



NQF

Certificate

6.2 ICMA

**Introduction to Cost and Management
Accounting**

Monday 6 June 2016, Afternoon

1. **Time allowed: 3 hours.**
2. **Answer any four questions.**
3. **All questions carry 25 marks. Marks for subdivisions of questions are shown in brackets.**
4. **No books, dictionaries, notes or any other written materials are allowed in this examination.**
5. **Calculators, including scientific calculators, are allowed provided they are not programmable and cannot store or recall information. All other electronic devices, including mobile phones, are not permitted.**
6. **Note that £1 = 100 pence (p).**
7. **Candidates who break ABE Examination Regulations will be disqualified from the examinations.**
8. **Question papers must not be removed from the examination room.**



Answer any four questions

Q1 Reynolds Limited is a manufacturer of commercial refrigeration equipment. The following costs were incurred in May 2016:

	£
Fuel for delivery vehicles	650
Refrigerant for use in items produced	2,500
Invoice from cleaning company for cleaning offices	425
Stationery for use in admin office	77
Wages for factory cleaners	3,250
Spare parts for production machinery	836
Components for assembly into products	11,600
Wages for production workers	19,300
Electricity to power production machinery	2,300

(a) Identify the amounts (if any) to be posted to each of the following ledger accounts, showing clearly whether a debit or credit is required in each case:

- Direct materials
- Indirect materials
- Direct labour
- Indirect labour
- Production overheads
- Admin expenses
- Selling and distribution costs

(14 marks)

(b) Explain the difference between a direct cost and an indirect cost.

(3 marks)

(c) The following information relates to a component used in many of the company's products:

Item	Compressor FC14
Annual demand	9,000 units
Delivery cost per order	£75.00
Holding cost per item per annum	£1.25

(i) Using the formula $EOQ = \sqrt{\frac{2cd}{h}}$ calculate the economic order quantity for component FC14.

(3 marks)

(ii) Explain how the holding cost of £1.25 is calculated. Support your answer with three examples of the types of holding cost incurred.

(5 marks)

(Total 25 marks)

Q2 Ward Manufacturing is having difficulty producing enough items to meet the demand for its product. At present the company manufactures and sells 18,000 units of its product but the sales manager estimates that 24,000 units could be sold if enough items could be manufactured. The directors are therefore considering setting up an additional production line to increase the amount that can be produced by a further 6,000 units.

It has been estimated that to set up the production line will incur additional fixed costs of £12,000 each year. Each product is sold for £8.00 and requires 0.5 kilograms of material and 6 minutes of direct labour. Material costs £6.00 per kilogram and labour is paid at a rate of £15.00 per hour.

- (a) Calculate the unit contribution of the product. **(5 marks)**
- (b) Calculate the breakeven point for the new production line. **(2 marks)**
- (c) If the sales manager's forecast sales are achieved calculate the margin of safety in:
- (i) Units **(1 mark)**
 - (ii) As a percentage to one decimal place **(1 mark)**
- (d) Explain the meaning of each of the following terms:
- (i) Breakeven point **(2 marks)**
 - (ii) Margin of safety **(2 marks)**
 - (iii) Unit contribution **(2 marks)**
 - (iv) Fixed overhead **(2 marks)**
- (e) (i) Recommend whether the new production line should be set up. Your answer should make reference to the figures you have calculated and give reasons for your recommendation. **(4 marks)**
- (ii) Explain why breakeven analysis alone is not sufficient to make a decision. **(2 marks)**
 - (iii) Identify any other factors you feel should be taken into account before making a final decision. **(2 marks)**
- (Total 25 marks)**

Q3 Chapman Ltd operates a system of standard costing and has recorded the following information for the month of May 2016:

	£
Opening inventory of raw materials	6,102
Opening inventory of work in progress	13,444
Opening inventory of finished goods (675 units @ £12.00)	8,100
Raw materials purchased	21,455
Direct wages paid (3,960 hours @ £11.00)	43,560
Indirect wages paid	16,344
Other overhead expenditure	3,222
Raw materials issued to production	23,388
Finished goods completed (7,290 units @ £12.00)	87,480

7,402 units were sold during the month.

