HINDUSTHAN EDUCATIONAL AND CHARITABLE TRUST
HICAS

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College of Arts & Science
An Autonomous College - Affiliated to Bharathiar University
Approved by AICTE and Govt. of Tamilnadu
Accredited by NAAC-An ISO Certified Institution

Class: III B.Com. A & B (2018 Only)

SUBJECT: COST ACCOUNTYING
(16BCO17)

COST ACCOUNTING
UNIT – I

- Cost Sheet – Problem with solution

THE FOLLOWING FIGURES ARE EXTRACTED FROM THE COST RECORDS OF ADITYA CHEMICALS LTD. FOR 2017.

Particulars	Amount
Finished Goods on 1-1-2017	50000
Raw Material on 1-1-2017	10000
Work in Progress 1-1-2017	14000
Direct Labour	40000
Purchase of Raw material	98000
Indirect Labour	40000
Heat, Lighting and Power	20000
Factory Insurance and Taxes	5000
Repairs to Plant	3000
Factory Suppliers	5000
Depreciation - Factory building	6000
Depreciation - Plant	10000

Other Information	Amount
Factory cost of goods produced in 2017	280000
Raw material Consumed in 2017	95000
Cost of goods sold in 2017	160000

No office and administration expenses were incurred during the year 2017. prepare a statement of cost for the year ending 2017 giving maximum possible information and break - up.

Aditya chemicals ltd. For 2017.

Cost Sheet for the year ended 2017

Particulars	Amount	Amount
Cost of Raw Material Consumed :		
Opening stock of Raw Materials	10000	
Add : Purchases	98000	
Material available for use of raw materials	108000	
Less: Closing Stock (Missiing : Bal. Fig)		
(Material Available Rs. 1,08,000 - Material Consumed Rs. 95,000)	13000	
Cost of Raw Material Consumed		95000
Direct labour		160000
Prime Cost		255000
Factory Overheads :		
Indirect Labour	40000	
Heat, Light and Power	20000	
Insurance and Taxes	5000	
Repairs to Plant	3000	
Factory Suppliers	5000	
Depreciation		
Plant	10000	
Building	6000	89000

Particulars		Amount	Amount
Total factory cost incurred during the year			344000
Add: Opening work in Progress			14000
Total factory cost incurred to account for	(1)		358000
Less: Closing work in progress (Missing : Bal. Fig)	(2- 1)		78000
Factory Cost (given)	(2)		280000
Add: Opening Finished Goods stock			50000
Cost of goods available for sale	(3)		330000
Less : Closing Stock of finished goods (Missing Bal.Fig)	(4-3)		170000
Cost of Goods Sold (given)			160000

The following information has been obtained from the records of ABC Corporation for the period from June 1 to June 30, 2018.

	On June 1, 20X8	On June 30, 20X8
Cost of raw materials	60,000	50,000
Cost of work-in-process	12,000	15,000
Cost of stock of finished goods	90,000	1,10,000

Purchase of raw materials during June' 2018	4,80,000
Wages paid	2,40,000
Factory overheads	1,00,000
Administration overheads (related to production)	50,000
Selling & distribution overheads	25,000
Sales	10,00,000

Prepare a statement giving the following information: (a) Raw materials consumed; (b) Prime cost; (c) Factory cost; (d) Cost of goods sold; and (e) Net profit.

Statement of Cost & Profit (for the month of June 20X8)

Particulars	Amount
Opening stock of raw materials	60,000
Add: Purchase of raw materials during June' 2018	4,80,000
Less: Closing stock of raw materials	(50,000)
Raw materials consumed	4,90,000
Add: Direct wages	2,40,000
Prime cost	7,30,000
Add: Factory overheads	1,00,000
Works cost	8,30,000
Add: Opening work-in-process	12,000
Less: Closing work-in-process	(15,000)
Factory cost	8,27,000

Add: Administration overheads	50,000
Cost of production	8,77,000
Add: Opening stock of finished goods	90,000
Less: Closing stock of finished goods	(1,10,000)
Cost of goods sold	8,57,000
Add: Selling & distribution overheads	25,000
Cost of sales	8,82,000
Net Profit	1,18,000
Sales	10,00,000

LETS TEST WHAT YOU LEARN! (MCQ)

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SUBJECT: COST ACCOUNTYING

(16BCO17)

COST ACCOUNTING
UNIT – I

- Scope of Cost Accounting
- Objectives of Cost Accounting
- Installation of cost Accounting

Scope of Cost Accounting

Cost Ascertainment

Analysis of Expenses

Historical Cost
Actual Cost
Estimated Cost
Standard Cost

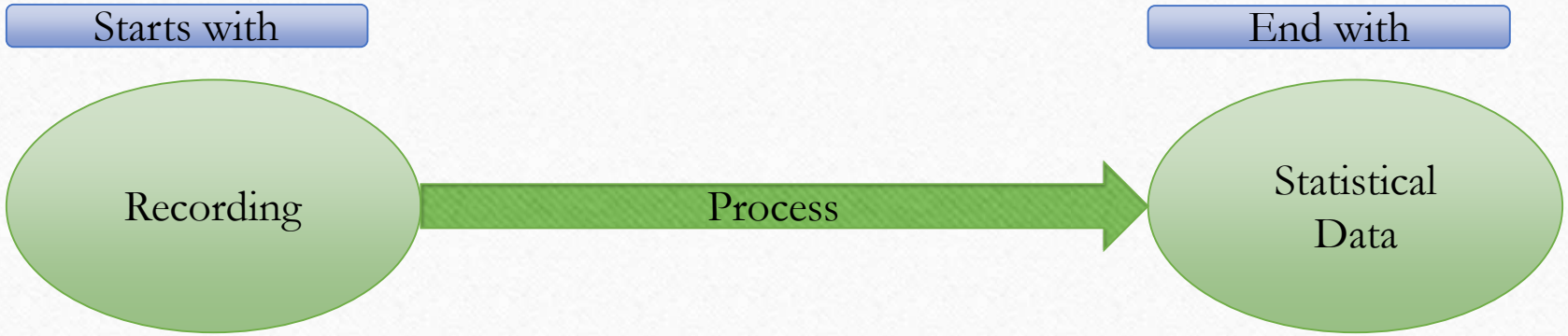
Measurement of Production

Specific Order Cost
Operation Costing

Production Techniques

Marginal Cost
Total Cost
Direct Cost

Cost Recording



Cost Control

- Standard Costing
- Budgetary Control
- Proper Presentation
- Reporting of Cost Data
- Cost audit

Objectives of Cost Accounting

To Ascertainment of the cost

Fixation of Selling price

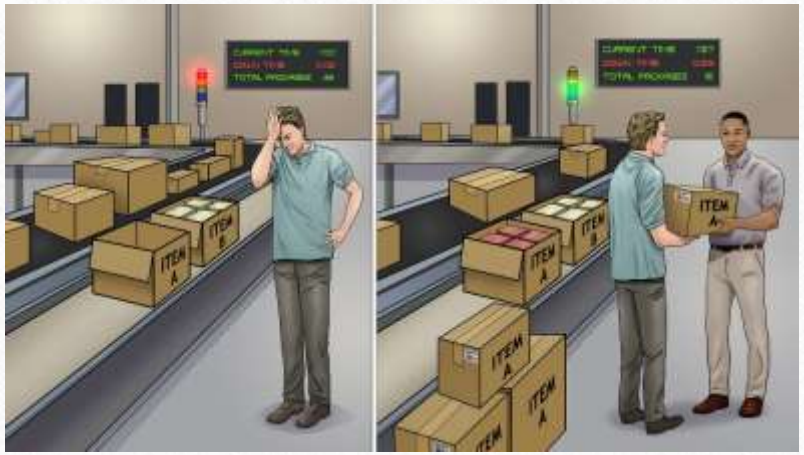
Proper Recording & Presentation of cost data

Cost control

Control Wastage

To Advice Management – Increase Profitability

To exercise effective control of stocks



To Advice Management on Future project

To present Interpret data

To Help Preparation of Budgets

Installation of Cost Accounting

- Studying Existing organisation and routine
- Objectives is to achieved – costing System
- Deciding the structure of cost account
- Relationship of cost office and other Department
- Determining the cost rates
- Organising the cost office
- Introducing the system

A simple AV about how to Manage a People

- VIDEO LINK:

https://www.youtube.com/watch?v=PWmhl6rzVpM

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SUBJECT: COST ACCOUNTYING

(16BCO17)

