



ACCA F5 Performance Management

Course Notes for Exams up to December 2019

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Chapter No. 1

COSTING



It is the process of determining cost of units produced or services provided.

Types of costs

Direct costs: is the cost that can be traced to the product or service to which it was incurred. It includes direct material, direct labour and direct expenses and it is part of production cost of a unit, which goes on to form the total cost.

Indirect costs: It is not directly traceable to the product or service to which it was incurred; there are two types of indirect costs, production and non-production. Indirect costs are also known as overheads.

Dealing with overheads

Traditional costing method (absorption costing): under this method we absorb fair share of production & sometimes non production overheads to product or service costs.

Example:

Saturn, a chocolate manufacturer, produces three products:

- The Sky Bar, a bar of solid milk chocolate.
- The Moon Egg, a fondant filled milk chocolate egg.
- The Sun Bar, a biscuit and nougat based chocolate bar.

Information relating to each of the products is as follows:

Details	Sky Bar	Moon Egg	Sun bar
Direct labour cost per unit (\$)	0.07	0.14	0.12
Direct material cost per unit (\$)	0.17	0.19	0.16
Actual production/sales (units)	500,000	150,000	250,000
Direct labour hours per unit	0.001	0.01	0.005
Direct machine hours per unit	0.01	0.04	0.02
Selling price per unit (\$)	0.50	0.45	0.43

Annual production overheads = \$ 80,000

Required:

Using traditional absorption costing, calculate the full production cost per unit and the profit per unit for each product. Comment on the Implications of the figures calculated.

Answer: Watch Video lecture for answer

Over or under absorption

2

Over- or under-absorbed overhead occurs when overheads incurred do not equal overheads absorbed.

Over-absorption means that the overheads charged to the cost of production or sales are greater than the overheads actually incurred.

Under-absorption means that insufficient overheads have been included in the cost of production or sales.

Suppose that budgeted overhead in a production department is \$80,000 and budgeted activity is 40,000 direct labour hours. The overhead recovery rate (using a direct labour hour basis) would be \$2 per direct labour hour.

Suppose that actual overheads in the period are \$84,000 and 45,000 direct labour hours are worked.

Overhead incurred (actual)	84,000
Overhead absorbed (45,000 x \$2) (90,000)	
Over-absorption of overhead	6,000

In this example, the cost of production has been charged with \$6,000 more than was actually spent and so the recorded cost of production will be too high. The over-absorbed overhead will be an adjustment to profit at the end of the accounting period to reconcile the overheads charged to the actual overhead.

Reasons for over/under absorption

- Actual overhead costs are different from budgeted overheads.
- The actual activity level is different from the budgeted activity level.
- Actual overhead costs **and** actual activity level differ from those budgeted.

Marginal Costing

The marginal cost is the extra cost arising as a result of making and selling one more unit of a product or service. Variable cost is charged to units and fixed cost is deducted in full from contribution.

Contribution: sales – variable costs = contribution

Profit Reconciliation

There is a difference in profit of absorption and marginal costing because of the closing inventory.

- **If inventory levels increase absorption costing will report the higher profit**
- **If inventory levels decrease, absorption costing will report the lower profit**



Advantages and Disadvantages of Absorption and Marginal Costing

Absorption Costing

Benefits	Drawback
It comply with FR Standards	Not useful for Decision making
Over/under absorption helps in controlling costs	Complex than marginal costing
Good for small organizations where determination of cost per unit is very crucial	Manipulation of profits is possible

Marginal costing

Benefits	Drawback
Easy to operate	Cost per unit is not as accurate as in absorption costing
Useful for decision making	Not acceptable by accounting standards

Please do Practice Questions of Chapter 1 from Question Bank which you can download from www.accountancytube.com

Chapter No 2



ACTIVITY BASED COSTING

Traditionally we used to calculate overheads by using absorption costing where we believed overheads increase in direct proportion to the level of production. We used to calculate OAR on the basis of either hours or units and then absorb overheads into all the units to get the full cost.

Under ABC we say cost of overheads should be apportioned in a more fair way, which is based on the usage of activity.

- We will first identify the cost of main activities (e.g. machine setup cost) sometimes known as cost pool.
- We will then point out **cost driver**, (what is causing this cost to increase) & calculate absorption rate for each cost driver.
- We will finally absorb these costs on the basis of product's usage of factor driving the overheads

List of some of the cost pools & their respective possible cost drivers.

Cost Pool	Cost Driver
Handling customer orders	Number of orders
Dispatch costs	Number of orders dispatched
Machine operating costs	Number of machine hours
Materials handling costs/ Production scheduling costs	Number of production runs
Machine set-up costs	Number of machine set-ups

Advantages and Disadvantages of ABC

Advantages	Disadvantages
It provides a more accurate cost per unit which helps in decision making and pricing decisions in particular.	It will not be much beneficial in case of overheads are small proportion of total cost.
It recognizes that all overheads are not related to production and sales volume.	Complex than absorption costing
It identifies cost drivers which help manage cost	Costs may outweigh benefits

Please attempt Chapter 2 questions from Practice bank which you can download from www.accountancytube.com

Chapter No. 3

TARGET COSTING



Traditionally - If we want to sell a product we calculate its cost and add profit markup into it to reach at the sales price. But problem with this approach is that customer may not want to pay this much for this product or competitor might be offering the same product at a price less than ours.

It's a marketing approach to costing which says, we need to select a product which customer demand & see how much customer is going to pay for it. We will then deduct our desired profit out of it; it will give us the **Target cost** of that product. We must manufacture the product at this **Target cost** in order to make our desired profit.

Steps for Target Costing

- **Choose the product** which you want to sell
- **Do market survey** how much customer want to pay (also competitors price of same product)
- **Deduct markup** out of the market sales price - **Target cost**
- **Reduce Cost Gap**

When we start manufacturing we realize that our actual cost is higher than Target cost. Difference between this real cost and target cost is known as **Cost Gap**. We must reduce & try to close this gap.

Ways to Close Cost Gap:

- ❖ Remove Unnecessary features at Design stage
- ❖ We can also use cheaper material at the design stage to reduce the Cost Gap but ensure that cheap material do not compromise on quality.

Target Costing in Service Industries

Target costing is easier to apply in manufacturing industries because we are producing something which physically exists. Target costing cannot be easily applied in service industries due to the characteristics of Services

Characteristic of Services

Intangibility: you can't touch Solicitor's advice

Inseparability: service is provided at the same time it's used

Heterogeneity: service are not standardized

Perishability: barristers and accountants charge for their time.

Transfer of Ownership: Ownership of services is not transferred

Chapter No. 4

LIFECYCLE COSTING



Most Products or Services lifecycle can be divided into five phases.

- ❖ **Development:** we do research and development and then design the product at this stage
- ❖ **Introduction:** Product or Service is introduced into market and sales begins
- ❖ **Growth:** as brand awareness increases among customers, sales grows and profit starts
- ❖ **Maturity:** It is an ideal position where sales are at peak, sales become steady and profits are higher
- ❖ **Decline:** Sales start to fall and we reach at breakeven level and now we should stop selling.

➤ **Watch Video Lecture to see how Lifecycle looks diagrammatically**

The **life cycle costs** of a product are all the costs attributable to the product over its entire life, from Product idea and design to eventual withdrawal from the market.