Fixed overheads are absorbed at a rate of £5.00 per direct labour hour.

- (a)** Draw up the following ledger accounts and show the entries required to record the above transactions:
- (i) Raw materials control
 - (ii) Wages control
 - (iii) Fixed overhead control
 - (iv) Work in progress
 - (v) Finished goods
- (19 marks)**
- (b)** Identify the under- or over-absorption of fixed overheads for the month. **(1 mark)**
- (c)** Identify the closing inventory (balance c/d) of the following:
- (i) Raw materials
 - (ii) Work in progress
 - (iii) Finished goods
- (3 marks)**
- (d)** Identify two reasons why it is important to record labour costs accurately. **(2 marks)**
- (Total 25 marks)**

Q4 Trident Business Systems (TBS) produces computer systems and software for a wide range of clients. It has recently tendered for a contract to supply an inventory control system for a major manufacturing company, the details of which are presented below.

All employees work 7 hours per day and charge out rates are as follows:

Title	Charge-out rate £ per hour
Systems Analysts	100
Hardware designers	60
Programmers	45
Network cable installers	30
Client trainers	20

Items used in TBS installations	Price £
Desktop PCs	295 each
Laptop PCs	454 each
CAT6 cabling	10 per metre
24 port network switches	80 each
Network laser printers	230 each

Elements required for the proposed contract are as follows:

- 1 x Systems Analyst for 2 days
- 1 x Hardware designer for 1 day
- 3 x Programmers for 2 days
- 4 x Network cable installers for 4 days
- 2 x Client trainers for 3 days
- 40 x Desktop PCs
- 25 x Laptop PCs
- 900 x metres of CAT6 cabling
- 7 x 24 port network switches
- 6 x Network laser printers

- (a) Calculate the cost of supplying and installing the inventory control system. **(20 marks)**
- (b) Calculate the price at which the contract should be priced if the company wishes to earn a 25% profit margin on sales. **(2 marks)**
- (c) Identify three other factors that should be taken into account when making a final decision on the price at which the job should be offered. **(3 marks)**
- (Total 25 marks)**

Q5 You are assisting with the setting up of the annual budget at Kitchen Kreations, a manufacturer of kitchen equipment.

(a) The following overhead costs are incurred in the manufacture of a range of kitchen products:

- Cleaning has a fixed element of £15,000 and a variable cost of £2.50 per unit.
- Machine power has a variable cost of £4.00 per unit.
- Supervision is a stepped fixed cost, and each supervisor can deal with a maximum of 5,000 units of output at a cost of £20,000 per supervisor.

Required:

Calculate the total cost of overheads at an output of:

- (i) 3,000 units **(3 marks)**
- (ii) 6,000 units **(3 marks)**
- (iii) 10,000 units **(3 marks)**

(b) Some further total costs have already been calculated as follows:

Units	3,000	6,000	10,000
Cost Item	<u>Total Cost</u>		
	£	£	£
Quality Control Costs	15,000	24,000	36,000
Machine power	11,250	22,500	37,500
Rent	30,000	30,000	30,000

- (i) Identify whether each of these cost items is a fixed, variable or semi-variable cost. **(3 marks)**
- (ii) Calculate the fixed and variable element of each cost item as appropriate. If any are zero you should clearly state this in your answer. **(6 marks)**

(c) Explain what is meant by the following process costing terms:

- (i) Normal loss **(2 marks)**
- (ii) 50% complete for labour **(3 marks)**
- (iii) Abnormal gain **(2 marks)**

(Total 25 marks)

Q6 (a) Explain the meaning of the following terms:

- (i) Time Value of Money **(3 marks)**
- (ii) Discount Factor **(2 marks)**
- (iii) Present Value **(3 marks)**
- (iv) Positive Net Present Value **(2 marks)**

(b) Beesley Ltd sells 30,000 units of its product each year at a price of £42.00 per unit.