COST ACCOUNTING
UNIT – I

- Types of Costing
- Methods of Cost Accounting
- Elements of cost Accounting

Types or Techniques of Costing

- Uniform Costing
- Marginal Costing
- Standard Costing
- Historical Costing
- Direct Costing
- Absorption Costing

Methods of Accounting

Job Costing

Contract Costing

Batch Costing

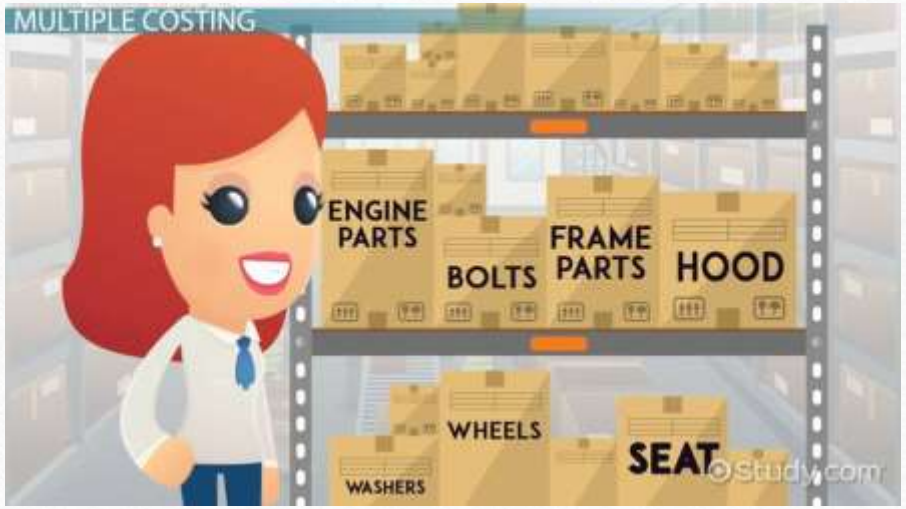
Process Costing

Unit or Output Costing

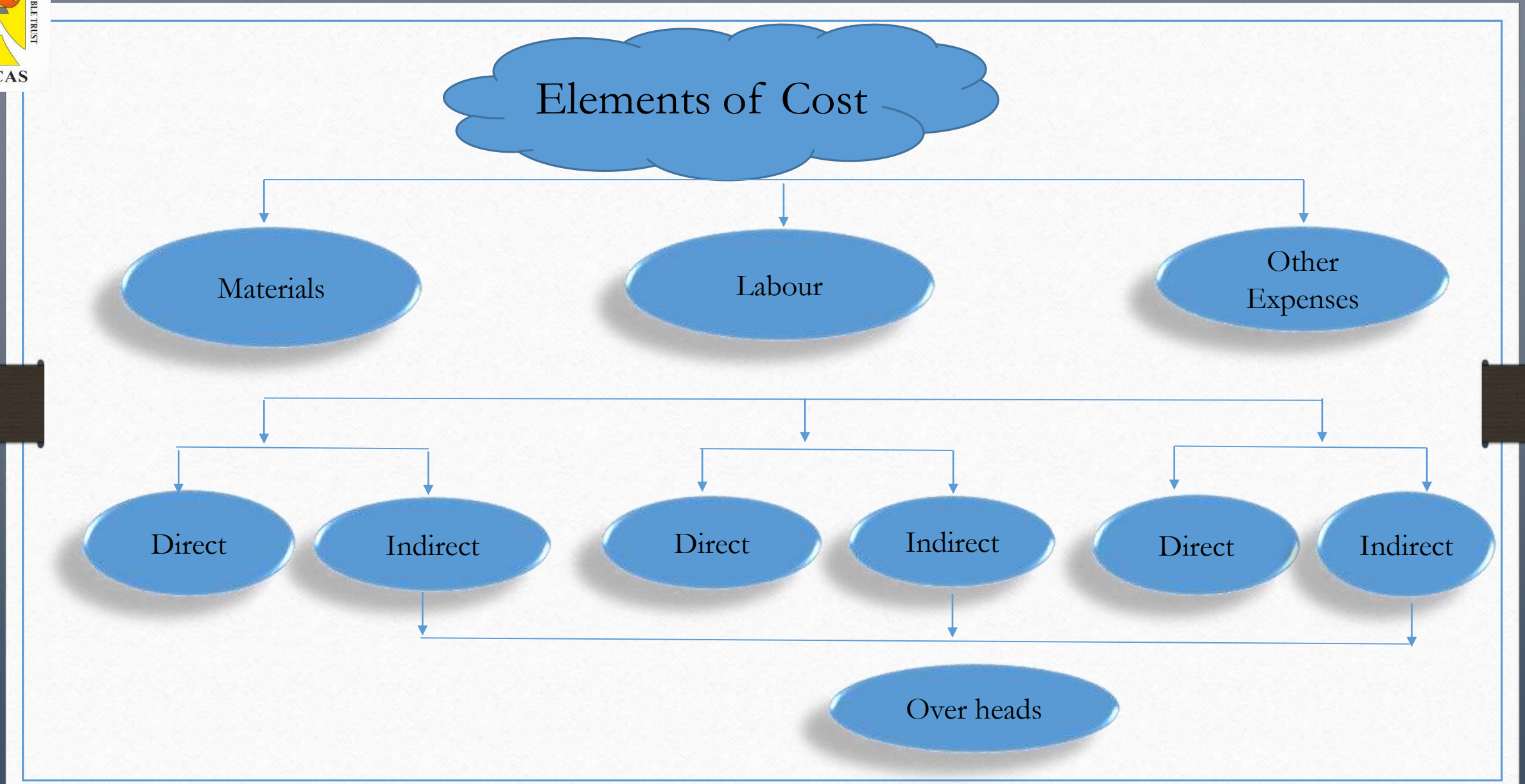
Service Costing

Farm Costing

Multiple Operation Costing



Multiple Costing


Elements of Cost
Materials
Labour
Other Expenses
Direct
Indirect
Direct
Indirect
Direct
Indirect
Over heads

Direct Material

Direct Labour

Direct Expenses

Over heads

Prime Cost = Direct Material +Direct Labour + Direct Expenses

Work Cost = Prime Cost+ Works Overheads

Cost of Production = Work Cost + Administration Overhead

Total Cost = Cost of Production + Selling and Distribution Overheads

A simple AV about

- VIDEO LINK:

- https://www.youtube.com/watch?v=HjNv_iTsXn8

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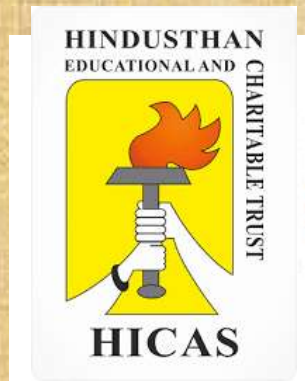
- https://forms.gle/M71cs8HvqZ8CNozT9



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SUBJECT: COST ACCOUNTYING
(16BCO17)

COST ACCOUNTING
UNIT – I

- Expenses Excluded from costs
- Cost Sheet – Problem with solution

Prime Cost = Direct Material +Direct Labour + Direct Expenses

Work Cost = Prime Cost+ Works Overheads

Cost of Production = Work Cost + Administration Overhead

Total Cost = Cost of Production + Selling and Distribution Overheads

Expenses Excluded from Cost

The expenses which are relating to capital assets, capital losses, payments by way of distribution of profits and matters of pure finance should not form a part of the cost.

