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VIRTUAL COACHING CLASSES
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INTERMEDIATE LEVEL
PAPER 3: COST & MANAGEMENT ACCOUNTING
TOPIC COVERED: JOINT BY PRODUCT

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MEANING

Joint Products :

Where two or more products of equal importance, produced, simultaneously from the same process, with each having a significant relative sale value are known as joint products. For example, in the oil industry, gasoline, fuel oil, lubricants, paraffin, coal tar, asphalt and kerosene are all produced from crude petroleum. These are known as joint products

By-Products :

By product are incidental waste arising during the course of manufacture of main product . These products have very less market value .For example, molasses in the manufacture of sugar, glycerin obtained in manufacture of soap.

JOINT COST

Joint costs are the expenditures incurred upto the point of separation i.e. split-off point.

METHODS OF APPORTIONMENT OF JOINT COST

- *Physical Unit Method*
- *Market value at the point of separation*
- *Net realisable value at split of point.*
- *Market value after further processing*
- *Average unit cost method*
- *Contribution margin method*

Physical Unit Method

In this method joint cost are apportioned on the basis of some physical base Such as weight, numbers etc. Any loss arises during the joint production process is also apportioned over the products on the same basis.

Example:

A coke manufacturing company produces the following products by using 5,000 tons of coal @ 1,100 per ton into a common process.

Coke	*3500 tons*
Tar	*1200 tons*
Sulphate of Amonia	*52 tons*
Benzol	*48 tons*

Prepare a statement apportioning the joint cost amongst the products on the basis of the physical unit method.

Market Value At The Point Of Separation

Under this method of apportionment , joint cost are apportioned on the basis of sale value at the point of separation .

Example :

An entity incurs a joint cost of 64,500/- in producing two products A (200 units) and B (200 units) and earns a sales revenue of ` 86,000 by selling @ 170 per unit of product A and product B @ 260 per unit. Apportion the joint cost in proportion of Market Value At The Point Of Separation.

Net Realisable Value At Split Off Point

In this method joint cost are apportioned in ratio of net realisable value.

Calculation of Net Realisable Value:

	Product X	***Product Y***	***Product Z***
Sales Value (Units after Processing x Selling Price)	*xx*	*xx*	*xx*
Less: Profit Margin	*xx*	*xx*	*xx*
Less: Selling & Distribution Expenses	*xx*	*xx*	*xx*
Less: Post Split-Off Cost	*xx*	*xx*	*xx*
Net Realisable Value	*xxx*	*xxx*	*xxx*

Example:

An entity incurs a joint cost of 64,500/- in producing two products A and B .

Units Produced :
A 200 units
B 200 units

Selling Price :
A : 170 per unit
B : 260 per unit

Further processing costs for products A and B are 4,000/- and 32,000/- respectively.
Apportion the joint cost in the ratio of Net Realisable Value at Split Of Point.

Market Value After Further Processing:

In this method joint cost are apportioned on the basis of sales value of units produced .

Example:

An entity incurs a joint cost of 64,500/- in producing two products A (200 units) and B (200 units) and earns a sales revenue of 100000/- by selling @ 200 per unit of product A and product B @ 300 per unit after further processing . Apportion the joint cost in proportion of Market Value After Further Processing .

Average Unit Cost Method

Under this method, total process cost (upto the point of separation) is divided by total units of joint products produced. On division average cost per unit of production is obtained.

$$\text{Average unit cost} = \frac{\text{Total process cost (upto the point of separation)}}{\text{Total units of joint product produced.}}$$

Example :

Find out the cost of joint products A, B and C using average unit cost method from the following data:

- *Pre-separation Joint Cost* 60,000/-
- *Production data :*

Products:	*A*	-	*500*
	B	-	*200*
	C	-	*300*
			1000

Contribution Margin Method

*According to this method, joint costs are segregated into two parts - **Variable and Fixed.***

- *Variable cost are apportioned over joint products on the basis of units produced.*
- *Fixed cost are apportioned over joint product in ratio of contribution .*
- *Contribution = Sales – Variable cost (as apportioned above)*

Example:

Find out the cost of joint products A and B using contribution margin method from the following data
Sales:
A : 100 kg @60 per kg.
B : 120 kg @30 per kg.
Joint costs :
Marginal cost - 4,400 /-
Fixed cost   - 3,900/-

METHODS OF APPORTIONMENT OF JOINT COST TO BY-PRODUCTS

Net Realisable Value Method	*The net amount realised on the disposal of the by-product may be deducted from the total cost of production so as to arrive at the cost of the main product.* *Net amount Realised = (Amount realised on sale- further expense incurred)*
Standard cost in Technical Estimates	*By-products may be valued at standard costs. The standard may be determined by averaging costs recorded in the past and making technical estimates of the number of units of original raw material going into the main product and the number forming the by- product or by adopting some other consistent basis.*
Comparative price Method	*Value of the by-product is ascertained with reference to the price of a similar or an alternative material.*
Re-use basis	*The value put on the by-product should be same as that of the materials introduced into the process.*

Treatment of by-product cost in Cost Accounting

a) When they are of small total value :

When the by-products are of small total value, the amount realised from their sale may be dealt in any one the following two ways:

- *The sales value of the by-products may be credited to the Costing Profit and Loss Account as miscellaneous income or*

- *The sale proceeds of the by product should be deducted either from the production cost .*

b) When the by-products are of considerable total value:

Where by- products are of considerable total value, they may be regarded as joint products rather than as by-products

C) Where they require further processing:

In this case, the net realisable value of the by-product at the split-off point may be arrived at by subtracting the further processing cost from the realisable value of by-products.

- *If total sales value of by-products at split-off point is small then credit the realised value to costing P&L account as miscellaneous income or deduct the amount realised from the cost of production.*

- *In the contrary case, where realisable value of by- products are of considerable value,then they may be regarded as joint products rather than as by-products.*

THANK YOU