CHAPTER 12
INVENTORIES

Quick test

Question 1

	Included	Not included
Discounts on purchase price	√	
Interest charge for late payment		√
Import duties	√	
Recoverable VAT		√
Irrecoverable tax	√	
Quality certificates	√	
Insurance during transit from supplier	√	
Depreciation of factory	√	
Costs of leasing machinery	√	
Cost of factory canteen	√	
Research on new products		√
Costs of extra scrap / waste		√
Sales department salaries		√
Purchase department salaries	√	
Maintenance of factory	√	
Rebuilding of factory		√
Audit fees		√
Costs of using patent	√	

← These are trade discounts which are deducted from the purchase price

← Normal / expected waste would be included in the cost of inventory

Question 2

(a) Materials to be consumed – lower of cost and net realisable value for each separate item of inventory:

	£
Material X	1,200
Material Y	240
Material Z	530
	1,970

(b) Assets in the process of production (i.e. work-in-progress) and assets held for sale (i.e. finished goods)

2,000 complete and 200 half completed petrol caps ≡ 2,100 'equivalent' complete units

Total costs:

	£
Materials consumed	1,650
Labour	2,160
Production overheads	390
	4,200

Administrative costs are never included in inventory valuation.

⇒ Cost per equivalent unit = £4,200 / 2,100 = £2

This is lower than the NRV of £2.75 per unit.

Value of inventories in the process of production: 200 x 1/2 x £2 £200

(c) Value of assets held for sale: 2,000 x £2 £4,000

Question 3

(a) Cost

	£
Direct labour and materials	58
Bought-in components	25
Factory overhead costs	18
Production director costs (£4,000/1,000)	4
	105

NRV

		£
Expected selling price		119
Less:	Commission	(4)
	Royalty	(12)
		103

Unit value of dust busters = £103 (*lower* of cost and net realisable value)

Assumption: Overhead costs are allocated on the basis of normal level of activity and that 1,000 dust busters is the normal level of activity.

Note: General administrative and selling and distribution costs are not included.

(b) The basic principle of IAS 2 *Inventories* is that the measurement should include costs "incurred in the normal course of business in bringing the product or service to its present location and condition."

Production overheads will include normal expenses incurred in respect of materials, labour or services for production. All abnormal conversion costs, for example, exceptional waste, should be excluded from the valuation. For other overheads judgement will normally be required in order to determine which meet the criteria as set down in the standard. IAS 2 *Inventories* states that the classification of overheads should be based on function. Examples given are depreciation and maintenance of factory buildings and equipment, and the cost of factory management and administration. Only those that can be reasonably allocated to the production function should be included in the cost of conversion.

The allocation of fixed production overheads included in the valuation of inventory needs to be based on the company's normal level of activity, taking one year with another. Unallocated overheads should be recognised in the period in which they are incurred. The actual level of production may be used if it approximates normal capacity.

Develop your understanding

Question 4

Materials to be used in production

			£
Cost per tonne:	Purchase price		210
	Delivery & handling	10,000 / 4,000	2.5
			212.5
Cost of materials inventories		12,000 x 212.5	£2,550,000

Assets held for sale

			£
Cost per tonne:	Materials	3/2 x 212.5	318.75
	Direct production costs		40
	Fixed production costs	45,000 / 5,000	9
			367.75

General management costs are ignored

NRV per tonne:	Selling price		449
	Less: Loading		(15)
	Delivery	210,000 / 70,000	(3)
			431

Cost < NRV, therefore value inventories at cost

Cost of assets held for sale	2,000 x 367.75	£735,500

Take it further

Question 5

(a) **Inventories**

Inventories are valued at the lower of cost and net realisable value (NRV) (IAS 2).

	ZX100	ZX150	Blades
	£	£	£
Direct labour and materials	125	125	350
Bought-in components[1]	250	300	175
Factory overheads	110	110	200
Cost[2]	485	535	725
NRV			
Usual selling price	600	750	1,000
Actual selling price	360		
Costs to repair			(150)
NRV	360	750	850 for 50 blades 1,000 for 250 blades
Lower of cost and NRV	360	535	725
Units[3]	20	80	300
Inventory valuation	20 x 360	80 x 535	300 x 725
	£7,200	+ £42,800	+ £217,500 = £267,500

Notes

[1] The £10 transport costs are included in the bought-in components cost as they are a cost of bring the inventories to their present location and condition.

[2] The head office general administrative overheads are excluded as they are not a cost of production.