Income Tax
Dividends
Abnormal wastage of material
Wages paid abnormal idle time
Interest on capital
Expenses of raising capital
Discount on shares and debentures,
Profit or loss from the sale of assets or Investments
Excessive depreciation

Appropriation of profit
Writing of goodwill
Preliminary expenses
Cash discount
Debentures interest
Incomes which are not connected with business (i.e., transfer fee, rent, interest, dividend received and capital expenditure)

Cost Sheet preparation

1. Ascertain the prime cost, work cost, cost of production, total cost and profit from the undermentioned figures :

Direct Materials	Rs. 5,000
Direct Labour	Rs. 3,500
Factory Expenses	Rs. 1,500
Administration Expenses	Rs. 800
Selling Expenses	Rs. 700
Sales	Rs. 15,000

Direct Materials	5,000	
Direct Labour	3,500	
Prime cost		8,500
Factory Expenses		1,500
Work Cost		10,000
Administration Expenses		800
Cost production		10,800
Selling Expenses		700
Cost of Sales		11,500
Sales		15,000
Profit		3,500

2. From the following calculate the value of raw material consumed.

Raw Materials Purchased	Rs. 88,000
Opening stock of Raw materials	Rs. 1,00,000
Closing stock of Raw materials	Rs. 1,23,000

Particulars	Amount	Amount
Opening stock of raw material	xxx	
Add: Purchase of Raw Material	xxx	
Add : Carriage inward	xxx	
Less: Closing stock of Raw Material	xxx	
Material Consumed		XXXXXX
Direct material		xxx
Direct Labour		xxx
Direct Expenses		xxx
Prime cost		XXXXXX

Particulars	**Amount**	**Amount**
Opening stock of raw material	1,00,000	
Add: Purchase of Raw Material	88,000	
Add : Carriage inward	-	
	1,88,000	
Less: Closing stock of Raw Material	1,23,000	
Material Consumed		65,000

Particulars	Amount	Amount
Prime Cost		XXX
Factory Overheads		XXX
		XXXX
Add : Work-in-Progress (Beginning)		XXX
		XXXX
Less : Work-in-Progress (Closing)		XXX
Work Cost or Factory Cost		XXXXXX

3. From the following Calculate Work Cost

Material	Rs. 64,500
Direct Wages	Rs. 80,000
Factory Overheads	Rs. 29,500
Opening Stock of Work in Progress	Rs. 13,000
Closing Stock of work in progress	Rs. 34,500

Particulars	**Amount**	**Amount**
Material	64500	
Direct Wages	80000	
Prime Cost		144500
Factory Overheads		29500
Add : Work-in-Progress (Beginning)		13000
		1,87,000
Less : Work-in-Progress (Closing)		34500
Work Cost or Factory Cost		152500

For your Practice

4. From the following find Prime Cost and Work Cost

Opening stock of raw material Rs. 50,000

Purchase of Raw Material Rs. 32,500

Closing stock of Raw Material Rs. 18,000

Carriage inward Rs. 500

Direct material Rs.2,000

Direct Labour Rs.1,500

Direct Expenses Rs.1,500

Factory Overheads Rs.22,000

Work-in-Progress (Beginning) Rs.13,000

Work-in-Progress (Closing) Rs.9,000

Solution

Particulars	Amount	Amount
Opening stock of raw material	50,000	
Add: Purchase of Raw Material	32,500	
Add : Carriage inward	500	
	83,000	
Less: Closing stock of Raw Material	18,000	
Material Consumed	65,000	
Direct material	2000	
Direct Labour	1500	
Direct Expenses	1500	
Prime cost		70,000
Factory Overheads		22000
Add : Work-in-Progress (Beginning)		13000
		1,05,000
Less : Work-in-Progress (Closing)		9000
Work Cost or Factory Cost		96000

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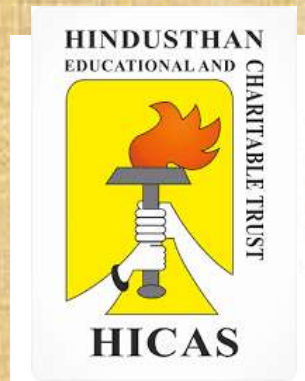

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COST ACCOUNTING
UNIT – I

- Cost Sheet – Problem with solution

From the following calculate the cost of goods sold

Particulars	Amount
Cost of Production	1,83,500
Opening stock of finished goods	71,500
Closing stock of Finished Goods	42,000

Particulars	Amount	Amount
Cost of Production	xxx	
Add : Opening Stock of Finished Goods	xxx	
	XXXXX	
Less: Closing stock of Finished Goods	xxx	
Cost of goods Sold		XXXXXX

Particulars	Amount	Amount
Cost of Production	1,83,500	
Add : Opening Stock of Finished Goods	71,500	
	2,55,000	
Less: Closing stock of Finished Goods	42,000	
Cost of goods Sold		2,13,000

Calculate prime cost, Factory Cost, Cost of Production, Cost of Sales and Profit from the following

Particulars	Amount
Direct Material	1,00,000
Direct Wages	30,000
Wages of foreman	2500
Electric power	500
Lighting : Factory	150
: Office	500
Store Keeper Wages	1000
Oil and Water	500
Rent : Factory	5000
: Office	2500
Repairs and Renewals:	
: Factory Plant	3500
: Office Premises	500
Transfer to Reserves	1000

Particulars	Amount
Discount on shares written off	500
Dividend	2000
Depreciation : Factory plant	500
: Office Premises	1250
Consumable stores	2500
Managers Salary	5000
Directors Fees	1250
Office Stationery	500
Telephone Charges	125
Postage and Telegrams	250
Salesmen's salaries	1250
Travelling expenses	500
Advertising	1250
Warehouse charges	500

Particulars	Amount
Direct Material	1,00,000
Direct Wages	30,000
Wages of foreman	2500
Electric power	500
Lighting : Factory	1500
: Office	500
Store Keeper Wages	1000
Oil and Water	500
Rent : Factory	5000
: Office	2500
Repairs and Renewals:	
: Factory Plant	3500
: Office Premises	500
Transfer to Reserves	1000

Statement of cost and Profit

Direct Materials	100000	
Direct Labour	30000	
Prime cost		**130000**
ADD: Factory Overheads:		
Wages of foreman	2,500	
Electric Power	500	
Store Keeper Wages	1,000	
Oil and Water	500	
Factory Rent	5,000	
Repairs and renewals – factory Plant	3,500	
Factory Lighting	1,500	
Depreciation factory plant	500	
Consumable Stores	2,500	
		17,500
Work Cost		**1,47,500**

ADD: Administration Overheads:		
Office Rent	2,500	
Repairs and renewals – Office Premises	500	
Office Lighting	500	
Depreciation		
Office Premises	1,250	
Managers Salary	5,000	
Directors fees	1,250	
Office Stationery	500	
Telephone Charges	125	
Postage and Telegrams	250	
		11,875
Cost of Production		1,59,375

ADD: Selling and Distribution Overheads:		
Carriage outward	375	
Salesmen's Salaries	1,250	
Travelling Expenses	500	
Advertising	1,250	
Warehouse charges	500	
		3,875
Cost of Sales		1,63,250
ADD: Profit		26,250
Sales		1,89,500

Items Excluded in Cost Sheet

Transfer to Reserves

Discount on shares written off

Dividend

Income-Tax

LETS TEST WHAT YOU LEARN! (MCQ)

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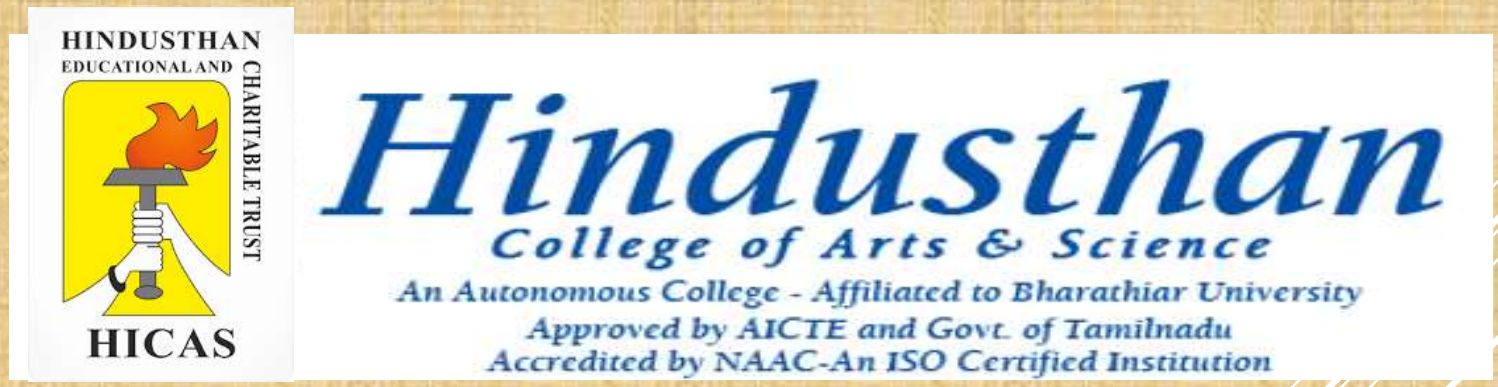

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COST ACCOUNTING
UNIT – I

- Cost Sheet – Problem with solution

THE FOLLOWING INFORMATION HAS BEEN OBTAINED FROM THE RECORDS OF LEFT – CENTRE CORPORATION FOR THE PERIOD FROM JANUARY 1 TO JUNE 30, 2017

Transaction during six months are	
Purchase of raw Materials	4,50,000
Wages paid	2,30,000
Factory overheads	92,000
Administration overheads	30,000
Selling and Distribution overheads	20,000
Sales	9,00,000