Benefits of Lifecycle costing

- It draws our attention to costs from the start so we can reduce it at earlier level of product lifecycle.
- Better decisions can be made because of so early focus on costs.
- It is forward looking approach as it considers costs till the end of product life
- Because of focus on whole lifecycle it helps us to find out if we should make any product.

Maximizing Return over product lifecycle

- **Design costs out of the product:** Careful consideration should be given to **product t design** as it is believed that 90% of the costs are committed at design stage.
- **Minimize the time to market:** Do not take too long to come to market after introducing idea. Time to market is from Concept to Introduction of product
- **Minimize breakeven time:** we should quickly introduce the product so we can reach at breakeven ASAP
- **Maximize the length of a lifespan:** Tell customers about new uses of your product so they keep buying

Customer Lifecycle



Try and expand the customer lifecycle by introducing some loyalty offers so your old customers keep coming. Organizations sometimes have to take new customers at no profit initially but in long run they make profits from them e.g. Banks

$$\text{Cost per unit} = \frac{\text{Product cost of its whole Lifecycle}}{\text{Number of units produced}}$$

Example

A company is planning to introduce a new product. Market research information suggests that the product should sell 10,000 units at \$21.00/unit. The company seeks to make a mark-up of 40% on product cost. It is estimated that the lifetime costs of the product will be as follows:

1. Design and development costs \$50,000
2. Manufacturing costs \$10/unit
3. End of life costs \$20,000

The company estimates that if it were to spend an additional £15,000 on design, manufacturing costs/unit could be reduced.

Required:

- (a) What is the target cost of the product?
- (b) What is the original lifecycle cost per unit and is the product worth making on that basis?
- (c) If the additional amount were spent on design, what is the maximum manufacturing cost per unit that could be tolerated if the company is to earn its required mark-up?

Answer:

- (a) $21 \times 100/140 = 15$
- (b) The original life cycle cost per unit = $(\$50,000 + (10,000 \times \$10) + \$20,000)/10,000 = \17 ; this cost/unit is above the target cost per unit, so product is not worth making.
- (c) $(\$50,000 + \$15,000 + \$20,000)/10,000 = \8.50 Therefore, the maximum manufacturing cost per unit would have to fall from \$10 to $(\$10 - \$8.50) = \$1.50$.

Chapter No. 5

ENVIRONMENTAL MANAGEMENT ACCOUNTING

Chapter No. 6

THROUGHPUT ACCOUNTING

CHAPTER NO:7 ACCOUNTING FOR OVERHEADS

Overhead is the indirect cost which is incurred in the course of making a product, providing a service or running a department, but which cannot be traced directly and in full to the product, service or department. e.g. rent of a bakery where many products are made so it would be unfair to allocate rent cost to biscuits only because there will be other things too like cakes.

Fixed production overheads = indirect materials + indirect labour + indirect expenses

Absorption Costing:

The objective of absorption costing is to include in the total cost of a product an appropriate share of

the organisation's total overhead. An appropriate share is generally taken to mean an amount which reflects the amount of time and effort that has gone into producing a unit or completing a job.



Reasons for using absorption costing:

Watch lecture please

The three stages of absorption costing are:

- 1 Allocation
- 2 Apportionment
- 3 Absorption

Allocation: is the process by which whole cost items are charged direct to a cost unit or cost centre. If overheads relate to more than one specific department, then they must be shared between these departments using a method known as apportionment.

- for rent and rates overheads use floor area
- for depreciation and insurance of machinery use carrying amount of non-current assets
- for canteen costs use number of employees

Reapportionment: all service department costs must be allocated – that is, both **general overheads** that were apportioned and those overheads that are **specific** to the individual departments.

- Examples of service cost centres are as follows:
 - stores
 - canteen
 - maintenance department
 - payroll department

Basic reapportionment: The basic method of reapportionment is used when one service department works or provides a service for other service departments as well as the production departments.

Watch Example in Class lectures

Reciprocal reapportionment (repeated distribution): is used where service cost centres (departments) do work for each other. It involves carrying out many reapportionments until all of the service departments' overheads have been reapportioned to the production departments.

A company has three production departments, Alpha, Beta and Gamma, and two service departments, Maintenance (M) and Payroll (P). The

following table shows how costs have been allocated and the relative usage of each service department by other departments.

Department	Production			Service	
	Alpha	Beta	Gamma	M	P
Costs	\$3,000	\$4,000	\$2,000	\$2,500	\$2,700
Proportion M (%)	20	30	25	–	25
Proportion P (%)	25	25	30	20	–

Required: Complete the overhead analysis sheet below and reapportion the service department overheads to the production departments using the reciprocal method?

Overheads	Alpha	Beta	Gamma	M	P
Total overheads					
Reapportion M					
Reapportion P					
Reapportion M					
Reapportion P					
Reapportion M					
Reapportion P					
Total					

Overhead absorption: is the process whereby overhead costs allocated and apportioned to production cost centres are added to unit, job or batch costs. Overhead absorption is sometimes called **overhead recovery**.

- The overhead absorption rate (OAR) is calculated as follows:

$$\text{OAR} = \frac{\text{Budgeted production overhead}}{\text{Budgeted total of absorption basis}}$$

- The absorption basis is most commonly units of a product, labour hours, or machine hours.

Watch lecture to see a question on OAR which was examined in one of the previous exam sittings.

If the estimates for the budgeted overheads and/or the budgeted level of activity are different from the actual results for the year then this will lead to one of the following

Over absorption means that the overheads charged to the cost of sales are greater than the overheads actually incurred.

Under absorption means that insufficient overheads have been included in the cost of sales. It is almost inevitable that at the end of the accounting year there will have been an over absorption or under absorption of the overhead actually incurred.

Over and under absorption of overheads occurs because the predetermined overhead absorption rates are based on estimates.

Calculations:

There is a three step process:

Step 1 – calculate the OAR (based on budget)

Step 2 – calculate the overhead absorbed by actual activity i.e.

Overheads absorbed = predetermined OAR × actual level of activity

Step 3 – Compare absorbed overheads with actual

If at the end of this period, the overheads absorbed are greater than the actual overheads, then there has been over-absorption of overheads, whereas if overheads absorbed are less than the actual overheads, then there has been under-absorption of overheads.

Backward calculations:

Example: (Reference-FTC Text)

A business absorbs its fixed overheads on the basis of machine hours worked. The following figures are available for the month of June:

Budgeted fixed overhead \$45,000

Budgeted machine hours 30,000

Actual fixed overhead \$49,000

If there was an over-absorption of overhead of \$3,500, how many machine hours were worked in the month?

A 30,334

B 32,667

C 35,000

D 49,000

Solution: Watch Lecture please.

Production Overhead Accounts:

Production overhead accounts are same T accounts which we have seen earlier in materials and labour chapter. However you should watch the lecture to see how ledger entries are made in production overheads.

Chapter No. 8

MARGINAL AND ABSORPTION COSTING

Marginal and absorption costing are two different ways of valuing the cost of goods sold and finished goods in inventory. Fixed overhead are treated as a product cost and an amount is assigned to each unit under absorption costing.

In marginal costing fixed overheads are treated as period costs and are charged in full against the profit for the period.

Marginal cost is the variable cost of one unit of product or service.

The **marginal production cost** per unit of an item usually consists of the following.

