



ICM

JUNE 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) Define the role and nature of **cost accounting**. [8]
b) Explain the decision making and control process in the context of management accounting. [12]

2. You work for a manufacturing company that makes three products from one basic raw material. Due to a supplier closing down there will be a shortage of this basic raw material. Next year's budgeted data are as follows:

Maximum amount of raw material available is £1,600,000.

Product	Alto	Base	Contra
Maximum possible sales in units	17,000	13,000	20,000

Variable costs per unit:

Direct material	£44	£47	£45
Direct labour	£14	£17	£17
Overheads	£62	£55	£46
Selling price per unit	£182	£192	£176

Total fixed costs are £674,364

TASKS

- a) For EACH single unit calculate the contribution per product. [3]
- b) Calculate the contribution per £1.00 of material (contribution/direct material). [3]
- c) Rank the product in the order which earns the most contribution based on b) material. [3]
- d) Using direct material and contribution for EACH product, calculate the maximum profit the company can make next year. (Show your workings) [6]
- e) Explain how calculating the 'margin of safety' can help management. [5]

continued overleaf

3. The following information relates to Gyro Systems plc – a manufacturing company:

	£000
Business rates and building insurance	2,400
Repairs and maintenance of machines	450
Depreciation of machines	900
Power consumption	544
Heating and lighting	300
Production manager's salary and expenses	160
Supervisors' salaries	
Department A	75
Department B	90
Department C	60

Other data/information is as follows:

Value of machines (£000) – A = 2,250, B = 1,500 and C = 750

Floor area (sq. m) – A = 15,000, B = 15,000 and C = 10,000

Machine hours to be worked – A = 60,000, B = 60,000 and C = 40,000

Number of direct employees – A = 100, B = 120 and C = 80

The production manager's costs are to be apportioned in proportion to the budgeted machine hours to be worked. Power consumption is to be apportioned in proportion to machine hours worked.

TASKS

- a) Prepare an overhead analysis sheet showing:
 - i type of overhead, e.g. power
 - ii a total £ column
 - iii a column for EACH department
 - iv a column showing the basis on which the overhead costs have been apportioned, e.g. floor area. [8]
- b) Calculate the overhead absorption rates for EACH of the three departments/cost centres using machine hours. Round to 2 decimal places. [3]
- c) Prepare a price quotation for a job which requires 5 hours machining in Department A, 5 hours in Department B and 5 hours in Department C. The prime cost is estimated at £537.70, and 50% is to be added to the production costs to cover administration, selling overheads and profit. [4]
- d) Outline the basis of **Activity Based Costing**. [5]

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

Direct material	3 kilos at £6 per kilo
Direct wages	3 hours at £12 per hour
The actual cost of a batch of 100 units was:	
Direct material	£1,920 (345 kilos)
Direct wages	£3,750 (390 hours)

TASKS

- a) Calculate the following:
 - i The material price variance [2]
 - ii The material usage variance [2]
 - iii The total material cost variance [1]
 - iv The labour rate variance [2]
 - v The labour efficiency variance [2]
 - vi The total labour cost variance [1]
 - vii The total cost variance [1]
- b) What may have caused the labour rate and labour efficiency variances? [5]
- c) For what reasons may ideal standards be calculated? [4]

5. The following are the stock movements of stock item LHR123

	Receipts (units)	Issues (units)
01 May	1,200 at £8 each	
06 May	1,800 at £9 each	
14 May	2,000 at £10 each	
15 May		2,400
22 May	2,000 at £10.50 each	
27 May		3,600

There was no opening stock.

TASKS

a) Prepare stock cards for stock item LHR123 – showing the value of EACH of the two issues and the value of closing stock using EACH of the following stock pricing methods:

- i FIFO
- ii LIFO
- iii AVCO

[16]

b) Outline the features of a **perpetual inventory system**.

[4]

6. Expandex Ltd has a limited capital budget available for investment in suitable projects this year, and has shortlisted two possible choices. Details are as follows:

	Project A	Project B
Capital cost	£2,800,000	£2,800,000
Expected life	5 years	5 years
Residual value	nil	nil
Budgeted cash inflows:	£000	£000
Year 1	700	800
Year 2	1,400	1,300
Year 3	1,600	1,400
Year 4	700	900
Year 5	400	600

The cost of capital to Expandex Ltd is 10%.

Extracts from NPV tables are as follows:

Year	8%	10%	12%
1	.926	.909	.893
2	.857	.826	.797
3	.794	.751	.712
4	.735	.683	.667
5	.630	.621	.507

TASKS

a) Calculate the payback period for EACH project.

[3]

b) Calculate the accounting rate of return for EACH project.

[4]

c) Calculate the NPV for EACH project.

[8]

d) Explain the term **Post Audit Review** in relation to Investment Analysis.

[5]

7. Write notes on FOUR of the following:

- a) Contract costing
- b) Process costing
- c) Piecework
- d) Labour turnover ratio
- e) Target costing
- f) Job evaluation
- g) Normal loss

[5 each]