Prepare

1. Cost sheet
2. Material Consumed
3. Prime Cost
4. Factory cost
5. Cost of Sales
6. Profit

Particulars	2017 on January 1 Rs.	2017 on June 30 Rs.
Cost of Raw Materials	30,000	25,000
Cost of Work in Progress	12,000	15,000
Cost of Stock finished Goods	60,000	55,000

Statement of cost and Profit

Particulars	Amount	Amount
Opening Stock of Raw Material	30,000	
ADD : Purchase of Raw Materials	4,50,000	
	4,80,000	
Less : Closing Stock of Raw Material	25,000	
Cost of Material Consumed	4,55,000	
Direct Wages	2,30,000	
Prime Cost		6,85,000
ADD: Factory Overheads:		
Add : Factory Overheads		92,000
Factory Cost Incurred		7,77,000
ADD : Opening Work – in – Progress		12,000
		7,89,000
Less : Closing Stock Work – in – Progress		15,000
Work Cost		7,74,000

Particulars	Amount	Amount
ADD: Administration Overheads:		
Administration Overheads		30,000
Cost of production		8,04,000
ADD: Opening Stock of Finished Goods		60,000
		8,64,000
Less: Closing Stock of Finished Goods		55,000
Cost of goods sold		8,09,000
ADD: Selling and Distribution Overheads:		
Selling and Distribution Overheads		20,000
Cost of Sales		8,29,000
Profit		71,000
Sales		9,00,000

Particulars	Amount
Direct Material	4,98,000
Direct labour	1,71,000
Opening stock ofwork in progress	51,000
Closing Stock of Work in progress	45,000
Work in progress is valued at prime cost basis	

Preparation of Prime Cost

Particulars	**Amount**
Direct Material	4,98,000
Direct labour	1,71,000
	669000
Opening stock of work in progress	51,000
	720,000
Closing Stock of Work in progress	45,000
Prime cost	675,000

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COST ACCOUNTING
UNIT – I

- Cost Sheet – Problem with solution

THE FOLLOWING EXTRACT OF COSTING INFORMATION RELATES TO COMMODITY A FOR THE HALF YEAR ENDING 31 ST DECEMBER,2017

Particulars	Amount
Purchase of Raw materials	120000
Work overheads	48000
direct wages	100000
carriage on purchases	1440
stock (1 st july 2017) :	
Raw Material	20000
Finished Products (1,000 tones)	16000
Stock (31st Dec 2017)	
Raw Material	22240
Finished Products (2,000 tones)	32000
Work in Progress (1 st July 2017)	4800
Work in Progress (31 st Dec 2017)	16000
Sales Finished products	300000

Selling and distribution overheads are Re. 1 per ton sold. 16,000 tons of commodity were produced during the period.

You are to ascertained

1. Cost of material
2. Cost of output for the period
3. Cost of sales
4. Net profit for the period
5. Net profit per ton of the commodity

Statement of cost and Profit
For the year ended 31 st Dec. 2017

Particulars	Units (Tons)	Amount
Opening Stock of Raw Material		20,000
ADD : Purchase of Raw Materials		1,20,000
Carriage on Purchase		1,440
		1,41,440
Less : Closing Stock of Raw Material		22,240
Value of Raw Material Used		1,19,200
ADD : Direct Wages		1,00,000
Prime Cost		2,19,200
ADD: Factory Overheads:		
Work Overheads		48,000
ADD : Opening Work – in – Progress		4,800
		2,72,000
Less : Closing Stock Work – in – Progress		16,000

Particulars	Amount
Purchase of Raw materials	120000
Work overheads	48000
direct wages	100000
carriage on purchases	1440
stock (1 st july 2017) :	
Raw Material	20000
Finished Products (1,000 tones)	16000
Stock (31st Dec 2017)	
Raw Material	22240
Finished Products (2,000 tones)	32000
Work in Progress (1 st July 2017)	4800
Work in Progress (31 st Dec 2017)	16000
Sales Finished products	300000

Particulars	Units	Amount
Cost of output for the period	16,000	2,56,000
ADD: Opening Stock of Finished Goods	1,000	16,000
	17,000	2,72,000
Less: Closing Stock of Finished Goods	2,000	32,000
Cost of goods sold	15,000	2,40,000
ADD: Selling and Distribution Overheads:		
Selling and Distribution Overheads on 15,000 tons Re. 1 per ton		15,000
Cost of Sales		2,55,000
Profit		45,000
Sales		3,00,000

Net Profit per ton
= 45,000 / 15,000 = Rs. 3

Some times selling price is to be calculated on the basis of cost of production but profit percentage is generally given on sales . For calculation of profit , the following formula should be used :

Profit = Rate of % on sales / 100- Rate of % on sales

- **Suppose if the profit of 25% on sales is to be realised and total cost is 33000 : then profit to be added to total cost will be calculated as under**

- **Profit = 25 X 33000 / 100 – 25**

- **= 11,000**

The accounts of Basudev Manufactures Ltd. for the year ended 31st December 1988 show the following:

	Rs.
Stock of Material on 1.1.88	6,720
Materials Purchased	1,50,000
Materials returned to suppliers	2,000
Direct Labour	50,000
Direct Expenses	20,000
Factory Expenses	15,300
Office & Administrative Expenses	8,000
Selling & Distribution Expenses	7,900
Stock of Materials on 31.12.88	7,720
Profit	10,000

(a)Material Consumed
(b) Prime Cost
(c) Works Cost
(d) Cost of Production
(e)Total Cost and
(f) Sales.

Statement of Cost for the year ended 31.12.88

Particulars	*Rs.*	*Amount Rs.*	*Amount Rs.*
Opening Stock of Materials		6,720	
Add : Purchases of Material	1,50,000		
Less : Materials returned of Suppliers	2,000	1,48,000	
		1,54,720	
Less : Closing Stock of Materials		7,720	
RAW MATERIALS CONSUMED		1,47,000	
Direct Labour		50,000	
Direct Expenses		20,000	
PRIME COST			2,17,000
Factory Overhead			
Factory Expenses			15,300
WORKS COST			2,32,300
Office & Administration Overhead			
Office & Administration Expenses			8,000
COST OF PRODUCTION			2,40,300
Selling & Distribution Overhead			
Selling & Distribution Expenses			7,900
TOTAL COST/COST OF SALES			2,48,200
PROFIT			10,000
SALES			2,58,200

LETS TEST WHAT YOU LEARN! (MCQ)

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- https://forms.gle/XpbY5jx8WAiH5cD29

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SUBJECT: COST ACCOUNTYING
(16BCO17)

COST ACCOUNTING
UNIT – I

- Cost Sheet – Problem with solution

THE FOLLOWING FIGURES ARE EXTRACTED FROM THE TRAIL BALANCE OF GOGETTER CO, ON 30TH SEPTEMBER, 2017.

Debit Balance	Amount	Debit Balance	Amount
Opening inventories		Repairs and upkeep - Factory	14000
Finished goods	80000	Heat, Light and power	65000
Raw material	140000	rates and Taxes	6300
Work in progress	200000	Miscellaneous Factory Expenses	18700
Office Appliances	17400	Sales commission	33600
Plant and Machinery	460500	sales travelling	11000
Building	200000	Sales promotion	22500
Sales return and rebates	14000	Distribution Dept. - salaries and Expenses	18000
Materials purchased	320000	Office salaries and Expenses	8600
Freight incurred on materials	16000	Interest on borrowed Funds	2000
Direct Labour	160000	**Credit balance**	**Amount**
Indirect Labour	18000	Sales	768000
Factory supervision	10000	Purchase Returns	4800

Rates and Taxes two - third to factory and one - third to office
Depreciation on building to Factory , Office and selling in the ratio of 8:1:1.
With help of the above information , you are required yo prepare

i. a statement of cost showing various elements of cost and
ii. Statement of profit

Further Details

i.) Closing Inventories : Finished Goods Rs. 115000; Raw Material Rs. 180000; Work in Progress Rs. 192000;

ii.) Accrued Expenses on : Direct Labour Rs. 8,000; Indirect Labour Rs. 1200; interest on borrowed funds Rs. 2000.

iii.) Depreciation to be provided on : Office Appliances 5% ; Plant and Machinery 10%; Building 4%;

iv.) Distribution of the following cost : Heat , Light and power to Factory, Office and Distribution in the ratio of 8:1:1.

