

# Accounting for Overheads

## AAT Level II

### AFC - Advanced Financial Accounting & Costing

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AAT 02

Advanced Financial Accounting and Costing

## Accounting for Overheads



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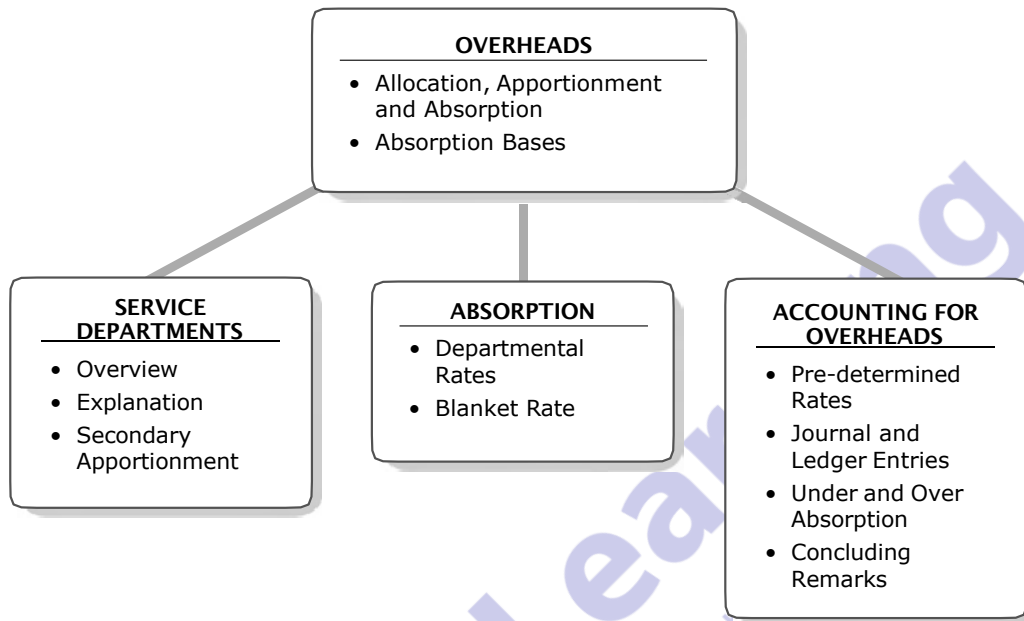
*AAT Passed Finalist (Prize Winner)*

*CMA Finalist (Prize Winner)*

*CASL (Finalist)*

## VISUAL OVERVIEW

**Objective:** To describe the principles and processes of overhead cost analysis.



### 1.0 - Definition

**Overhead Costs** are the costs that cannot be charged directly to cost units and must be shared on some (equitable) basis.

### 1.1 - Classification

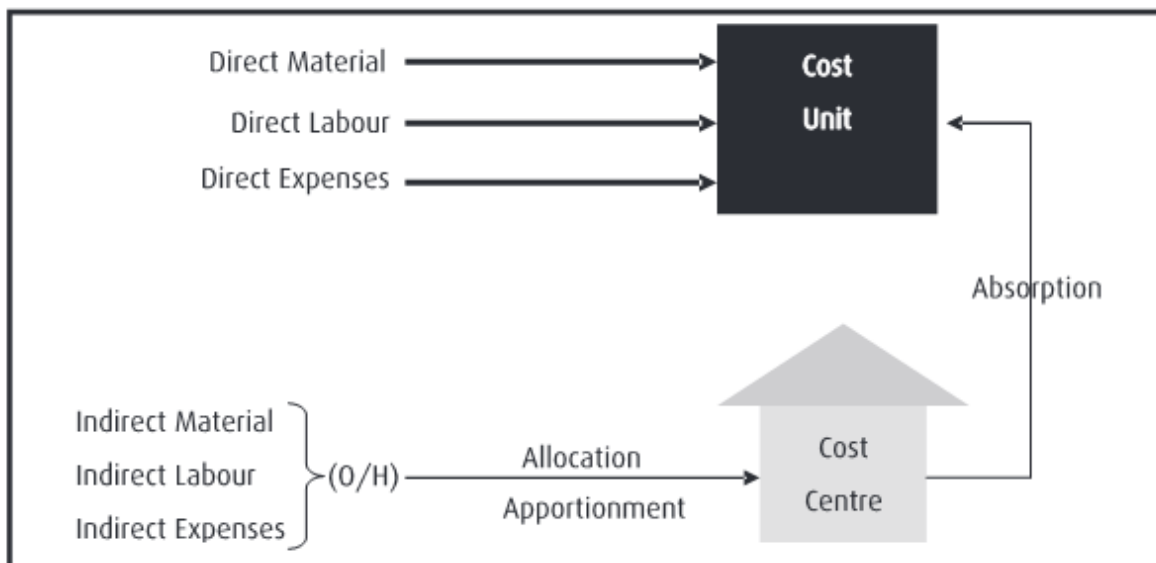
Overhead costs can be classified based on various bases. *(please refer cost classification chapter also)*

- Based on function
  - Production OHC
  - Selling and Distribution OHC
  - Administration OHC
- Based on nature
  - Indirect Material cost
  - Indirect Labour cost
  - Indirect Other costs
- Based on behaviour
  - Fixed OHC
  - Variable OHC
  - Semi-variable OHC

## 1.2 – Process of overhead absorption

Overhead costs are costs that cannot be directly identified with a cost unit. Therefore, organizations use a process with four (04) steps to identify indirect costs for a cost unit.