- Direct materials • Variable production overheads
- Direct labour

Only variable costs are charged as a cost of sale and a contribution is calculated (sales revenue minus variable cost of sales). Closing inventories of work in progress or finished goods are valued at marginal (variable) production cost. Fixed costs are treated as a period cost, and are charged in full to the profit and loss account of the accounting period in which they are incurred.

Contribution ('contribution towards covering fixed overheads and making a profit'.) is an important measure in marginal costing, and it is calculated as the difference between sales value and marginal i.e. variable cost of sales.

Example: (Ref BPP Text)

Mill Stream makes two products, the Mill and the Stream. Information relating to each of these products

for April 20X1 is as follows.

	<i>Mill</i>	<i>Stream</i>
Opening inventory	Nil	Nil
Production (units)	15,000	6,000
Sales (units)	10,000	5,000
Sales price per unit	\$20	\$30
Unit costs	\$	\$
Direct materials	8	14
Direct labour	4	2
Variable production overhead	2	1
Variable sales overhead	2	3
Fixed costs for the month	\$	
Production costs	40,000	
Administration costs	15,000	
Sales and distribution costs	25,000	

Required

- Using marginal costing principles and the method in 2.1(d) above, calculate the profit in April 20X1.
- Calculate the profit if sales had been 15,000 units of Mill and 6,000 units of Stream.

Please watch lecture for answer

Absorption Costing:

Absorption costing values each unit of inventory at the cost incurred to produce the unit. This includes an amount added to the cost of each unit to represent the fixed production overheads incurred by that product.

Fixed production cost per unit = budgeted fixed production costs ÷ budgeted activity

Absorption Costing & Marginal Costing income statements

Please watch video lecture to learn how to make income statements under each methods and its effect on inventory valuation.

Absorption costing income statement

Accountancytube.com

Marginal Costing Income Statement

Reconciling Profits

Reported profit figures using marginal costing or absorption costing will differ if there is any change in the level of inventories in the period unless production is equal to sales is due to the different inventory valuation methods used

If inventory levels increases, absorption costing gives the higher profit because fixed overheads held in closing inventory are carried forward (thereby reducing cost of sales) to the next accounting period instead of being written off in the current accounting period (as a period cost, as in marginal costing).

Whereas when inventory levels decreases, marginal costing gives the higher profit. Again it's because fixed overhead brought forward in opening inventory is charged in the current period, thereby increasing cost of sales and reducing profit.

If inventory levels remain constant, profit will be same as seen above.

Example: Ref-BPP

Last month a manufacturing company's profit was \$2,000, calculated using absorption costing principles. If marginal costing principles have been used, a loss of \$3,000 would have occurred. The company's fixed production cost is \$2 per unit. Sales last month were 10,000 units. What was last month's production (in units)?

Watch Answer in Class lecture.

Advantages of Marginal and absorption costing

Marginal Costing	Absorption Costing
Simple to operate	Closing inventories valued in accordance with IAS 2 principles
Under/over absorption of overheads is avoided	It is 'fair' to share fixed production cost between units of production as such costs are incurred in order to make output
Helpful for decision making	Analysing under/over absorption of overheads is a useful exercise in controlling costs of an organisation.
Fixed costs are a period cost and are charged in full to the period under consideration	It is easier to determine the profitability of several products by charging a share of fixed overheads to them (rather than working out if the total contribution from several products will cover fixed costs)

Chapter No. 9

JOB, BATCH AND PROCESS COSTING

Job costing is a costing method applied where work is undertaken to customers' special requirements and each order is of comparatively short duration.

Costs for each job are collected on a **job cost sheet** or **job card**.

Batch costing is effectively the same as job costing except that we cost out a batch of units. Once we have calculated the cost of a batch, we then divide the cost by the number of units in the batch to arrive at a cost per unit.

Batch costing is very common in the engineering component industry, footwear and clothing manufacturing industries where identical items are produced; for example a batch could contain 100 pairs of size 6 trainers for a retailer outlet.

Example: Ref- Kaplan text

A business has a job costing system and prices jobs using total absorption costing.

The cost estimates for Job 264 are as follows:

Direct materials 50 kg @ \$4 per kg

Direct labour 30 hours @ \$9 per hour

Variable production overhead \$6 per direct labour hour

Fixed production overheads are budgeted as \$80,000 and are absorbed on the basis of direct labour hours. The total budgeted direct labour hours for the period are 20,000.

Other overheads are recovered at the rate of \$40 per job.

Calculate the total job cost for Job 264.

Watch Class lecture for answer.

Process costing: method is used when mass production of many identical products takes place e.g. production of bars of chocolate, cans of soup or tins of paint.

Process Accounts

Process accounts are T accounts made in the same way as we make other T accounts.

Learn how to make process accounts & respective entries in the class lecture.

Net costs of inputs

Average cost per unit = _____

Expected output

Gains and losses in process costing

Normal Loss: is the loss that is expected in a process and it is often expressed as a percentage of the materials input to the process e.g. evaporation or wastage of materials

Some losses or wastages can be sold for nominal value or scrap value which will reduce the input cost.

Example: Ref AT publications

The following data relates to a Process.

Materials input – 1,000 units & cost \$10,000
 Labour costs \$8,000
 overheads expense– \$6,000

Normal loss is 5% of input and is sold as scrap for \$10 per unit.
 Actual output = 940 units

Abnormal Gains & losses

Abnormal loss is loss more than expected whereas Abnormal gain is less loss than expected

Example:

Shiny Co has two processes, Y and Z. There is an expected loss of 5% of input in process Y and 7% of input in process Z. Activity during a four-week period is as follows.

YZ

Material input (kg) 20,000 28,000

Output (kg) 18,500 26,100

Is there an abnormal gain or abnormal loss for each process?

Y	Z		
Input (kg)		20,000	28,000
Normal loss (kg)		1,000 (5% of 20,000)	1,960 (7% of 28,000)
Expected output		19,000	26,040
Actual output	18,500	26,100	
Abnormal loss/gain		500 (loss)	60 (gain)

- **Please remember if there is an abnormal loss, we will include abnormal loss units while calculating cost per unit but cost of these units will not be absorbed in good units.**

Example: Ref BPP

3,000 units of material are input into a process. Process costs are as follows.

Material \$11,700

Conversion costs \$6,300

Output is 2,000 units. Normal loss is 20% of input.

Required

Prepare a process account and the appropriate abnormal loss/gain account

Answer: Watch lecture please.

If there is the scrap value of abnormal loss (or abnormal gain) it's usually set off against its cost, in an abnormal loss (abnormal gain) account.

Example: Ref BPPST

3,000 units of material are input to a process. Process costs are as follows.

Material \$11,700

Conversion costs \$6,300

Output is 2,000 units. Normal loss is 20% of input.

The units of loss could be sold for \$1 each. Prepare appropriate accounts.

Answer: please watch lecture.

Work In Progress WIP: When units are partly completed at the end of a period (and hence there is closing work in progress), it is necessary to calculate the **equivalent units of production** in order to determine the cost of a completed unit. Closing WIP will be opening WIP in next accounting period.

Equivalent Units: For costing purposes we assume the work done on 100 units that are only half finished is equivalent to 50 fully finished units. Therefore, 100 units each 50% finished is regarded as 50 equivalent complete units.