Statement of cost and Profit
For the year ended 30 st Sept. 2017

Prarticullars	Amount	Amount	Amount
Opening stock of Raw material		140000	
Add: Material Purchased		320000	
Freight on Material		16000	
		476000	
Less : Purchase Returns	4800		
Less : Closing stock of Raw material	180000	184800	
Material Consumed			291200
Direct Labour (160000+8000)			168000
Prime Cost			**459200**

Add : Factory Overheads			
Indirect Labour (18000+1200)		19200	
Factory supervision		10000	
Repairs and upkeep - Factory		14000	
Heat, Light and power (4/5 of Rs. 65,000)		52000	
Rates and Taxes (2/3 of Rs. 6300)		4200	
Misc. Factory Expenses		18700	
Depreciation on Plant (10% of Rs. 4,60,500)		46050	
Depreciation on Building (4/100X 200000 x 4/5)		6400	
			170550
Gross Work Cost			**629750**

Prarticullars	Amount	Amount	Amount
Add: Opening Work in Progress			200000
			829750
Less : Closing Work in Progress			192000
Work Cost			**637750**
Add: Administration Expenses			
Office Salaries and Expenses		8600	
Depreciation on Office Appliances (5% of Rs. 17400)		870	
Depreciation on Building		800	
Heat, Light and Power (1/10 of Rs. 65000)		6500	
Rates and Taxes		2100	
			18870
Cost of Production			**656620**
Add : Opening Finished Goods Inventory			80000
			736620
Less : Closing Finished Goods Inventory			115000
Cost of Gooods Sold			**621620**
Add: Selling & Distribution Expenses			
Sales Commission		33600	
Sales Travelling		11000	
sales promotion		22500	
Distribution Dept. - salaries & Expenses		18000	
Heat , light and power (1/10 of Rs. 65000)		6500	
Depreciation on building		800	
			92400
cost of Sales			**714020**

Prarticullars	Amount	Amount	Amount
sales		768000	
Returns		14000	
Net sales			**754000**
			39980
Less : Interest on borrowed profit			4000
Net profit			**35980**

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- https://forms.gle/5F8kbUnZWTcgygoZ9

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SUBJECT: COST ACCOUNTYING
(16BCO17)

Material Control
UNIT – II

- Material Control
- Needs Material Control
- Essentials of Material Control

What is Materials Control?

Materials control refers to managerial activities relating to giving instructions or directions to ensure maintaining adequate quality and quantity of materials for uninterrupted production process with the objective of minimizing material cost per unit. Both materials control and inventory control are not one and the same.

Dimensions of Material Control or Levels of Material Control:

Material control has two dimensions:

(1) Quantity or unit control and

(2) Rupee or financial control. Production executive and storekeeper are primarily interested in quantity control because their interest is to see that there should be no stock out problem.

Aspects of Material Control:

There are two aspects of material control as given below:

(a) Accounting Aspect:

This aspect of material control is concerned with maintaining documentary evidence of movement of materials at every stage right from the time sales and production budgets are approved to the point when materials are purchased and actually used in production operations.

(b) Operational Aspect:

This aspect of material control is concerned with the maintenance of material supplies at a level so as to ensure that material is available for use in production and production services as and when required by minimizing investment in materials.

Need for (or Objectives of) Material Control:

1. Availability of Materials:

There should be a continuous availability of all types of materials in the factory so that the production may not be held up for want of any material.

2. No Excessive Investment in Materials:

There should be no excessive investment in stocks. Investment in materials must not tie up funds that could be better used in other activities. Overstocking should be avoided keeping in view the disadvantages it carries.

3. Reasonable Price:

While purchasing materials, it is seen that it is purchased at a reasonably low price. Quality is not to be sacrificed at the cost of the lower price.

4. Minimum Wastage:

There should be minimum possible wastage of materials while these are being stored in the go-downs by storekeeper or used in the factory by the workers. Wastage should be allowed up to a certain level known as normal level of wastage and it should not exceed that level.

5. No Risk of Spoilage and Obsolescence:

In order to avoid spoilage and obsolescence, a maximum quantity of each material is determined and a proper method of issue of materials is followed. The materials received earlier should be issued earlier.

6. Ready Information about Availability of Materials:

The Storekeeper can supply this information because he keeps an up-to-date record of every item of stocks under a proper system of material control.

7. Misappropriation of Material:

Material can be easily misappropriated by employees because generally misappropriation of cash considered to be more serious than misappropriation in kind. Therefore, this requires an internal check on materials which is a part of material control.

8. Right Amount of Payment to Suppliers:

Invoices received from suppliers should be approved for payment only if the items of materials ordered have been received and properly checked to avoid excess payment to suppliers.

Essentials of Material Control:

- proper co-operation and co-ordination
- Purchases of materials should be centralized
- There should be proper scheduling of materials.
- classification and codification of materials should be followed.
- proper inspection of materials
- Standard forms for requisitions, orders, issue, transfer of material
- To avoid losses from theft, carelessness, damage, deterioration, evaporation and pilferage.

- A good method of issue of materials to various jobs
- Perpetual inventory system of materials
- A system of internal check should be introduced
- Minimum, maximum and re-ordering levels for each type of material
- Ordering quantity
- A careful choice should be made of the method of valuing the material issues
- Adequate records to control materials during production
- Information about availability of materials

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SUBJECT: COST ACCOUNTYING (16BCO17)

Material Control
UNIT – II

- Advantages of material Control
- Techniques of Material Control
- Ordering Levels


Trims

Accessories

Advantages of Material Control

- It helps in preventing production delays due to lack of materials by ensuring regular supply of proper quantities of materials at the right time.
- It helps in ensuring the production of proper quality by ensuring the purchase of materials of proper quality.
- It helps in eliminating wastage in the use of materials.
- It reduces the risk of loss from fraud and theft.
- It minimizes the capital investment in the stock of materials.
- It furnishes quickly and accurately the value of materials used in various departments.
- It helps in keeping perpetual inventory and other records to facilitate the preparation of accurate material reports.

Scope Of Material Control

A ***material control*** involves the functioning of the operation enumerated below with efficiency.

- Purchasing or Procurement of Materials.
- Receiving of Materials.
- Inspection of Materials.
- Storage of Materials
- Issuing of Materials.
- Maintenance of Material Records.
- Materials or Stock Audit.

Techniques of Material Control

- Level Setting
- Economic Order Quantity
- Just in Time Inventory
- ABC Analysis
- VED Analysis
- Perpetual Inventory System
- Inventory Turnover Ratio
- FNSD Analysis
- Inventory Cost Report

Ordering Levels or Level Setting:

(a) Re-order Level
(b) Minimum Level
(c) Maximum Level
(d) Danger Level
(e) Average Stock Level

Order Level:

Re-ordering level can be calculated by applying the following formula.

Ordering Level = Minimum Level + Consumption during the time required to get the fresh delivery.

Re-ordering Level = Maximum Consumption x Maximum Re-order Period.

Maximum Stock Level = Reordering Level + Re-ordering Quantity – (Minimum Consumption x Minimum Re-ordering Period)

Minimum Stock Level = Re-ordering Level – (Normal Consumption x Normal Re-order Period),

Danger Level = Average consumption x Max. re-order period for emergency purchases

Average Stock Level = Minimum Stock Level + 1/2 of Re-order Quantity (or) 1/2 (Minimum Stock Level + Maximum Stock Level)

Calculate the ordering level of material A from the following particulars:

(i) Minimum Limit 500 units.

(ii) Maximum limits 2,500 units.

(iii) Daily requirement of material 100 units.

(iv) Time required for fresh delivery 10 days.

SOLUTION

Ordering Level = Minimum limit + Consumption during the time required for fresh delivery

= 500 units + 100 x 10 units

= 1,500 units.

Order for the purchase of material should be placed when the material in stock reaches 1,500 units.

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SUBJECT: COST ACCOUNTYING (16BCO17)

Material Control
UNIT – II

- Ordering Levels – Problems

Reorder – Levels

2. Calculate the re-ordering level from the following information:

Maximum consumption = 300 units per day
Minimum consumption = 200 units per day
Re-order period = 8 to 10 days.

Solution:

Re-ordering level = Maximum consumption x Maximum re-order period

= 300 units x 10.

=3,000 units

3. If the minimum stock level and average stock level of raw material A are 20,000 and 40,000 units respectively, find out its re-order quantity.

Solution:

Average Stock Level = Minimum Stock Level + ½ Re-order Quantity

(Or) ½ Re-order Quantity = Average Stock Level – Minimum Stock Level

½ Re-order Quantity = 40,000 units – 20,000 units.

Re-order Quantity = 20,000 units x 2

= 40,000 units.

