



COST ACCOUNTING

Friday 3rd March 2023

Time allowed

- You have 3 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) Explain what is meant by 'Net Present Value' (NPV). [6 marks]
 (b) Explain the differences between 'Net Present Value' (NPV) and 'Payback'. [6 marks]
 (c) Explain the way 'opportunity cost' and 'incremental cost' can inform spending decisions. [8 marks]

2. A manufacturing company has three production departments: Assembly (A), Fitting (F), and Painting (P). Table 1 shows the production costs:

Table 1: Production costs

	£
Business rates and building insurance	1,600,000
Repairs and maintenance of machines	600,000
Depreciation of machines	1,200,000
Power consumption	800,000
Heating and lighting	400,000
Production manager's salary and expenses	150,000
Supervisors' salaries:	
- Assembly (£60,000)	
- Fitting (£140,000)	
- Painting (£50,000)	250,000

Notes:

- Value of machines:
 - A = 1,500,000
 - F = 1,000,000
 - P = 500,000
- Floor area (sqm):
 - A = 15,000
 - F = 15,000
 - P = 10,000
- Machine hours to be worked:
 - A = 40,000
 - F = 38,000
 - P = 22,000
- Power consumption is to be apportioned:
 - A = 30%
 - F = 45%
 - P = 25%
- The production manager's costs are to be apportioned equally over the three departments

- (a) Prepare the overhead analysis sheet by copying and completing the following table into your answer booklet with additional rows as appropriate:

Expenditure type	Total expenditure	Assembly department	Fitting department	Painting department	Basis of analysis
Business rates	1,600,000	600,000	600,000	400,000	Area

- (b) Calculate overhead absorption rates using machine hours for each of the three production departments: Assembly (A), Fitting (F) and Painting (P). [3 marks]
 (c) Explain the differences between absorption costing and activity-based costing (ABC), including which method is most effective. [8 marks]

3. **Case Study: Pay rates**

- A company works a 7-hour day, 35-hour week (5 x 7)
- The rate paid is £15 per hour for a 35-hour week
- Overtime is paid as time and a half for first 2 hours and thereafter double time
- Saturday working is paid at double time
- Employees must work 7 hours each day before overtime is calculated

Table 2: Employee hours

	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
Alex	7	8	9	10	7	2
Blake	6	8	8	8	8	1
Charlie	9	8	8	7	7	0

- (a) Calculate the gross earnings of the employees Alex, Blake and Charlie using the data provided in Table 2. [9 marks]
- (b) Describe the information located on a clock card other than employee name and number. [5 marks]
- (c) Evaluate the advantages and disadvantages of the piecework method of payment. [6 marks]

4. A manufacturing company makes three products from one raw material. Due to a supplier's fault, there will be a shortage of this raw material next year. Table 3 shows the budgeted data for 2024:

Table 3: Budgeted data

Product	A	B	C
Maximum possible sales in units	14,000	15,000	12,000
Variable costs per unit:			
Direct material	£45	£40	£44
Direct labour	£15	£20	£16
Overheads	£60	£50	£40
Selling price per unit	£180	£190	£175

Notes:

- Maximum amount of raw material available will be valued at £1,501,500
- Total fixed costs are £98,000

- (a) Calculate the contribution for each of the three products (A, B and C). [3 marks]
- (b) Calculate the contribution for each £1.00 of material. [6 marks]
- (c) Rank in order the product which earns the largest contribution. [1 mark]
- (d) Calculate the maximum profits the company can earn in 2024. Show your workings. [10 marks]

5. **Case Study: Unit costs**

The standard cost of making one unit:

- Direct material: 4 kilos at £7 per kilo
- Direct wages: 5 hours at £10 per hour

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

- Direct material: £28,960 (4,328 kilos)
- Direct wages: £51,250 (5,370 hours)

(a) Calculate each of the following:

- Material price variance
- Material usage variance
- Total material cost variance
- Labour rate variance
- Labour efficiency variance
- Total labour cost variance
- Total cost variance

[2 marks]

[2 marks]

[2 marks]

[2 marks]

[2 marks]

[2 marks]

[2 marks]

(b) State **one** reason for each of the variances in question 5(a).

[4 marks]

(c) State **two** pieces of information typically located on a cost card.

[2 marks]

6. (a) A public limited company makes a chemical product and uses process costing. Table 4 includes details for the month of January 2023:

Table 4: Process 1

Input	Cost
5,000 litres of chemical	£10.00 per litre
600 direct hours of labour	£20.00 per hour
Overheads	£5,500

Note:

- Process 1 has a normal loss of 10% with no scrap value

(i) Prepare the process account for Process 1.

[6 marks]

(ii) Calculate the cost per litre of Process 1.

[4 marks]

(b) A nursing home has capacity for 20 residents. Table 5 shows costs for the year to 31st January 2023:

Table 5: Costs for the year to 31st January 2023

	£
Direct Costs:	Food and Drink 310,000
	Heating and Power 50,000
	Nursing and Medical staff 310,000
	Support services 40,000
Indirect Costs:	Overheads (including depn) 20,000

(i) Calculate the cost per day per resident based on 100% occupancy.

[4 marks]

(ii) Calculate the cost per day based on 95% occupancy.

[4 marks]

(iii) State the name of this type of costing.

[2 marks]

7. Table 6 shows the stock movements of a company's stock item:

Table 6: Stock movements

Date	Receipts	Issues
1 st January	1,200 units at £16 each	
8 th January	1,800 units at £18 each	
14 th January	2,000 units at £20 each	
15 th January		2,100 units
23 rd January	2,000 units at £21 each	
26 th January		3,900 units

- (a) Prepare the stock cards for the stock item which show the value of the **two** issues and the value of closing stock, using each of the following stock pricing/valuation methods:
- (i) First In, First Out (FIFO) [5 marks]
 - (ii) Last In, First Out (LIFO) [4 marks]
 - (iii) Explain the reason the stock valuations (FIFO and LIFO) differ. [6 marks]
- (b) (i) Define what is meant by Just in Time Purchasing (JIT). [2 marks]
- (ii) State **three** features of Just in Time Purchasing (JIT). [3 marks]

END OF QUESTIONS