- **Material is the first item to go into the process so normally material is 100% completed but not labour and overheads i.e. conversion costs.**

Example: Ref-Kaplan Text

During the period 8,250 units were received from the previous process at a value of \$453,750, labour and overheads were \$350,060 and material introduced was \$24,750. At the end of the period the closing WIP was 1,600 units which were 100% complete in respect of materials, and 60% complete in respect of labour and overheads. The balance of units was transferred to Finished goods. There was no opening WIP or process losses.

Calculate the cost per EU, the value of finished goods and closing WIP.

Answer: find answer in Class lecture.

Opening WIP: These units are partly completed so these will be finished first. There are two methods to value these items.

- **Weighted average**
- **FIFO**

Example: TFTC/16

A business makes one product that passes through a single process.

The business uses weighted average costing. The details of the process for the last period are as follows:

Materials \$98,000

Labour \$60,000

Production overheads \$39,000

Units added to the process 1,000

There were 200 units of opening WIP which are valued as follows:

There were 300 units of closing WIP fully complete as to materials but

only 60% complete for labour and 50% complete for overheads.

There were no process losses.

Calculate the following:

Materials \$22,000

Labour \$6,960

Production overheads \$3,000

(a) The value of the completed output for the period.

(b) The value of the closing WIP.

Answer: Watch class lecture please

Example: KT16 FIFO Method

AXL Ltd operates a process costing system. Details of Process 1 are as follows.

All materials used are added at the beginning of the process. Labour costs and production overhead costs are incurred evenly as the product goes through the process. Production overheads are absorbed at a rate of 100% of labour costs.

The following details are relevant to production in the period:

Opening inventory Costs associated with these opening units are \$1,800 for materials. In addition \$4,000 had been accumulated for labour and overhead costs. Period costs Costs incurred during the period were:

Materials \$19,000

Labour costs \$19,000

During the period, 2,000 units were passed to Process 2.

There were no losses.

The company uses a FIFO method for valuing process costs.

Calculate the total value of the units transferred to Process 2.

Answer: watch during class lecture.

Chapter No. 10**JOINT & BY PRODUCT**

While production is carried on main units, there could be some additional products which come out of the main process known as by products.e.g. wastage.

Joint product is something which comes off the process as combination of two products which is then split out. e.g. crude oil.

The point at which **joint products** and **by-products** become separately identifiable is known as the **splitoff point** or **separation point**.

joint costs need to be apportioned between the joint products at the splitoff point to obtain the cost of each of the products in order to value closing inventory and cost of sales.

- Accounting treatment of Joint and By products is different because Joint product is main product. By product is normally produced unintentionally so cost will not be allocated to By products.
- Sales value of By products will reduce the overall cost of Joint products

Question:

Two products (W and X) are created from a joint process. Both products can be sold immediately after split-off. There are no opening inventories or work in progress. The following information is available for last period.

Total joint production costs \$776,160

Product Production units Sales units Selling price per unit

W 12,000 10,000 \$10

X 10,000 8,000 \$12

Using the sales value method of apportioning joint production costs, what was the value of the closing inventory of product X for last period?

Answer:

Sales value of production:

Product W (12,000 × \$10) \$120,000

Product X (10,000 × \$12) \$120,000

Therefore joint costs are apportioned in the ratio 1:1.

Amount apportioned to product X (776,160/2) \$388,080

The \$388,080 is the total cost of producing 10,000 units of X. This gives a cost per unit of \$388,080/10,000 = \$38.808 per unit.

10,000 units were made but only 8,000 units were sold. This means that we have 10,000 – 8,000 = 2,000 units left in inventory.

2,000 × \$38.808 = \$77,616

Process Accounts of Joint & By products

Watch Video lecture to learn how to make these accounts

Chapter No. 11

SERVICE AND OPERATION COSTING

Service costing is used in an organization which provides services like hospital and or ACCA firm, to determine the cost of services provided. It does not work in manufacturing concern to workout cost of production.

Characteristics of services can be established by the following ACCONYM “SHIP”

- **Simultaneity:** We won't know quality of food until we taste it.

- **Heterogeneity:** Food taste will not be exactly same every time.
- **Intangibility:** Food Taste is in itself intangible
- **Perishability:** Services cannot be stored.

Take an Example of “Restaurant Chef” and his services then think about all the characteristics

- ✓ Please remember two variables are used in calculating cost per unit of service provided e.g. cost per night of a hotel per guest, or Cost per mile per passenger in a flight. It is known as “**composite cost unit**”.

The calculation of a cost per service unit is as follows.

Total costs for providing the service
Cost per service unit = _____
Number of service units used to provide the Service

Example: Please watch lecture.

Chapter No. 12

ALTERNATIVE COSTING METHODS

Now we will look at some recently developed cost accounting techniques which are more useful than the traditional cost accounting methods like absorption and marginal costing.

Activity based costing (ABC):Overheads cost is allocated to different departments in proportion to the use of resources. E.g. if production department is using more electricity than dispatch department, we will allocate more overheads (electricity cost) to production department.

ABC helps us to identify “cost drivers” which will then draw our attention to the factors causing overheads. We will then be able to reduce it.

Total Quality Management:

TQM is focused on quality of products and services offered. If quality is not good it costs loss of customers and bad goodwill.

TQM gives attention on not only producing good quality goods but also producing them on timely basis.

In other words, 100% efficiency no defects. Practically speaking it is impossible to achieve however Japanese have applied and achieved it in their automobile industry.

Lifecycle Costing:Costs of whole product lifecycle is accumulated and spread evenly on the units. So from development of product **to introduction stage, then from maturity to growth stage and finally to decline stage of product lifecycle**, all costs incurred will be considered and will be allocated to units, unlike traditional methods where we do on year to year basis which leads to inappropriate pricing and decision making.

Target Costing:is to **develop a product and determine the market selling price and desired profit margin**, with a **resulting cost (Target Cost)** which must be achieved..

If Target cost is too less than actual cost (Cost Gap) must be reduced by different means. We might have to make changes to the product especially at design stage to reduce unnecessary features and reduce cost of product to achieve target cost.

- ✓ **Please remember you are only required to know these techniques & you are not expected to be master on them, so no calculations will be examined from this chapter.**

Contract Costing

To be able to evaluate the progress of a contract against budget, it is necessary to calculate the attributable profit at certain stages of the contract.

There is a four step procedure for calculating attributable profit on long term contracts.

Step 1: Determine the total sales value for the contract

Step 2: Compute the total expected costs to complete the contract

Step 3: Calculate the overall expected profit on the contract. If there is a loss anticipated then the whole loss is recognized immediately.

Step 4: Calculate the cumulative attributable profit based on either

$$\frac{\text{Value of work certified to date}}{\text{Contract price}} \times \text{Overall expected profit}$$

Or

$$\frac{\text{Costs incurred to date}}{\text{Total expected costs to completion}} \times \text{Overall expected profit}$$

These figures can be calculated based on budget and can then be used as guidance through a long term contract.

Example: FTC

JK Housing is currently undertaking a contract to build a block of flats. The contract value is \$62m. The following information is available:

Calculate the profit to be recognised using:

Value of work certified \$38m

Costs incurred to date \$28m

Future cost to complete \$28m

(1) work certified

(2) costs incurred to date

Answer:

Step 1: Determine the total sales value for the contract

\$62m (given in the question)

Step 2: Compute the total expected costs to complete the contract

\$28m + \$28m = \$56m

Step 3: Calculate the overall expected profit on the contract. If there is a loss anticipated then the whole loss is recognised immediately.