4 . In a company weekly minimum and maximum consumption of material A are 25 and 75 units respectively. The re-order quantity as fixed by the company is 300 units. The material is received within 4 to 6 weeks from issue of supply order. Calculate minimum level and maximum level of material A.

Solution:

Minimum Level= Re-order Level — (Normal Consumption x Normal Re-order Period)

= 450 units – (50 units x 5 weeks)

= 450 units – 250 units

= 200 units

(Re-order Level = Maximum Consumption x Maximum Re-order Period)

= 75 units x 6 weeks

= 450 units

Average Consumption = 25 units + 75units/2

= 50 units

Average Period = 4 weeks + 6 weeks/2 = 5 weeks

Maximum Level = Re-order Level + Re-order Quantity – (Minimum Consumption x Minimum Re-order Period)

= 450 units + 300 units – (25 units x 4 weeks)

= 650 units

4 . Compute the a.) Re-order level, b.)Minimum Level c.) Maximum Level, d.) Average Stock level for components A and B on the following data:

Particulars	Components	
	A	B
Maximum Consumption per week (in units)	150	150
Average consumption per week (in units)	100	100
Minimum consumption per week (in units)	50	50
Re-order period (in weeks)	8 to 12	4 to8
Re-order quantity (in units)	400	600

SOLUTION

(Re-order Level = Maximum Consumption x Maximum Re-order Period)

Components A = 150 units x 12 = 1,800 units.

Components B = 150 units x 8 = 1,200 units.

Minimum Level= Re-order Level — (Normal Consumption x Normal Re-order Period)

Components A = 1,800 units – (100 units x 10) = 800 units

Components B = 1,200 units – (100 units x 6) = 600 units

Maximum Level = Re-order Level + Re-order Quantity – (Minimum Consumption x Minimum Re-order Period)

Components A = 1,800 units + 400 units – (50 units x 8) = 1,800 Units

Components B = 1,200 units + 600 units – (50 units x 4) = 1,600 Units

Average Stock Level = Minimum Stock Level + ½ Re-order Quantity

(Or) ½ Re-order Quantity = Average Stock Level – Minimum Stock Level

Components A = 800 units + ½ x 400 units = 1,000 units

Components B = 600 units + ½ x 600 units = 900 units

5. Find out the ordering level from the following information :
Minimum stock 1,000 units
Maximum Stock 2,000 units
Time required for receiving the material 15 days
Daily consumption of material 50 units

6. Calculate maximum level, minimum level and reordering levels from the following data:
Re- order quantity = 1500 units
RE-order period = 4 to 6 weeks
Maximum consumption 400 units per week
Normal Consumption 300 units per week
Minimum consumption 250 units per week

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SUBJECT: COST ACCOUNTYING (16BCO17)

Material Control - UNIT – II

- Ordering Levels – Problems
- Economic Order Quantity

Reorder – Levels

7 . Compute the a.) Re-order level, b.)Minimum Level c.) Maximum Level, d.) Average Stock level, e.) Danger Level for components A and B on the following data:

Particulars	Components	
	A	B
Maximum Usage	75 units per week each	
Average consumption	40 units	
Minimum Usage	25 units per week each	
Re-order period (in weeks)	4 to 6	2 to 4
Re-order quantity (in units)	300	500

Normal Usage 50Units per week each

Maximum Lead time for emergency purchase A= 1 day , and B = Two Days.

SOLUTION

(Re-order Level = Maximum Consumption x Maximum Re-order Period)

Components A = 75 units x 6 **= 450 units.**

Components B = 75 units x 4 **= 300 units.**

Minimum Level= Re-order Level — (Normal Consumption x Normal Re-order Period)

Components A = 450 units – (50 units x 5) **= 200 units**

Components B = 300 units – (50 units x 3) **= 150 units**

Maximum Level = Re-order Level + Re-order Quantity – (Minimum Consumption x Minimum Re-order Period)

Components A = 450 units + 300 units – (25 units x 4) **= 650 Units**

Components B = 300 units + 500 units – (25 units x 2) **= 750 Units**

Solution:

Average Stock Level = Minimum Stock Level + ½ Re-order Quantity

(Or) ½ Re-order Quantity = Average Stock Level – Minimum Stock Level

Components A = 200 units + ½ x 300 units **= 350 units**

Components B = 150 units + ½ x 500 units **= 400 units**

Danger Level = Average Consumption x Maximum lead time for emergency purchase

Components A = 40 units x 1 **= 40 units**

Components B = 40 units x 2 **= 80 units**

Economic Order Quantity

The total costs of a material usually consist of:
Total acquisition cost + Total ordering cost + Total carrying cost.

Total Acquisition Cost:
Total Acquisition cost through buying is usually unaffected irrespective of the quantity of material ordered at one time unless quantity discounts are available.

Carrying Cost:
It is the cost of holding the materials in the store and includes

Ordering Cost:
It is the cost of placing orders for the purchase of materials and includes

$$Q = \sqrt{\frac{2CO}{I}}$$

where
Q = Quantity to be ordered.
C = Consumption of the material concerned in units during a year.
O = Cost of placing one order including the cost of receiving the goods i.e. costs of getting an item into the firm's inventory.
I = Interest payment including variable cost of storing per unit per year i.e. holding costs of inventory.

Problems:

1. A unit of material X costs Rs 50 and the yearly consumption is 20,000 units. The cost of placing one order including the cost of receiving the material is Rs 20 and the interest including variable storage cost is 10% per annum. The optimum quantity for which order is to be placed is

Yearly consumption C = 20,000 units.

placing one order O = Rs 20

Cost = Rs 50

Interest including variable storage cost is 10% per annum.

$$Q = \sqrt{\frac{2CO}{I}} = \sqrt{\frac{2 \times 20{,}000 \times ₹\ 20}{₹\ 5}} = 400 \text{ units.}$$

2. Find out the economic ordering quantity (E.O.Q.) from the following particulars and also show a graph identifying economic ordering quantity.

Annual usage: 6,000 units

Cost of material per unit: Rs 20

Annual carrying cost of one unit: 10% of inventory value.

Cost of placing and receiving one order: Rs 60

SOLUTION

The formula for the calculation of economic ordering quantity is :

$$\text{E.O.Q.} = \sqrt{\frac{2CO}{I}}$$

where C = Annual usage of material *i.e.* 6,000 units

O = Cost of placing one order *i.e.* ₹ 60

I = Annual carrying cost of one unit *i.e.* ₹ $\frac{20 \times 10}{100}$ = ₹ 2

$$\text{E.O.Q.} = \sqrt{\frac{2 \times 6{,}000 \times ₹\ 60}{₹\ 2}} = \sqrt{3{,}60{,}000} = 600 \text{ units}$$

3. From the following particulars, calculate the Economic Order Quantity (EOQ): Annual requirements 1,600 units, Cost of materials per units Rs. 40 Cost of placing and receiving one order: Rs. 50 , Annual carrying cost for inventory value 10%.

EOQ = 200 Units

4. Calculate EOQ from the following?

Consumption during the year = 600 units — Ordering cost Rs. 12 per order
Carrying cost 20% — Selling Price per unit Rs. 20

Economic Order Quantity = 379 Units

5. A manufacturer buys certain equipment form suppliers at Rs. 30 per unit. Total annual needs are 800 units. The following further data are available:

Annual return on investments 10% — Rent, insurance, storing per unit per year Rs. 2
Cost of placing an order Rs. 100

EOQ = 200 Units

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SUBJECT: COST ACCOUNTYING (16BCO17)

Material Control - UNIT – II

- **Centralized and Decentralized Purchase**

Introduction on Purchasing of Materials

The main functions of purchase department are to purchase required quantity of materials in time so that the store can feed the production departments with the continuous supply of materials, to purchase better quality of materials at reasonable price.

purchasing process

1 Request to purchase / requisition

2 supplier selection.

3 purchase order.

