are expected to be in stock for an average of 7 days before their sale.
- (6) The company plans to grant its customers an average credit period of 60 days while it expects to take an average of 50 days to pay its suppliers of direct materials.

REQUIRED

- (a) Calculate the company's total working capital requirements for the coming year (to the nearest £1,000).
(14 marks)
- (b) Briefly describe **six** benefits that an organisation may obtain from the operation of a budgetary planning and control system.
(6 marks)

(Total 20 marks)

QUESTION 4

Messi Ltd operates a standard absorption costing system for its single product.

Budgeted data relating to the product for the period just ended was:

Standard production cost		£ per unit
Direct material	(3 kilos × £38.50 per kilo)	115.50
Direct labour	(2.5 hours × £19.20 per hour)	48.00
Fixed overheads	(2.5 hours × £21.50 per hour)	53.75

Production and sales: 2,500 units

Standard selling price £280 per unit

Actual results for the next period were as follows:

Production: 3,040 units

Sales: 2,880 units sold for £781,200

Direct material (purchased and used): 9,630 kilos costing £360,485

Direct labour: 7,120 hours costing £149,520

Fixed overheads: £138,650

REQUIRED

(a) Calculate the following variances for the period:

- | | |
|-----------------------------------|-----------|
| (i) selling price | (2 marks) |
| (ii) sales volume profit | (3 marks) |
| (iii) direct material price | (2 marks) |
| (iv) direct material usage | (2 marks) |
| (v) direct labour rate | (2 marks) |
| (vi) direct labour efficiency | (2 marks) |
| (vii) fixed overheads expenditure | (2 marks) |
| (viii) fixed overheads volume | (2 marks) |

(b) Give **three** possible causes of the direct labour rate variance calculated in part (a).

(3 marks)

(Total 20 marks)

QUESTION 5

Patel Ltd is considering investing in one of two alternative new machines in order to reduce operating costs over the next five years.

The following information has been prepared:

	Machine Exe	Machine Whye
	£000	£000
Initial cost	1,200	1,500
Residual value	150	200

For each machine, the management of the company has estimated the savings at three different levels (high, medium and low) within each level the savings each year are assured to be consistent.

The annual cost savings and the probability of their occurrence are set out below.

Machine Exe			Machine Whye		
	Annual cost savings	Probability		Annual cost savings	Probability
	£000			£000	
High	340	0.35	High	308	0.25
Medium	215	0.40	Medium	240	0.45
Low	140	0.25	Low	150	0.30

The above savings have been calculated after deduction of depreciation on a straight-line basis over the five-year life of each machine.

The company's cost of capital is 15% per annum. The relevant discount factors are:

<i>Year</i>	
1	0.870
2	0.756
3	0.658
4	0.572
5	0.497

REQUIRED

- (a) Calculate the expected value of the annual cash flows arising from the cost savings for each of Machine Exe and Machine Whye. (6 marks)
- (b) Evaluate each of Machine Exe and Machine Whye on the basis of the expected value of annual cash flows, using each of the following methods:
- (i) payback period (3 marks)
 - (ii) net present value (8 marks)
- (c) Using your answers in part (b), recommend with reasons, whether Patel Ltd should invest in new machinery, and if so, which machine should be purchased. (3 marks)

(Total 20 marks)