\$62m – \$56m = \$6m

Chapter No: 13

FORECASTS

Forecasting techniques help us to make estimate of future sales volume, sales revenue and costs so that we know in advance and can do planning and decision making accordingly.

Here is the list of different forecasting techniques.

- **Linear regression analysis**
- **High Low method**
- **Time series analysis**
- **Index numbers**

Regression analysis:

It is concerned with establishing relationship between a number of variables. We will only consider relationship between two variables.

Least square regression analysis

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Chapter No.14

PERFORMANCE MEASUREMENT

Performance measurement aims to establish **how well** something or somebody is doing **in relation** to a **Plan**. It must not contradict with **mission statement**.

Mission Statement: it is a statement which describes overall purpose of the organization in the long term.

There are four elements of mission statement, all of which helps us in performance measurement of an organization.

Purpose: it the main aim of the organization, mostly its maximization of shareholder's wealth in profit making organization.

Strategy: long term plan of how business it's going to expand and in which areas.

Policies: Guideline for our staff to achieve Strategy

Values and culture: Core values and moral principles of business

Coca Cola Mission statement: To refresh the world in mind, body and spirit. To inspire moments of optimism and happiness through our brands and actions.

Critical Success Factors(CSF): CSF are factors or areas in business which are crucial for the success of the business.

So first of all our mission is set, set objectives are determined telling us how to achieve our mission, we then look into the areas which are so important for our business success, these factors are Critical Success Factors.

Key Performance Indicators (KPI): These are measures created by organization to see performance of CSF's. KPI's are different for both financial performance and non-financial performance.

There should be **goal congruence**. This means that the goals set for different parts of the organisation should be consistent with each other.

Chapter No.15

INVESTMENT APPRAISAL

Cost of Capital

Cost of capital is the amount investor wants from us in return of capital provided. We normally use this as discounting in order to take account of time value of money

Interests

Cost of capital is sometimes known as interest, there are following types to calculate interest.

Simple Interest: it is always calculated on the original amount invested and any interest earned is not included to calculate further value. It is normally calculated for an investment of less than a year.

$$F.V = X + (X \times R \times N)$$

F.V= future value

X= initial investment

R= rate of interest

N= number of time period

Example: 200 invested for 6 months in an account which pays 5% per annum. What would be the value of account after 6 months?

Compound Interest:

It calculates the future value of money invested today for more than a year. Any interest already earned will be added (compounded) to calculate further value

$$V = X(1 + r)^n$$

Example: 200 invested for 5 years in an account which pays 5% per annum. What would be the value of account after 5 years?

Nominal interest rate:

It is the interest rate given for a time period.

Effective interest rate:

If we take nominal interest rate and do compounding on it, it will give us effective interest rate. Let's look at an example to understand well.

A company to going to invest for 12 months, where nominal rate of interest is 10%, what would be effective rate of interest?

$$R = (1 + i/n)^n - 1$$

Discounting

It is exactly opposite of Compounding, so we discount the value instead of topping up (compounding).

We use discounting in order to take "time value of money" into account

In short we want to know if Mr. A owes us 100 pounds in 5 years, what would be its current equivalent value (Present Value).

Example:

What would be the present value of 25,000 receivable in 6 years' time, if interest rate is 10% per annum?

Present value = future value x discount factor

Where: Discount factor = $\frac{1}{(1+r)^n}$ or $(1+r)^{-n}$

where: r is the interest rate expressed as decimal
n is the number of time periods

Formula will only be used if interest is given in decimal figures i.e. 2.5% and discount table from 1% to 20% interest rates will be given to you in the Exam

The key methods of project appraisal for this paper are:

- The payback period
- Net present value
- Discounted payback period
- Internal rate of return (IRR)

The payback period

It is the period a project takes to return the amount initially injected into the business.

$$\text{Payback period} = \frac{\text{Initial investment}}{\text{Annual cash inflows}}$$

- Multiply decimal fraction of years to 12 to get answer in months.
- For situations in “mutually exclusive projects” choose one with least payback period.

Example

Project A requires to invest 2 Million pounds in it and pays 250,000 every six months.

Project B requires to invest 1.5 million and pays 300,000 annually.

Which one of these projects should be accepted assuming these are “mutually exclusive projects” on the basis of payback period?

Discounted Payback

Main problem in normal payback period is that it does not take into account the time value of money; discounted payback therefore tries to overcome this problem by considering discounting

Example:

Harris Ltd is considering two mutually exclusive projects with the following details:

Project A

Initial investment: 450,000

Scrap value in 5 years 20,000

Year:	1	2	3	4	5	
Annual cash flows:	200	150	100	100	100	in 000,s

Project B

Initial investment: 100,000

Scrap value in 5 years 10,000

Year:	1	2	3	4	5	
Annual cash flows:	50	40	30	20	20	in 000,s

- (a) Calculate the discounted payback for both projects if cost of capital is 10%?
 (b) Calculate the NPV to the nearest \$000 for Projects A and B if the relevant cost of capital is 10%.

Benefits and drawback of payback/discounted payback period

Easy to understand	Does not take TVM into account
It is simple measure of risk	It only considers the period covered by payback period
Uses cash flows, not profits which can be manipulated	Total profitability is ignored
If we choose payback as decision making tool we will avoid liquidity problem	

Net present Value

Net of cash inflows and outflows in today's term i.e. net present value of future cash inflows and outflows

Any project with positive NPV can be accepted.

Example: see part b of example above

Benefits & Drawback of NPV

Take TVM into account	Only finance related people will understand
Considers the whole life of project not just payback period	Cost of capital may not be easily available
Considers cash flows and measures absolute profitability	Difficult to understand

Internal rate of return

It is the point in a project where NPV is zero

If IRR is greater than cost of capital then project can be accepted

Example:

A Ltd has NPV of \$8510 at 20% & \$9150 at 30% what its IRR?

Benefits and Drawbacks of internal rate of return

It considers TVM	Complicated to calculate
This Decision making tool increasing shareholder's wealth just like NPV	Not a measure of absolute profitability
Considers whole life of a project not just few years like payback period.	It is just an estimate of IRR
Can be calculated with limited data	If NPV gives different results than IRR, we should follow NPV

Chapter No. ??

STANDARD COSTING

Standard cost is the predetermined unit cost. Do not confuse standard cost with budgeted cost.

Only difference between standard and budgeted is UNITS.

We use budgeted cost for budgeted production (units) however we use budgeted cost for actual production (units) in standard costing.

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Standard costs represent 'target' costs and they are therefore useful for Planning, control and motivation.

Types of standard.

- Basic standards.
- Ideal standards.
- Attainable standards.
- Current standards.

Variance Analysis

Variance analysis is the difference between what the cost and revenue should have been and what they actually were.