Beesley Ltd requires that all projects have a payback period of three years or less and has a cost of capital of 15% for which the discount factors are:

Year	Factor
0	1.000
1	0.870
2	0.756
3	0.658
4	0.572
5	0.497

Beesley Ltd is thinking of investing £250,000 in new machinery to improve the efficiency of its production line. The machinery will last for five years and will be depreciated on a straight-line basis. At the end of this time it is anticipated that the machinery will generate a disposal revenue of £50,000.

At present each unit produced requires 0.5 kilos of material at a cost of £12.00 per kilo and 2 hours of labour at a cost of £9.00 per hour. With the new machinery in place, the selling price and the material cost will not change but the labour hours required per unit will reduce by 20%.

- (i) Identify the relevant cash flows of the proposed investment. **(6 marks)**
 - (ii) Calculate the payback period for the proposed investment. **(2 marks)**
 - (iii) Calculate the net present value of the proposed investment. **(1 mark)**
 - (iv) Recommend whether the project is a worthwhile investment on the basis of the above analysis. Your answer should identify any other factors you feel should be taken into account when making this decision. **(6 marks)**
- (Total 25 marks)**

Q7 (a) Explain what is meant by each of the following terms and explain how each is calculated:

- (i) Standard labour cost (3 marks)
- (ii) Fixed overhead expenditure variance (2 marks)
- (iii) Material usage variance (3 marks)
- (iv) Full absorption cost per unit (2 marks)

(b) Thompson's Foundry makes high quality kitchen equipment.

The standard cost of a cast iron saucepan which it manufactures comprises the following:

Materials	3 kilos @ 2.50 per kilo
Labour	0.4 hours @ £12.00 per hour
Fixed overheads	0.4 hours @ £27.00 per hour

For the month of May 2016 the budgeted output was 12,000 units and actual results were as follows:

Units produced:	12,500
Material used:	38,000 kilos at a total cost of £91,200
Labour:	5,200 hours at a total cost of £59,800
Fixed overhead expenditure was	£132,000

Calculate the following:

- (i) Standard material cost for actual production (1 mark)
- (ii) Total labour cost variance (3 marks)
- (iii) Material usage variance (3 marks)
- (iv) Fixed overhead expenditure variance (3 marks)

(b) Explain how each of the items in part **(b)** (i) to (iv) will be treated in the accounts. (5 marks)
(Total 25 marks)

Q8 (a) Explain the meaning of the following budgeting terms:

- (i) Marginal cost (2 marks)
- (ii) Flexed budget (2 marks)
- (iii) Fixed overhead absorption rate (2 marks)
- (iv) Adverse material usage variance (2 marks)

Further information:

Garnet Ltd manufactures a garden ornament, the standard cost card for which is presented below:

Material	2 kilos @ £3.00 per kilogram
Labour	0.5 hours @ £10.00 per hour

Garnet Ltd is setting its budget for the coming year and is considering three different levels of output.

Level1: At a selling price of £45 per unit the company believes it can sell 10,000 units and the fixed overheads will comprise the following:

Rent	£100,000
Supervision	£44,000
Depreciation	£60,000

Heat light and power is a semi-variable cost with a fixed element of £30,000 per year and a variable cost of £1.50 per unit.

Level 2: If the selling price is reduced by 5%, the company believes it will be possible to sell an additional 2,000 units with no increase in fixed costs.

Level 3: If the selling price is reduced by 10%, the company believes it can sell 15,000 units but this will require an additional supervisor who will cost £22,000 per annum and an additional machine costing £300,000 which will be depreciated over a ten-year period.

(b) Prepare a budget for each of the three levels of output, showing clearly the total contribution and profit earned at each level. (9 marks)

(c) The owners of Garnet Ltd have asked you to:

- (i) Identify the advantages and disadvantages of each level of output. (6 marks)
 - (ii) Recommend which level of output is the best course of action for Garnet Ltd. (2 marks)
- (Total 25 marks)**

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