4 Fulfillment.

5 Goods receipt.

6 Supplier invoice/payment.

Centralized and Decentralized Purchase:

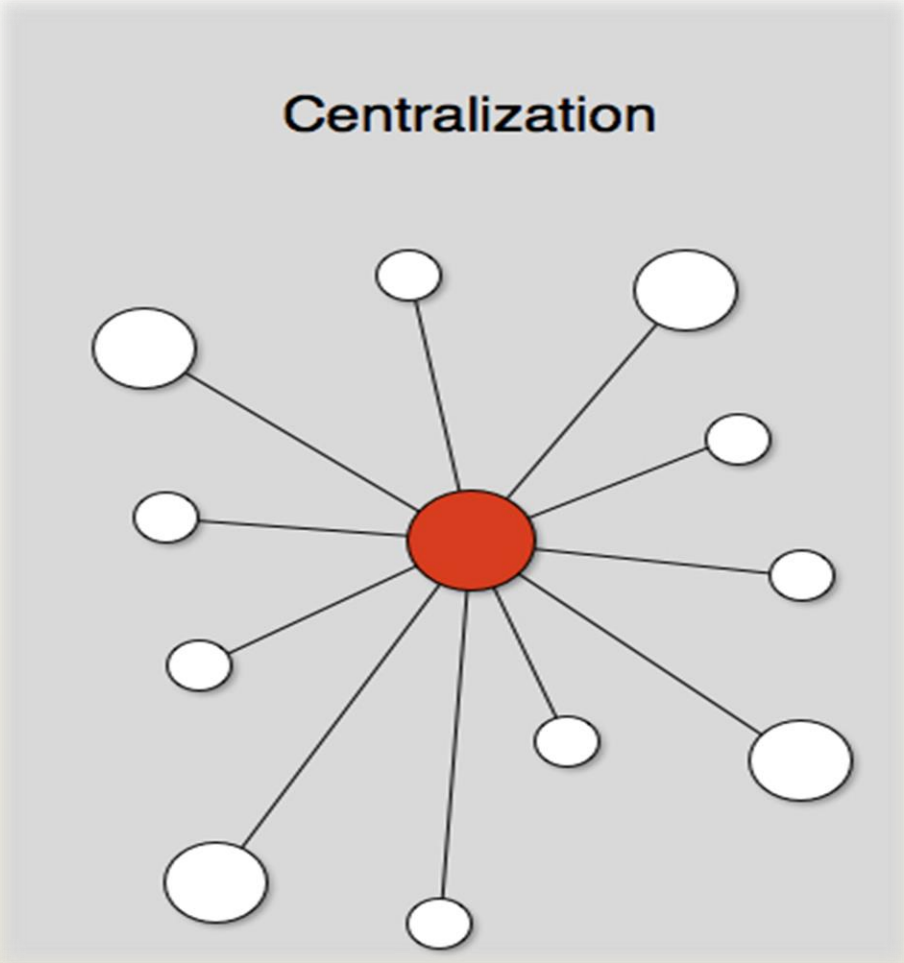
Centralized buying means purchase of materials by one specialized department.

Advantages:

- Large buying
- Transportation Cost
- Skilled Persons used
- Better control on purchasing
- Record maintenance
- Achieving product standards
- Quick settlement of issues

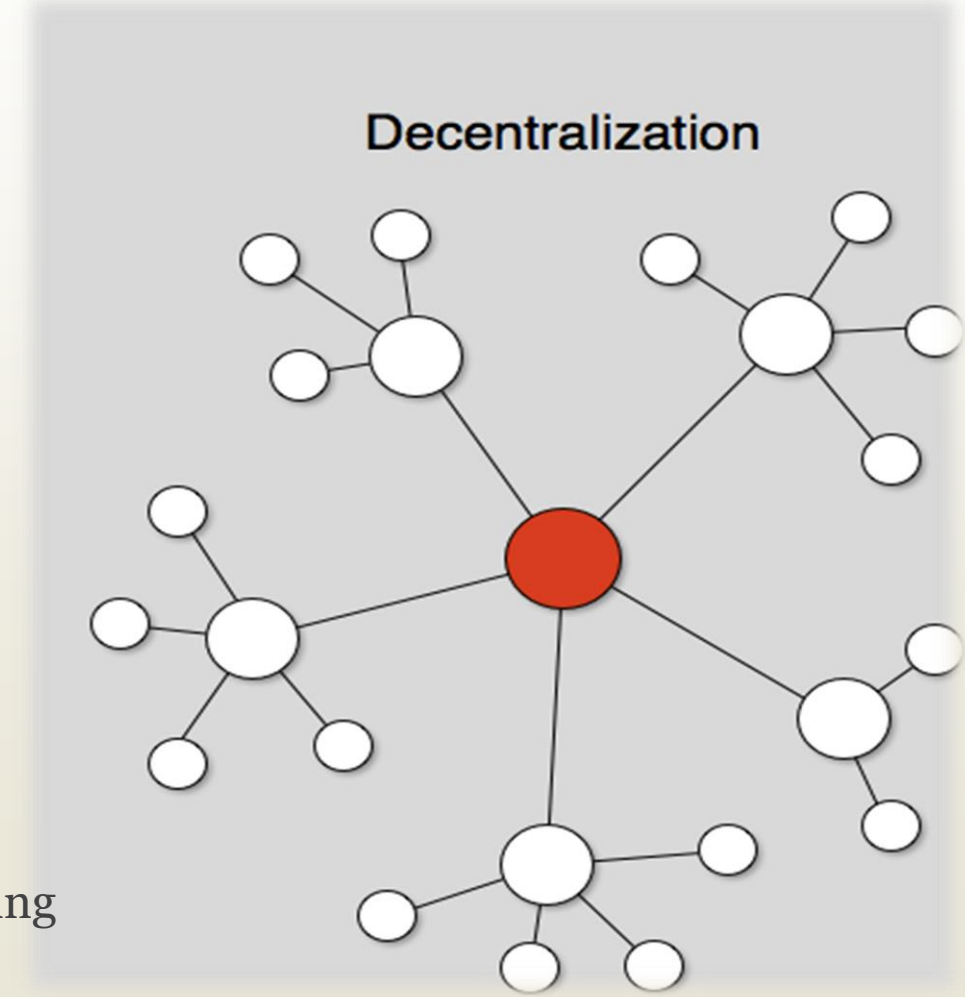
Dis - Advantages:

- Causes Delay
- Localised Purchase
- Miss under standing
- 'More cost



Decentralized Purchase:

Decentralization of purchases means each department is allowed to purchase materials according to its own needs. So, the authority to make purchases lies with the individual departments.



Advantages:

- Advantages of bulk purchase:
- Maintenance of quality:
- Reduction in transport cost:
- Advantage of specialization:
- Duplication can be avoided:
- Planned purchase:

Limitations:

- Expensive
- Acts as a hindrance to smooth functioning

Purchase Routine or Functions of Purchase

Generally the following routine is followed for the purchase of materials:

(i) Request for purchase. The request is made by the Store Officer.

(ii) Inviting tenders and quotations for the supply of requisite quantity of materials.

(iii) Placing of order with suppliers after considering the tenders and quotations submitted by different suppliers.

(iv) Receiving of materials after proper inspection.

(v) Verifying and passing suppliers bill for payment.

i. Receiving purchase requisition

Purchase Requisition

From ..... Department
To Purchase Department

No. .....
Date .....

Please arrange to purchase the following materials which is required on ..... for utilization against Production Order No. ...../for Stock.

Particulars of Materials	Code No.	Unit of Quantity	Quantity
			Signature

(To be filled in by the Purchase Department)
Purchase Order No. .....
Supplier .....

Fig. 3.2

II Exploring the supply and choosing the supplier

ABC (Pvt.) Co. LTD.

Ref. No..... **Dated.....**

Enquiry

To

.....

.....

.....

We are interested in the purchase of following materials which we would like to be delivered to us by ..... 20 ..... Please let us have your best price and the other terms of supply.

S. No.	Identification No.	Description of Articles	Quantity may be required	Remarks

Yours faithfully
Sd/-
For ABC (Pvt.) Co. LTD.

iii. Purchase Order:

Definition:

Purchase order is an agreement between the buyer and supplier of materials.

Quotations received from different suppliers are compared and then the acceptable supplier is selected

(i) The first copy is sent to the supplier.

(ii) One copy is sent to the department originating the purchase requisition.

(iii) One copy is sent to the stores or goods inward department.

(iv) One copy is retained in the purchase department as a permanent record.

(v) A copy is sent to the Accounts department.

Code No. ..... Phone ..... Gram	**ABC (Pvt.) Co. LTD.**	Please Quote in all correspondence Order No. ..... Date .....

Requisition No. .....
Date .....

To

.....

.....

.....

Please supply the following materials to our material Department at ..... in accordance with the terms and conditions mentioned overleaf. This has reference to your quotation No. .... Dated .....

S. No.	Identification No.	Description of Articles	Quantity required	Rate	Value	Remarks

Dated. .....
Terms and Conditions Overleaf

For ABC (Pvt.) Co. LTD.
.....
Purchase Manager

iv. Receiving and Inspection

i) To receive, unload and unpack the materials.

(ii) To check whether the packages and their contents are intact or not.

