



ICM

MARCH 2016

COST ACCOUNTING

Instructions to candidates:

- a) Time allowed: Three hours (plus an extra ten minutes' reading time at the start – do not write anything during this time)
 - b) Answer any FIVE questions
 - c) All questions carry equal marks. Marks for each question are shown in []
 - d) Non-programmable calculators are permitted in this examination
1. a) Explain the process of setting a master budget. In your answer pay attention to logical sequence and structure. [12]
b) Enumerate the principal benefits of maintaining a budgetary control system. [8]

2. Manufacturers Ltd has three production cost centres X, Y and Z and one service cost centre M which is the maintenance department. The budgeted overhead expenditure for the year ended 31 March 2016 is as follows:

	£000
Depreciation of production and maintenance equipment	500
Employer's liability insurance	175
Heating and lighting	200
Indirect labour	1,000 *
Rent and business rates	800
Staff welfare and safety expenses	200

Budgeted overhead expenditure: total	2,875
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* To be apportioned on the basis of the number of employees per cost centre.

Other data/information is as follows:

Value of production equipment:

Cost centre X	£1,000,000
Cost centre Y	£800,000
Cost centre Z	£500,000
Cost centre M	£200,000

Floor area:

Cost centre X	80,000 sq. metres
Cost centre Y	60,000 sq. metres
Cost centre Z	50,000 sq. metres
Cost centre M	10,000 sq. metres

Number of employees:

Cost centre X	200
Cost centre Y	100
Cost centre Z	80
Cost centre M	20

Overheads to be allocated to cost centre M amount to £55,000.

Cost centre M is to be apportioned 50% to X, 35% to Y and 15% to Z.

Budgeted direct labour hours are:

Cost centre X	200,000
Cost centre Y	217,500
Cost centre Z	171,250

TASKS

- a) Prepare an overhead analysis sheet showing:
 - i a column stating the overhead expense, e.g. depreciation
 - ii a column for each department, e.g. X, Y, Z and M, showing the apportioned expenditure
 - iii a total column
 - iv a column noting the basis used for calculating the expenditure, e.g. area
- b) Calculate the overhead absorption rates for EACH of the three production cost centres using budgeted direct labour hours. Round to two decimal places.
- c) Prepare a cost statement for a product which has a prime cost of £640, and takes 4 hours in cost centre X, followed by 5 hours in cost centre Y, and 3 hours in cost centre Z.

[10]

[6]

[4]

3. Al-Ga plc has a limited capital budget available for investment in suitable projects this year, and has shortlisted two possible choices. Details are as follows:

	Project Alpha	Project Omega
Capital cost	£1,750,000	£1,800,000
Expected life	5 years	5 years
Residual value	nil	nil
Budgeted cash inflows:	£000	£000
Year 1	500	600
Year 2	950	1,200
Year 3	1,300	1,500
Year 4	800	600
Year 5	300	300

The cost of capital to Al-Ga plc is 9%.

Extracts from NPV tables are as follows:

Year	8%	9%	10%
1	.926	.917	.909
2	.857	.842	.826
3	.794	.772	.751
4	.735	.708	.683
5	.630	.650	.621

TASKS

- a) Calculate the payback period for EACH project.
- b) Calculate the accounting rate of return for EACH project.
- c) Calculate the NPV for EACH project.
- d) Explain which project you would recommend and why.

[4]

[4]

[8]

[4]

4. The standard cost of making one unit is as follows:

Direct material	5 kilos at £7 per kilo
Direct wages	7 hours at £10 per hour
The actual cost of a batch of 100 units was:	
Direct material	£3,740 (570 kilos)
Direct wages	£7,450 (820 hours)

TASKS

- a) Calculate the following:
 - i The material price variance
 - ii The material usage variance
 - iii The total material cost variance
 - iv The labour rate variance
 - v The labour efficiency variance
 - vi The total labour cost variance
 - vii The total cost variance
- b) Outline possible causes of the labour variances.
- c) Distinguish between an ideal standard and an attainable standard.

[2]

[2]

[1]

[2]

[2]

[1]

[2]

[4]

[4]

5. As a Cost Accountant, you have been asked to prepare figures and advise on the performance and profitability of a product which your company manufactures, and investigate a number of various alternative proposals. The draft budgeted data for the product in the coming year is as follows:

Variable cost per unit	£	
Direct material	50	
Direct wages	60	
Overheads	80	

	190	

Fixed costs allocated to the product		£2,200,000
Draft budgeted production and sales		100,000 units
Draft budgeted selling price		£250 per unit

TASKS

- a) Calculate the following:
- i The draft budgeted profit [3]
 - ii The draft break-even point (in units) [2]
 - iii The total absorption cost per unit [2]
- b) The company can arrange to buy in this product at a cost of £200 each. In the long term the company would have no use for the equipment and resources they would use to make this product. Would you advise them to make or buy? [4]
- c) Alternatively, if £8 extra per unit was spent on improving the quality and packaging of the product, and £250,000 more spent on advertising, the marketing department predict that they could sell 120,000 units at the existing budgeted selling price. Calculate the resultant profit or loss. [4]
- d) Alternatively, the purchasing department have advised you that by negotiating a long-term contract with the suppliers of direct material, a 10% saving on purchase costs can be obtained. Furthermore, the HR department state that by introducing an incentive system they can save £6 per unit on direct wages, AND £8 per unit on variable overheads. Calculate the resultant profit or loss. [5]
6. Nelson Products is planning to add a new product line and the following cost estimates are provided:
- | | |
|---------------------------------|-----|
| Selling price per unit | £12 |
| Variable material cost per unit | £3 |
| Variable labour cost per unit | £5 |
- Fixed costs apportioned are £10,000 based on budgeted output of 5,000 units for the period.
- a) i Calculate the break-even point in £ of sales revenue. [2]
- ii How many products must be made and sold to make a profit of £6,000 in the period? [3]
 - iii Explain the term '**margin of safety**'. [3]
- b) In relation to process costing, explain why the following situations may arise:
- i Normal losses [3]
 - ii Abnormal losses [3]
 - iii Abnormal gains [3]
 - iv By-products [3]
7. Write notes on FOUR of the following:
- a) The purposes of a GRN
 - b) The importance of cost coding
 - c) FIFO
 - d) Payment by results
 - e) Activity-based costing
 - f) Just-in-Time purchasing [5 each]