[3] The 12 blades in transit to a customer are excluded from Harness Technology's inventories as the benefits of ownership are deemed to have passed to the customer.

(b) **Construction contract**

As with other construction contracts, it is assumed that the whole project is one performance obligation since the design, build and installation of the system are all inseparable parts of the same contract to deliver a large wind turbine system.

The financial estimate of the overall contract at 31 December 20X8 is as follows:

	£m
Contract selling price	55
Total costs	(38.5)
Profit	16.5

Note 1

The research costs of £400,000 which were not specified in the contract are not considered a directly attributable contract cost, so are excluded from the contract accounting. They are written off as an expense in the statement of profit or loss in 20X8.

Note 2

Progress towards completion of the performance obligation based on the input method of costs incurred at 31 December 20X8 as a proportion of the total contract costs would give the stage of completion as 10 / 38.5 = 26.0%.

However IFRS 15 requires that companies should exclude from an input method the effects of any inputs that do not depict the entity's performance in transferring control of goods or services to the customer. If a cost incurred is not proportionate to the entity's progress in satisfying the performance obligation, the best depiction of the entity's performance may be to adjust the input method to recognise revenue only to the extent of that cost incurred.

The materials costing £500,000 which have been delivered to the site but which will be used in 20X9 should therefore be excluded in determining the progress towards completion at 31 December 20X8.

Progress towards completion of the performance obligation based on the input method of costs incurred at 31 December 20X8 excluding these materials
= (10 – 0.5) / (38.5 – 0.5) = 25%

Revenue is recognised for these materials at an amount equal to their purchase price, i.e. at zero margin.

Statement of profit or loss for the year ended 31 December 20X8

		£m
Revenue recognised	(25% x 55) + 0.5	14.25
Costs recognised		(10.0)
Profit		4.25
Research costs expensed		0.4

[Although not asked for in the question, the statement of financial position figures at 31 December 20X8 can be obtained from the contract asset account:

	£m
Costs incurred to date	10
Profit recognised to date	4.25
	14.25

Progress billings	(15.0)
Balance	(0.75)
recognised as a current liability]	

(c) (i) It is important that there are specified methods of how items should be valued for reporting at the year-end to ensure comparability. Inventories could in theory be reported using a number of values such as market value, net realisable value or cost to purchase/produce, but IAS 2 *Inventories* ensures the accruals principle is followed so that the cost of obtaining and producing inventories is matched against the related revenues. However, as for all assets, inventories should not be carried at amounts in excess of their value to the business, and so inventory is measured at the lower of cost and net realisable value.

In calculating the cost to produce items, guidance on what to include is needed to ensure consistency. The basic principle of IAS 2 is that the measurement should include costs "incurred in the normal course of business in bringing the product or service to its present location and condition". Costs of purchase include import duties and transport and handling. IAS 2 requires a method of absorption costing which includes a proportion of all production related costs but generally no other non-production costs unless their direct relation to the production of the specific job can be demonstrated. Other costs are classed as period costs and charged in full to the statement of profit or loss.

(ii) The accounting for contract revenues and costs from construction contracts which are spread over more than one accounting period are now incorporated into IFRS 15 *Revenues from Contracts with Customers*. The same accounting principles apply to these contracts as to any other sales contract in that the five-step revenue recognition model must be followed. Most construction contracts are likely to comprise one performance obligation only as the different elements that exist within the contract are highly interrelated. Satisfaction of the one performance obligation, and therefore the revenue, is recognised over time as one of the principles for such recognition is fulfilled – that of the company's performance creating or enhancing an asset (e.g. work in progress) that the customer controls.

The aim of recognising revenue over time is to depict the company's performance. Construction companies should select a method to measure the progress towards complete satisfaction of the performance obligation(s). The method should be applied consistently to all similar circumstances and performance obligations. Although specific methods are not described in IFRS 15, the standard specifies that these could be what it terms output methods (which measure the progress towards the performance obligation on the basis of the value to the customer of the goods or services transferred) and input methods (which measure the progress towards the performance obligation on the basis of the selling company's efforts).

The principle underlying the treatment of contract costs is that the incremental costs of obtaining a contract plus the costs of fulfilling a contract are recognised as an asset if a company expects to recover the costs. Note – the criteria for the recognition of an asset are fulfilled. Costs that are recognised as an asset are expensed (or amortised)

on a systematic basis consistent with the pattern of transfer of the goods or services to which the asset relates. So, costs are recognised in profit or loss either over time or at a point in time in accordance with the method used for recognising the related revenue. This applies the fundamental principle of matching.