1. Collection and classification of overheads
2. Allocation and apportionment of overheads
3. Re-apportionment of overheads
4. Absorption of overheads



### 1.2.1 - Collection and classification of overheads

The procedure is to collect overheads from a variety of source documents. Following are the main source documents from where overhead expenses are collected.

Ex - MRN, Invoices, Payroll, Journal Vouchers and payment vouchers

### 1.2.2 - Allocation and apportionment of overheads

**Allocation** - Overheads which result solely from the existence of a cost centre are charged to that cost centre. For example

Cost Centre	Allocated Overhead Cost
Canteen	Tea bags, spaghetti, chef's wages
Packing department	Cardboard, string

**Apportionment** - When an overhead is common to more than one cost centre it must be shared out or split on an equitable basis. For example:

Overhead Cost	Possible Bases of Apportionment
Rent and rates	Square metres occupied by departments
Light and heat	Cubic capacity or metered usage
Insurance of inventories	Value of inventory holding at each location
Building insurance	Area occupied
Wages related costs, staff welfare, supervision, canteen expenses, safety, factory administration	No. of employees

### 1.2.3 - Re-apportionment of overheads

Products do not pass through service cost centres and therefore an absorption rate will not be calculated for the service cost centre. Absorption rates are only calculated for production departments. Therefore, overhead costs accumulated in service cost centres must be reappportioned to production cost centres. This secondary apportionment should be done on a fair basis to reflect the benefit derived from the service centre.

Three approaches/treatments are possible:

- **Direct method**

- Reciprocal services (if any) are ignored. Service department costs are reappportioned to production departments only.

- **Step-down method**

- Services that do most work for other service departments are allocated first. Reciprocal services (if any) are then ignored.

- **Reciprocal method**, which has two possible methods:

- Continuous reappportionment
- Algebraic (simultaneous equations)

## Example 01

A firm has two production departments and two service departments. It makes two products and its total overhead bill for the year is as follows.

	Rs.
Rent	20,000
Depreciation – machinery	10,000
– buildings	8,000
Electricity	5,000
Indirect materials	<u>15,000</u>
	<u>58,000</u>

The following statistics are available.

	Production 1 Pressing	Production 2 Assembly	Service 1 Canteen	Service 2 Maintenance
Area (M <sup>2</sup> )	2,500	5,000	1,000	1,500
Machine value (\$)	1,000	5,000	1,000	3,000
KW hour rating of machinery	10,000	10,000	2,500	2,500
Indirect materials consumed (\$)	5,000	5,000	3,700	1,300

Usage of service department costs is estimated as:

	Pressing	Assembly
Use of canteen	50%	30%
Use of maintenance	55%	40%

**Required:**

- Allocate** and **primarily apportion** overheads to cost centres.
- Reapportion** service department costs to production cost centres (secondary apportionment) using **Direct method**.

### 1.2.4 – Absorption of overheads

Attributing/charging the overheads accumulated in a production cost centre after the re-apportionment, to the cost units passing through it.

For absorption, any organization can have different bases and some of them are as follows.

- Production units method
- Direct Labour Hour Rate
- Machine hour rate
- Percentage on direct labour cost
- Percentage on direct material cost
- Percentage on prime cost

Usually, OAR is calculated as follows.

### Example 02

Using the same data from Example 1, assuming secondary apportionment of service department overheads occurred using direct method, with the following additional information:

The firm's two products have the following direct costs per unit.

Product	A Rs.	B Rs.
Direct materials	7.00	5.00
Direct labour		
Pressing A: 3 hrs/unit	15.00	
B: 2 hrs/unit		10.00
Assembly A: 2 hrs/unit	8.00	
B: 1 hr/unit		<u>4.00</u>
<b>Prime Cost</b>	<b>30.00</b>	<b>19.00</b>

Production volume is 1,000 units of A and 2,000 units of B. It has been decided to absorb overheads into products on the basis of labour hours.

**Required:**

- (a) **Calculate** the overhead absorption rates of the two production departments.
- (b) **Calculate** the absorbed overhead cost per product and calculate the total cost per unit.

The absorbed overhead cost is usually calculated as follows.

### Example 03

The Following information is relating to BAC Manufacturing company for a three months period.

Budgeted Production Overhead Cost – Rs.300,000  
Budgeted Production Units – 25,000  
Budgeted Labour hours per unit – 2 Hours  
Budgeted Machine hours for the period – 30,000

**Required:**

- (a) Calculate the overhead absorption rate based on the above information using different bases.

#### 1.2.4.1 – Under or Over Absorption of overheads

**Total overhead absorbed** will differ from actual total overhead incurred if actual activity and/or actual cost differ from that budgeted in the calculation of the standard overhead absorption rate.

If overhead absorbed > actual overhead incurred, then this is described as **over absorption** and the difference is credited, for example, to cost of sales (there is no one rule about exactly where the adjustment is made).

If overhead absorbed < actual overhead incurred, then this is described as **under absorption** and the difference is written off as a debit to cost of sales.

### Example 04

A firm absorbs fixed production overheads based on labour hours, using a pre-determined overhead absorption rate. At the start of the year, the following amounts were planned (Budgeted).

Production overhead cost - Rs.32,844  
Direct labour hours - 4,000 hours

**Actual data** was as follows:

Production overhead cost – Rs. 35,742  
Direct labour hours - 4,200 hours

**Required:**

- (a) Calculate the under or over overhead absorption