Following Variances are part of ACCA F2 syllabus

- Sales variances
- Raw material variances
- Labour variances
- Variable overhead variances
- Fixed overhead variances

Sales Variances

Sales Price Variance:

Actual price x actual quantity sold – budgeted price x actual quantity sold

Sales Volume Variance:

Actual quantity x standard margin – budgeted quantity x standard margin

Note: standard margin for marginal costing is contribution/unit and for absorption costing its standard profit/unit

Raw Material Variances:**Raw Material Price Variance**

Actual quantity x Actual Price – Actual quantity x Standard Price

Raw material usage Variance

Actual quantity x Standard Price – Standard quantity x Standard Price

Labour variances:**Labour rate Variance**

Actual hours x actual rate – actual hours x standard rate

Labour efficiency variance

Actual hours x standard rate – standard hours x standard rate

Labour Idle time Variance**Variable Overheads Variances**

Variable Overheads expenditure variances

Actual hours x actual rate – actual hours x standard rate

Variable overheads efficiency variances

Actual hours x standard rate – standard hours x standard rate

Fixed Overheads Variance:**Under Marginal costing:****Fixed overheads expenditure variance**

Actual expenses – budgeted expenses

Under Absorption Costing:**Fixed Overheads Expenditure Variance**

Actual expenses – budgeted expenses

Fixed overheads Volume Variance

Actual units/hours x Fixed OAR/unit/hour – budgeted expenses

- **Fixed Overheads Capacity variance**

Actual hours x fixed OAR/hour – budgeted expenses

- **Fixed overheads efficiency variance**

Standard hours x fixed OAR/hour - Actual hours x fixed OAR/hour

Reconciliation of Variance through Operating Statements

If the statement starts with budgeted profit (absorption costing) or budgeted Contribution (marginal costing) then:

- Add the favourable variances as these increase profit
- Deduct the adverse variance as these decrease profit

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Chapter No. 15

FINANCIAL PERFORMANCE MEASUREMENT

These are measure used to appraise performance in numbers of a company i.e. revenue took, cost saved, earnings per share, profit before tax etc.

We will now look at different ratios, we will then be able to measure the performance with the help of these ratios.

Profitability Ratios

- **Return on Capital Employed (ROCE):**
Operating Profit

$$\text{ROCE} = \frac{\text{Operating Profit}}{\text{Capital employed}} \times 100$$

Capital Employed= Total assets-current liabilities

- **Gross Profit Margin:**

$$\text{Gross profit margin \%} = \frac{\text{Gross profit}}{\text{Revenue}} \times 100$$

- **Net profit Margin:**

Profit from operations

$$\text{Profit from operations margin \%} = \frac{\text{Profit from operations}}{\text{Revenue}} \times 100$$

- **Asset Turnover:** Revenue

Asset turnover = $\frac{\text{Sales}}{\text{Capital employed}}$



Liquidity ratios

Current Ratio:

Current assets
Current ratio = $\frac{\text{Current assets}}{\text{Current liabilities}}$

Quick ratio:

Current assets – inventory
Quick ratio = $\frac{\text{Current assets} - \text{inventory}}{\text{Current liabilities}}$

Quick ratio is also known as acid test ratio

Inventory holding period (in days):

Inventory
Inventory holding period = $\frac{\text{Inventory}}{\text{Cost of sales}} \times 365$

Debtors(Receivables) collection period in (days):

Receivables
Receivables collection period = $\frac{\text{Receivables}}{\text{Revenue}} \times 365$

Payables Period (in days)

Payables
Payables period = $\frac{\text{Payables}}{\text{Purchases}} \times 365$

Risk Measurement (Gearing ratios)

Gearing % =

$$\frac{\text{Debt}}{\text{Debt} + \text{equity}} \times 100$$

Interest Cover:

$$\text{Interest cover} = \frac{\text{Profit before interest}}{\text{Finance cost}}$$

Dividend cover:

$$\text{Dividend cover} = \frac{\text{Profit for the year}}{\text{Dividend}}$$

Limitations of financial performance measurement

Short-termism: people responsible for managing business focus on short term performance of the company instead of long term goals.

Manipulation of financial results: managers often manipulate the financial results by following means

- Showing more sales revenue in one year and less in other
- Delaying expenditures in a specific year
- Understating a liability or by manipulation in accounting policies

Non-financial performance indicators

Non financial indicators are of two types, one focuses on productivity and other on quality

Production & productivity ratio

Production ratios are only relevant for manufacturing concern and not for service entity because service organizations do not produce anything.

$$\text{Production Volume ratio} = \frac{\text{Actual output measured in standard hours}}{\text{Budgeted production hours}} \times 100$$

$$\text{Capacity ratio} = \frac{\text{Actual production hours worked}}{\text{Budgeted production hours}} \times 100$$

$$\text{Efficiency ratio} = \frac{\text{Actual output measured in standard hours}}{\text{Actual production hours worked}} \times 100$$

Quality

Quality is very important be it service or manufacturing organization. If Quality of product is good you will have more customers, if quality of work done by employee is good it will take less time to complete the job & there will be less wastage.

Problems in Non-financial performance measurement:

- It will be difficult to determine NFPI, s with which to measure the performance.
- Comparison is difficult as all companies do not necessarily use same NFPI's

Balanced Scorecard:

Kaplan and Norton's Balanced Scorecard gives management four areas where management needs to put attention and after that they can measure performance of an organization from those four different perspective. These are as follows.

Financial perspective: We need to focus on primary goal of the organization in this area which is maximization of shareholder's wealth. We can measure this by traditional profitability ratios.

Customer perspective: We need to focus on the customer satisfaction in this area. We can measure by checking how often customer comes to us , customer recommendation to others etc.

Internal perspective: Is our organization making good products in terms of cost and quality. Customers often want a cheap but good quality product. We can measure the performance by knowing cost per unit and quality of product

Learning and growth perspective: customer's likes are changing with time and organization needs to cope up with change in order to succeed. We can measure the performance by checking how often a new product is introduced & compare is with your competitors.

Example BPP:

For each of the following performance indicators, identify one balanced scorecard perspective being measured.

- (a) Labour cost per unit manufactured
- (b) Asset turnover
- (c) Training expenditure as a percentage of sales turnover
- (d) Return on capital employed
- (e) Percentage of on-time deliveries
- (f) Percentage of turnover generated by new products
- (g) Percentage of quality control rejects

Answer:

- (a) Process efficiency (the improvement of internal processes)
- (b) Process efficiency (the intensity of asset usage)
- (c) Growth or possibly process efficiency
- (d) Financial success
- (e) Customer satisfaction, or possibly process efficiency
- (f) Growth
- (g) Process efficiency, or possibly customer satisfaction

Benefits and Drawbacks of Balanced Scorecard

Advantages	Disadvantages
Four different prospects are considered not just financial	Not Easy to understand
It Focuses on KPI's hence improving performance is easy	Comparisons with other companies is not easy as others may not necessarily use same Measures
It focuses on long term performance	One measure may conflict with other

Benchmarking: Comparing your organization's Operations with the best in the market. We will look for the best not only in our industry but outside too.

Benchmarking Process:

- Planning
- Analysis
- Action
- Review

Performance measurement in service business

Following performance indicators are identified by Fitzgerald and Moon to measure performance in service organizations.

- **Financial performance**
- **Competitive performance**
- **Quality**
- **Flexibility**
- **Resource utilization**
- **innovation**

Value for money:

Getting most out of what we paid for is called value for money. There are three areas to achieve it which are sometimes known as 3E's.

Economy: getting a bargain on the price.

Efficiency: getting most out of given resources

Effectiveness: being successful on achieving targets

Divisional performance measurement

So far we have been looking at the measurement of the business as a whole. We will now look at the same business but will measure financial performance of different divisions for which different managers are responsible.

