

Exam paper 1 2 hours Answer all questions.
Each question is worth 25 marks

Question 1

Modern manufacturing is based upon an emphasis on quality of production, speed of product development and rapid response to market needs. Describe the advanced manufacturing technologies which have developed to accommodate these needs, and discuss how management accounting techniques have developed in response to these developments.

25 marks

Question 2

Tallulah Trott, a friend of yours, has recently set up a small business making curtains. She has supplied you with the following figures, and has asked your advice on a number of issues:

<i>Costs per month</i>	£
Materials	4,100
Labour	5,000
Production overheads	2,000
Selling and distribution overheads	1,000
Administration overheads	500

The above costs are based on producing and selling 1200 pairs of curtains per month at a selling price of £15 each.

80% of labour costs are fixed, as are 75% of production overheads, 60% of selling and distribution overheads, and 100% of administration overheads. All other costs vary directly with output.

Tallulah wants to know:

- How much profit she will make at the proposed production level and selling price?
- How many pairs of curtains she needs to sell to break even at this price?
- If sales are slower than expected, by how much can she reduce her selling price in order to maintain the budgeted level of sales, without making a loss?
- Tallulah estimates her maximum capacity as 1500 costumes: would it be worthwhile dropping the price in order to increase sales to capacity? If so, by how much?
- If Tallulah bought another machine, she could increase her production capacity to 2500 costumes. Repayments on the machine would be £700 per month, and she

would need an extra member of staff, costing £1000 per month. She would also have to pay a bonus to all staff of 50p per costume, over and above their current wages, and variable production overheads would increase by 30p per pair of curtains.

In order to increase sales, she would have to reduce the price: she estimates demand at different price levels to be as follows:

Price	Estimated monthly demand
£14	1500
£13	2000
£12	2500

What would be the optimum price?

REQUIRED:

Advise Tallulah on each of the above points, showing your calculations, explaining both the financial and non-financial implications of each, where appropriate.

25 marks

Question 3

Kevin Pratt , the owner of a medium sized building company, has recently started work on a contract involving the conversion of an old warehouse into luxury apartments.

Two months into the contract, Kevin found that his schedule was being delayed by bad weather & was struggling to find enough interior work to keep his workmen busy. On one particularly quiet day, Kevin was approached by the Project Manager of the development. He said that he was impressed by the quality of Kevin's work, and asked whether he would be prepared to take on an additional contract. This would involve converting one of the ground floor apartments into a finished 'Show Home'. Work could begin immediately, but would need to be finished within one week.

Kevin had originally submitted a tender for the 'Show Home' contract but the job had gone to one of Kevin's main competitors, at a price of £6,000. However, the contractor was unable to start the work on time and had withdrawn. The Project Manager told Kevin that the maximum price for the contract would be £6,500.

Kevin was unable to find his original tender for the contract, but managed to unearth the working papers. Details are given below.:

Material costs

	£
Plaster & Plasterboard	490
Wood	630
Paint (white 50 litres, cream 50 litres)	180
Sundry fixtures & fittings	700

Labour:	2 carpenters,	40 hours each
	3 plasterers,	40 hours each
	unskilled labour:	60 hours
	Supervision:	15 hours

Direct labour rates per hour are:

Carpenters	£15
Plasterers	£13
Unskilled labour	£8
Supervision	£40

Kevin uses an overhead absorption rate of £4 per direct labour hour to cover overheads and ensure he makes a profit on the job

Required

a) Using the information above, reconstruct Kevin's original unsuccessful quote for the "Show Home" job.

6 marks

b) Taking into account the following additional information, advise Kevin on whether or not it would be worthwhile him undertaking the work at a contract price of £6,500. You should state any assumptions you make, and also mention any non-financial factors that Kevin might wish to take into account when deciding whether to accept the work.

19 marks

- 1) Kevin has over-ordered plaster & plasterboard for the original conversion contract. He has £150 worth spare, & is unlikely to use it on another job in the foreseeable future.
- 2) The wood and the sundry fixtures and fittings will need to be purchased especially for this job
- 3) He has a large stock of white paint in his builder's yard (at least 120 litres). It is in regular use, and the current cost of replacement is £1.75 per litre. White paint can be mixed with a colouring agent to make it cream at a cost of 50p per litre.
- 4) Kevin currently has two carpenters and two plasterers working on site on the original contract, all of whom are permanent full time employees each working 40 hours per week. However, given the weather delays, there is only enough work to keep one carpenter and one and a half plasterers busy on the original contract. Additional carpenters working

freelance can be hired at short notice for £18 per hour, and extra plasterers for £16 per hour.

- 5) Kevin is rather short of general labourers on his permanent staff and all are currently fully occupied. Extra general labour is available on a casual basis at a cost of £10 per hour.
- 6) Kevin is currently on site full time supervising the original conversion contract but has plenty of spare time due to the bad weather.

Question 4

Michael PLC is a divisionalised company, where divisional managers' remuneration packages are linked to their divisions' return on investment, based on the net book value of assets employed in the division at the beginning of the financial year. On average, divisional managers remain in post for a three-year period.

The manager of the South division is considering two mutually exclusive alternative proposals for investing in new machinery. They both involve an initial outlay of £250,000, but will yield different levels of savings over the life of the machinery, which is estimated at five years, after they will have no residual value. Depreciation is charged on a straight line basis by Michael PLC.

The savings will give rise to increased cash flows as follows:

Year ▼	Machine ►	A Cash flows	B Cash flows
1		80000	100000
2		80000	90000
3		80000	80000
4		100000	60000
5		100000	40000

REQUIRED:

- a) Appraise each project, using:
 - i) return on investment, as described above
 - ii) Net present value, using the company's cost of capital of 6%

15 marks

- b) Based on your results from (a), explain which machine the Divisional Manager is likely to choose and discuss the potential conflict between performance measurement and investment appraisal.

10marks

Total marks

25

Present value of £1

Years hence	<u>6%</u>	<u>8%</u>	<u>10%</u>	<u>12%</u>	<u>14%</u>
1	0.943	0.926	0.909	0.893	0.877
2	0.890	0.857	0.826	0.797	0.769
3	0.840	0.794	0.751	0.712	0.675
4	0.792	0.735	0.683	0.636	0.592
5	0.747	0.681	0.621	0.567	0.519
6	0.705	0.630	0.564	0.507	0.456
7	0.665	0.583	0.513	0.452	0.400
8	0.627	0.540	0.467	0.404	0.351
9	0.592	0.500	0.424	0.361	0.308