



COST ACCOUNTING

Friday 3rd June 2022

Time allowed

Three hours

Instructions

- Ensure that you pay particular attention to words in **bold**.
- Write the question number next to each answer in your answer booklet.
- You are **not** required to rewrite the question in your answer booklet.

Information

- Different questions may carry a different number of marks.
- Marks for each question are shown in [].

Advice

- Read each question carefully before you start to answer it.
- Use the full time permitted and check all your answers.

Materials

- Notes or books are **not** permitted.
- Non-programmable calculators are permitted.



ICM

ANSWER ANY FIVE QUESTIONS FROM THE FOLLOWING SEVEN QUESTIONS

1. (a) "The Cost Accounting system is the key financial control system and monitors the results of all activities and all other control systems." (Lucey, 2009).

Explain how this statement relates to a typical manufacturing organisation. Use examples to support your explanation.

[10 marks]

- (b) Explain the effect of increasing automation in a manufacturing organisation from a costing perspective.

[10 marks]

2. (a) Table 1 shows how an organisation pays its production line employees on a piecework basis, but with a guaranteed time rate.

Table 1

Employee	Time Rate (per hour)	Hours Worked (guaranteed)	Units Produced	Piecework rate (per unit)
Harry	£15.00	38	900	£0.65
William	£13.00	38	650	£0.60
Meghan	£12.00	40	750	£0.50
Kate	£11.00	36	700	£0.55

Calculate the amount each employee will earn during a single week referring to the data in Table 1. Show all your workings.

[8 marks]

- (b) The data in Table 2 refers to the stock movements of a stock item. There was no opening stock.

Table 2

Date	Receipts (units)	Issues (units)
2 nd May	1,000 at £15.00 each	-
7 th May	1,900 at £17.00 each	-
12 th May	1,500 at £20.00 each	-
16 th May	-	3,100
24 th May	2,100 at £21.00 each	-
27 th May	-	2,900

Prepare stock cards for the stock item in Table 2, showing the value of each of the two issues and the value of closing stock, using each of the following stock pricing methods:

- (i) First In, First Out (FIFO)

[6 marks]

- (ii) Average Cost Method (AVCO)

[6 marks]

3. A manufacturing organisation produces three products (A, B and C) from one raw material. There will be limited supplies of this raw material next period. Table 3 refers to the budget information for the next period:

Table 3

	Product		
	A	B	C
Maximum possible sales in units	9,000	12,500	21,500
Variable costs per unit:			
Direct material (raw material)	£58	£58	£54
Direct labour	£16	£18	£18
Overheads	£62	£55	£48
Selling price per unit	£210	£200	£185

Notes:

- Maximum amount of raw material available: £2,000,000
- Total fixed cost: £291,241

- (a) Calculate the contribution per unit for A, B and C. [3 marks]
- (b) Calculate the contribution per £1.00 unit of materials:
 $\left(\frac{c}{dm}\right)$
 c = contribution
 dm = direct materials
 Rank the units according to which product earns the most contribution. [3 marks]
- (c) Calculate the optimum amount of raw material for A, B and C. [3 marks]
- (d) Calculate the maximum profit for the organisation next year, given the maximum amount of raw materials available. Show all your workings. [6 marks]
- (e) Explain what is meant by the term 'limiting factor' including its importance. [5 marks]
4. The following information refers to the standard cost of making one unit for a public limited company operating a standard costing system.

The standard cost of making one unit:

- Direct material: 5kg at £9 per kg
- Direct wages: 4 hours at £15 per hour

The actual cost of making a batch of 1,000 units was:

- Direct material: £46,725 (5,250kg)
- Direct wages: £61,625 (4,250 hours)

- (a) Calculate each of the following:
- (i) The material price variance [2 marks]
 - (ii) The material usage variance [2 marks]
 - (iii) The labour rate variance [2 marks]
 - (iv) The labour efficiency variance [2 marks]
 - (v) The total cost variance [2 marks]
- (b) Explain the labour rate variance and labour efficiency variance referring to the relationship between the two variances. [6 marks]
- (c) State the information that must be included on a standard cost card. [4 marks]

5. Table 4 relates to the financial information for a manufacturing organisation:

Table 4

	£
Business rates and building insurance	1,800,000
Repairs and maintenance of machines	500,000
Depreciation of machines	700,000
Power consumption	450,000
Heating and lighting	200,000
Production manager's salary and expenses	110,000
Supervisors' salaries:	
Department A	60,000
Department B	40,000
Department C	50,000

Other data/information is as follows:

- Value of machines:
 - A = 1,400,000
 - B = 1,100,000
 - C = 600,000
- Floor area (sqm):
 - A = 20,000
 - B = 10,000
 - C = 15,000
- Machine hours to be worked:
 - A = 15,000
 - B = 15,000
 - C = 10,000
- Number of direct employees:
 - A = 120
 - B = 80
 - C = 110
- 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.

- (a) Prepare an overhead analysis sheet, include a column for each of the following:

- The basis on which overhead costs have been calculated
- Totals for each overhead cost
- Each department
- The type of overhead

[10 marks]

- (b) Calculate the machine hourly overhead absorption rates for each Department A, Department B and Department C.

[4 marks]

- (c) £1,500.00 is the estimated cost of materials.

Prepare a product cost for a job which requires four hours machining in Department A, four hours in Department B and ten hours in Department C.

[6 marks]

6. Table 5 provides data on two potential projects for a limited company with a capital budget of £3 million available for investment in suitable projects for 2023. The cost of capital to the limited company is 9%.

Table 5

	Project 1	Project 2
Capital cost	£3,000,000	£3,000,000
Expected life	5 years	5 years
Residual value	nil	nil
Budgeted cash inflows:	£	£
Year 1	900,000	1,000,000
Year 2	1,100,000	1,200,000
Year 3	700,000	1,900,000
Year 4	1,500,000	1,200,000
Year 5	600,000	200,000

Extracts from NPV tables

Year	8%	9%	10%
1	0.926	0.909	0.893
2	0.857	0.826	0.793
3	0.794	0.751	0.712
4	0.735	0.683	0.567
5	0.630	0.621	0.507

- (a) Calculate the payback period for Project 1 and Project 2. [4 marks]
- (b) Calculate the accounting rate of return for Project 1 and Project 2. [4 marks]
- (c) Calculate the net present value (NPV) for Project 1 and Project 2. [8 marks]
- (d) Explain what is meant by 'the time value of money'. [4 marks]

7. Describe any **four** of the following:

- Sunk cost
- Master budget
- Life cycle costing
- Joint products
- Profit/volume ratio (p/v ratio)
- Budget manual

[20 marks]

END OF QUESTIONS