Following two are very common methods used to measure financial performance of different divisions.

Return on investment

Return on investment (ROI) (also called **return on capital employed (ROCE)**) is calculated as $(\text{Profit}/\text{capital employed}) \times 100\%$ and shows how much profit has been made in relation to the amount Of resources invested.

Capital employed=

Shareholder's funds + long term liabilities **or** Non-current assets + investments + current assets – current liabilities

Note: Use net assets if capital employed is not given in the question.

Example: STBPP

\$
 Turnover 3,527,508
 Gross profit 2,469,265
 Operating profit 1,814,578
 Non-current assets 2,291,000
 Cash at bank 2,309,791
 Short-term borrowings 474,670
 Trade receivables 221,222
 Trade payables 232,346

Calculate the return on capital employed.

Operating profit 1,814,578
 Capital employed = non-current assets + investments + current assets – current liabilities
 = \$2,291,000 + \$2,309,791 + \$221,222 – \$474,670 – \$232,346
 = \$4,114,997

ROCE = $1,814,578 / 4,114,997 \times 100\%$
 = 44.10%

Note: operating profit is Profit Before Interest and Tax (PBIT) sometimes known as (EPIT)

Residual Income

Net income in excess of minimum required return on assets employed, is called Residual income.

RI = Controllable profit – Notional interest on capital

Notional interest on capital = capital employed in division x notional interest rate on capital (given in exam)

Example:

An investment centre's statement of financial position shows assets under its control amounting to \$300,000. The profit of the centre, in its own income statement amounts to \$50,000. The notional cost of capital of 10%.

Required

Calculate the RI for this centre.

Answer: cost of capital = $300,000 \times 10\% = 30,000$

RI = 50,000 - 30,000 = 20,000

Advantaged and Disadvantages of ROI & RI

Return on Investment

Advantages	Disadvantages
Simple and easy to understand	It is only based on accounting information
Results can be compared to other businesses regardless of their size as these are in percentages	Percentages can be misleading sometimes
Information can be found in financial statement which are readily available	It may encourage non goal congruence

Residual Income

Advantages	Disadvantages
It may encourage new investment	Results are not in percentages so it's difficult to compare other other business of different sizes
Brings interest charge into consideration	Cost of capital may be manipulated or not reliable
It gives absolute measures unlike ROI	Based on accounting information only

Contract costing:

It is used when job is lengthy and takes long time to complete. Because of length of time it takes contract to complete, we account for costs and budgetary control at different levels of contract completion.

There is a step by step process for calculating profit on long-term Contracts

Step 1: Determine the total sales value of contract

Step 2: Compute total expected costs

Step 3: Calculate the overall expected profit on the contract. If there is a Loss anticipated then the whole loss is recognized immediately.

Step 4: Calculate the cumulative attributable profit based on either Value of work certified to date

_____ × Overall expected profit
Contract price

Or

Costs incurred to date

_____ × Overall expected profit
Total expected costs to completion

- **Figures will be based on budgets**

Example .FTC.TXT

JK Housing is currently undertaking a contract to build a block of flats.

The contract value is \$62m. The following information is available:

Value of work certified \$38m

Costs incurred to date \$28m

Future cost to complete \$28m

Calculate the profit to be recognized using:

- (1) Work certified
- (2) Costs incurred to date

Chapter No. 28, 29,30

VALUE ADDED TAX (VAT)

VAT is charged on taxable supplies of goods and services in the UK by taxable persons in the course of their business.

<u>Standard Rate</u>	20%	On most goods and services supplied	
<u>Zero rated</u>	0%	Non luxury food	Children's clothes and footwear
		Books	Drugs and medicine
		Sewerage and water services	
<u>Exempt</u>		Financial services,	Betting and gambling
		Insurance,	Non profit-making education
		Health services	

Reduced rated supply: 5%

- Supply of Fuel for domestic use

- Supply of services of Installing energy saving material to homes

BASIC COMPUTATION

	£
OUTPUT VAT (VAT charged to customers or supplies)	XX
INPUT VAT (VAT paid on purchases)	<u>(XX)</u>
Net VAT Payable/ (Recoverable)	XX/(XX)

NOTE: Exempt suppliers cannot recover input tax and must shoulder the burden of the VAT paid.

The value of supply

VAT exclusive price + VAT = Consideration (VAT inclusive price)

VAT = VAT exclusive price x VAT rate

VAT rate = 20%

VAT = VAT inclusive price x VAT fraction

VAT fraction = (20/120 or 1/6)

Registration

Compulsory Registration (Historical Test)

Registration is compulsory if at the end of any month taxable supplies over the previous 12 months have exceeded £83,000. "Taxable supplies" is the VAT exclusive value of all zero rated and standard rated supplies. The person must notify HMRC within 30 days. Registration will be effective from end of month following the end of the 12 month period or from an earlier agreed date.

Compulsory Registration (Future Test)

A person is also liable to be registered if at any time there are reasonable grounds for believing that his taxable supplies will exceed £83,000 in the following 30 days.

Voluntary Registration

A person may decide to become registered even if their taxable turnover falls below the registration limit. It will be advantageous to a trader as only registered person can recover the input tax they pay on purchases.

Group Registration

Companies under common control may apply for group registration. Two or more companies are eligible to be treated as members of a group provided each of them is established in the UK and:

- One of them control each of the others, or
- One person (individual or a holding company) controls all of them, or

- Two or more persons carrying on a business in partnership controls all of them.

The effects and advantages of group registration are as follows:

- Each VAT group must appoint a representative member who must account for the group's output tax and input tax, thus simplifying VAT accounting and allowing payments and repayments of VAT to be netted off. However, all members of the group are jointly and severally liable for any VAT due from the representative member.
- Any supply of goods or services by a member of the group to another member of the group is disregarded for VAT purposes, reducing the VAT accounting required.
- Any other supply of goods or services by or to a group member is treated as a supply by or to the representative member.
- Any VAT payable on the import of goods by a group member is payable by the representative member

Any application to create, terminate, add to or remove a company from a VAT group may be made at any time.

Deregistration

Compulsory deregistration

A trader may be compulsorily deregistered if HMRC are satisfied that he no longer makes or intends to make taxable supplies (Standard rated or Zero rated).

Voluntary Deregistration

A trader is eligible for deregistered if HMRC are satisfied that taxable supplies will not exceed £81,000 in the following one year period.

Consequences of deregistration

On deregistration, VAT is chargeable on all stocks and capital assets in the business on which input tax was claimed. If chargeable VAT is £1,000 or less then it need not be paid. This rule does not apply if the business is sold as a going concern to another taxable person.

Pre-Registration Input VAT

Normally VAT incurred before registration cannot be accounted for as input VAT.

If the conditions below are satisfied then it can be treated as input tax.

Goods

- The goods must be acquired for business purposes and should not be sold or consumed prior to registration i.e. should still be in stock.
- The goods have not been acquired more than four years prior to registration.

Services

- The services must be supplied for business purposes.
- The services should not have been supplied more than six months prior to registration.

VAT periods:

The VAT period (also known as Tax period) is the period covered by a VAT return. It is usually three calendar months (quarterly returns). VAT return must be submitted and VAT must be paid within one month plus seven days after the period.

Certain businesses may submit an annual VAT return under the annual accounting scheme (see later).

Refunds of overpaid VAT

There is a four year time limit on the right to reclaim overpaid VAT.

VAT Records

All VAT records must be retained for six years by a registered person.

TREATMENT OF DISCOUNTS

If a discount is offered for prompt payment then VAT is calculated on discounted price only if discount is taken by the customer.

Relief for Bad debts

Normally, VAT output tax is accounted for when an invoice is issued. If the sale becomes a bad debt and the seller has paid VAT to HM Revenue and Customs then it can be recovered if at least 6 months has elapsed since payment from the debtor was due.

Land and buildings

- The construction of new dwellings or buildings to be used for residential or charitable purpose is zero-rated.
- The sale of the freehold of a 'new' commercial building is standard-rated the definition of 'new' is less than three years old. The construction of commercial buildings is also standard-rated.
- Other sales and leases of land and buildings are exempt.

Owners may elect 'waiving the exemption' to treat sales and leases of land and commercial buildings as taxable instead of exempt. The owner must be registered for VAT in order to make the election. The election replaces an exempt supply with a standard rated one, usually to enable the recovery of input VAT.

A taxpayer may make a 'real estate election' (REE) instead of making separate elections for each property they own. If a taxpayer makes a (REE), they will be treated as having made the election for each property they acquire, although they may revoke the option on a particular property known as "cooling off" provision.

The deduction of Input tax

For input tax to be deductible the person must be a registered person and they must hold the VAT invoices of the supplies made to him. The distinction between capital and revenue does not apply to VAT as a registered person can claim all the input VAT on supplies to them in the course of their business.

Non-Deductible input VAT

The following input VAT is not deductible:

- VAT incurred on purchase of motor cars not wholly for business purpose is not deductible. If VAT is incurred on purchase of a car wholly for business use then input VAT is recoverable.

However the VAT incurred on repair and maintenance of the car is wholly deductible and no apportionment for private use is required.

- VAT on business entertainment to UK customers.
- VAT on non-business items

PARTIAL EXEMPTION & INPUT TAX

Where a person makes a mixture of taxable and exempt supplies, they are partially exempt, and not all of their input tax is recoverable because some of it is attributable to exempt supplies. For a trader who is partially exempt input tax must be apportioned between that relating to taxable supplies (recoverable) and that relating to exempt supplies. The standard method of attributing input tax is as follows:

Step-1 Calculate how much of the input tax relates to making taxable supplies: this input tax is deductible in full.

Step- 2 Calculate how much of the input tax relates to making exempt supplies: this is exempt input tax.

Step -3 Calculate how much of any residual (i.e. remaining) input tax is recoverable using the percentage:

$$\frac{\text{Taxable turnover excluding VAT}}{\text{Total turnover excluding VAT}} \times 100\% \quad (\text{rounded up})$$

Where the residual input tax does not exceed £400,000, the figure is rounded up to the nearest whole percentage. Otherwise, the figure is rounded to two decimal places.

Where the input VAT wholly attributable to exempt supplies plus the residual VAT attributed to exempt supplies (i.e. the total of exempt input tax) fulfills one of the following test, then all input VAT is recoverable.

Test-1: Total input VAT is £625 or less a month on average, and value of exempt supplies is 50% or less than of total supplies.

Test -2: Total input VAT less input VAT directly attributable to taxable supplies is £625 or less a month on average, and value of exempt supplies is 50% or less than of total supplies.

Test-3: Input VAT wholly attributable to exempt supplies plus the residual VAT attributed to exempt supplies (i.e. the total of exempt input tax) is £625 or less a month on average, and it is 50% or less than of total input VAT.

Capital goods scheme

The capital goods scheme (CGS) applies to:

- **Computers, boat & aircrafts costing £50,000 or more, which are dealt with over 5 VAT years, and**
- **Land and building costing £ 250,000 or more, which are dealt with over 10 VAT years.**

In first year	Input VAT recoverable = (cost of purchase x 20%) x (% use in first year)
In subsequent years (each year)	Input VAT (recoverable) or payable = (cost of purchase x 20%) x (% use in first year - % use in that year) x (1/5 or 1/10)
In year of sale	Input VAT (recoverable or payable = (cost of purchase x 20%) x (100% - highest % use in any year) x (remaining years / 5 or remaining years / 10)

IMPORTS, EXPORTS, ACQUISITIONS, DISPATCHES

The term **Export** refers to goods sold to countries outside the EU. These are treated as Zero-rated supplies.

The term **Import** refers to goods purchased from countries outside the EU. These are taxed at standard rate to Zero rate as it would have been taxed as UK supplies.

The term **Dispatch** refers to good sold to countries in the EU. These are treated as Zero rated supplies.

The term **Acquisitions** refers to goods purchased from countries within the EU. These are taxed at standard rate or zero rate as it would have been taxed as UK supplies. The same amount of VAT will be written in Input tax and Output tax so that the net VAT is neutral.

Penalties

The default surcharge

If a taxable person submits a late VAT return, or submits a return on time but makes late payment of the VAT due, then a default has occurred. In this case, the HMRC may issue a “surcharge liability notice” which would specify the surcharge period – which lasts for 12 months. If within this ‘period’ the taxable person concerned makes a further default, a default surcharge is also levied which is calculated as ‘a percentage’ of tax paid late. This table is not supplied in the exam.

Default involving late payment of VAT in the surcharge period	Surcharge as a % of the VAT outstanding at the due date
1 st default	2%
2 nd default	5%
3 rd default	10%
4 th or more default	15%

Penalty for errors

Penalties on errors shall be same as for income tax errors depending on prompted or unprompted disclosure of potential lost revenue (as see earlier)

INTEREST ON UNPAID VAT

Interest is charged on VAT paid after the due date.

SPECIAL SCHEMES

Cash accounting scheme

According to this scheme the VAT is accounted for on the basis of cash receipts and payments rather than on the basis of invoices issued and received (therefore automatic bad debt relief).

The following conditions must be satisfied to enter the scheme:

- Taxable turnover not exceeding £1,350,000 per annum.
- If the taxable turnover exceeds £1,600,000 the trader will have to exit the scheme.

Annual accounting scheme

An 'annual' accounting scheme is available whereby a single VAT return is filed for a 12 month period (normally, the accounting period of the business). The annual return must be filed within two months of the end of the return period. Normally, nine payments on account (each calculated on 10% of previous year's net VAT liability) are made at the end of months 4 to 12 of the year. A balancing payment (or repayment) is made when the return is filed. A trader can join the scheme if his taxable turnover (exclusive of VAT) for the 12 months starting on their application to join the scheme is not expected to exceed £1,350,000. If the taxable turnover exceeds £1,600,000 the trader will have to exit the scheme.

Flat rate scheme:

Sale (VAT inclusive)	x	Flat rate %	=	VAT paid to HMRC
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An optional flat rate scheme has been introduced aimed at simplifying the way in which small business calculate their VAT liability. To calculate the VAT liability, simply apply a flat rate percentage on total (tax inclusive) turnover. The percentage will depend upon the trade sector in which the business falls. No input vat is repaid.

To join the scheme the business must have a taxable turnover of upto £150,000. After joining the scheme if the turnover exceeds £230,000 then the business must leave the scheme.

(Note: a 1% reduction off the flat rate can be made by a business in their first year of VAT registration)

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