(iii) To verify and check the quality, quantity and other specifications regarding materials in accordance with the purchase order.

(iv) To segregate defective materials from the lot by comparing delivery note sent by the supplier with the copy of the purchase order. Any shortage or breakage of material is intimated along with the acknowledgment sent to the supplier for the receipt of material.

(v) To pass on the materials from the receiving clerk to the inspector for his thorough inspection of the materials received.

- Inspection Note
- Rejection Note
- Material Receipt Book
- Damage/Shortage/Excess Report

V. Checking and passing of Bill Payment

- Stores accounting section check arithmetically
- Check the quantity through receiving ledger and purchase order
- Than pass the invoice to the payment
- Payment made on agreement

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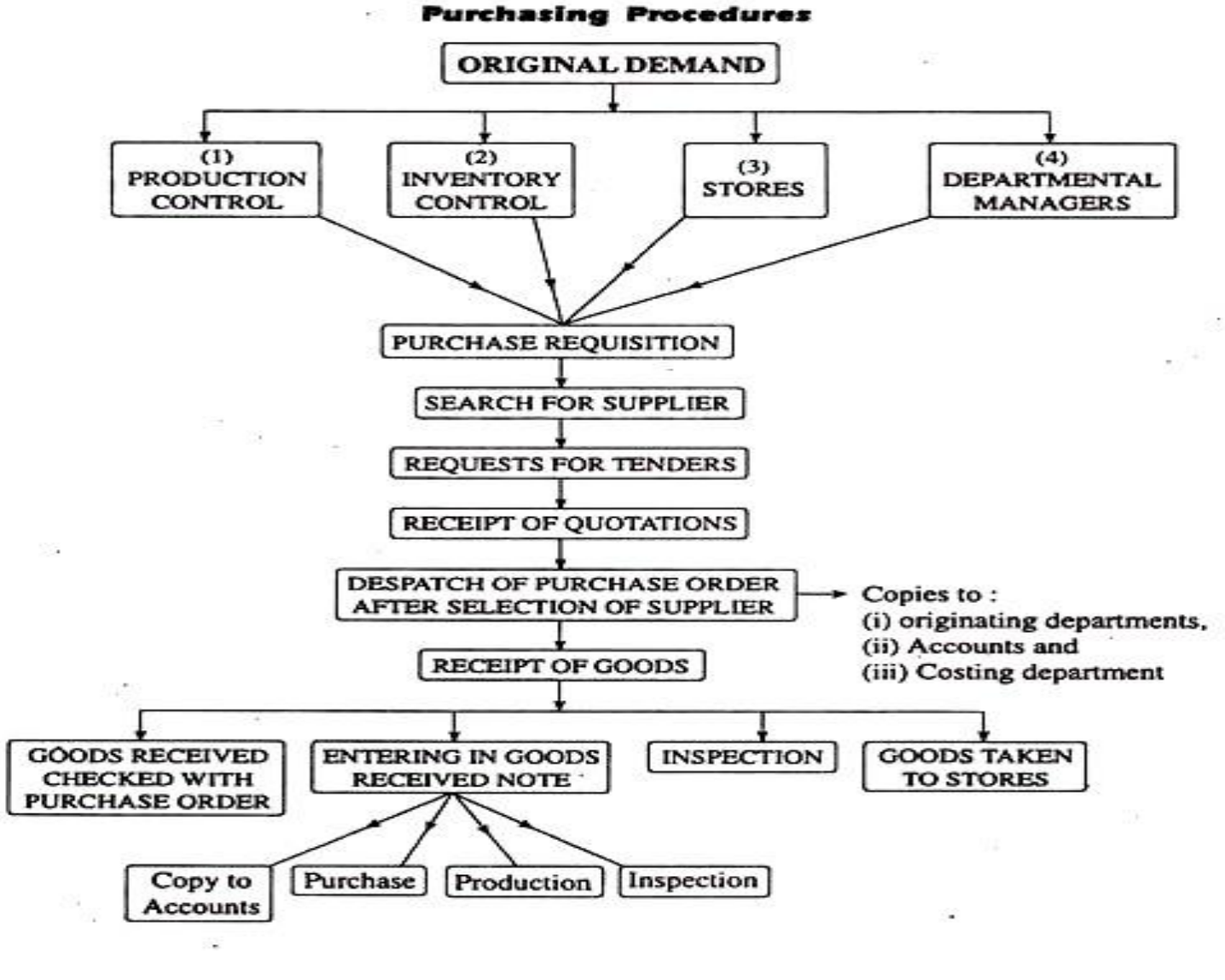
SUBJECT: COST ACCOUNTYING (16BCO17)

Material Control - UNIT – II

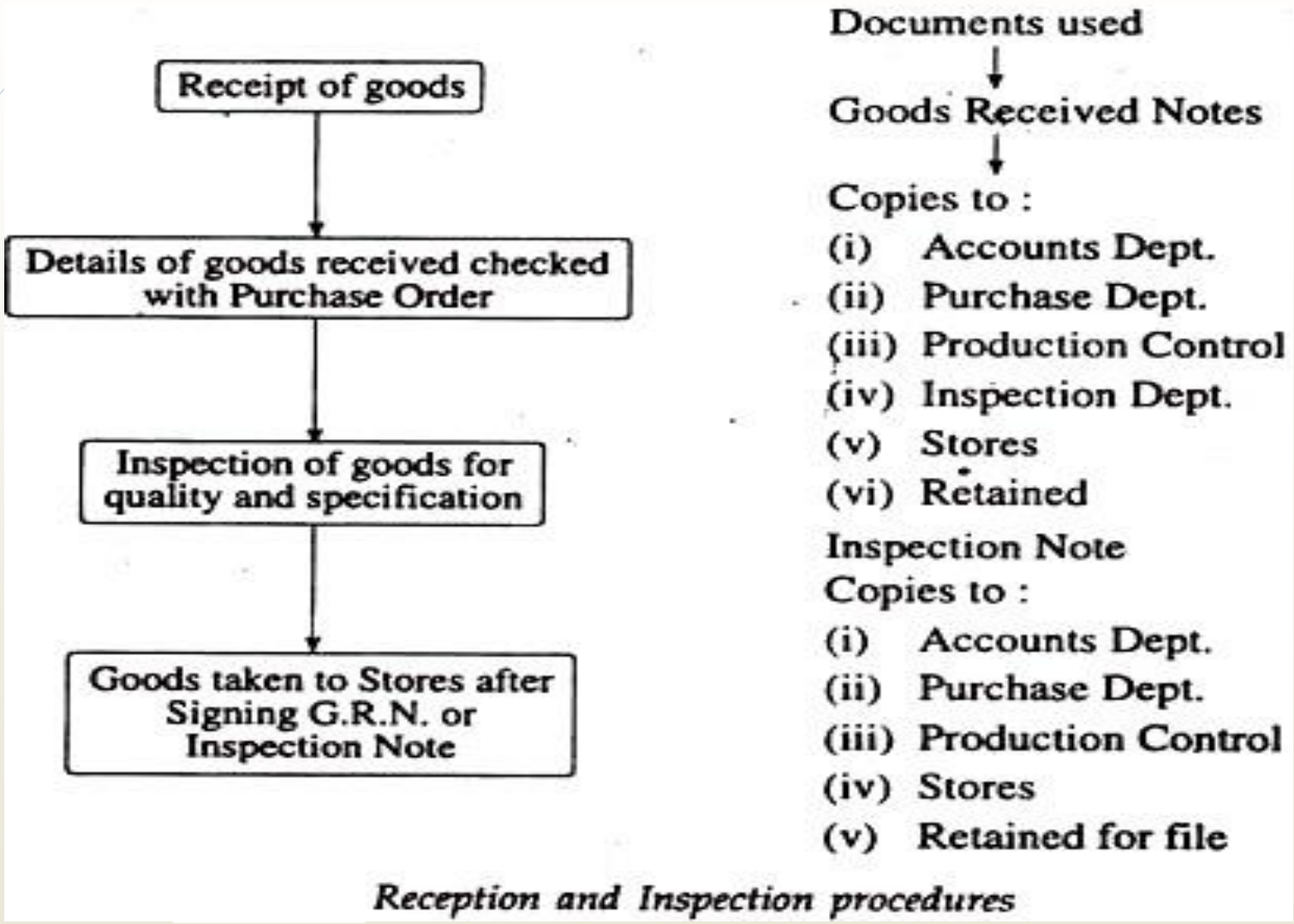
- Purchase Procedures

Purchase Procedures

- Purchase requisition
- Search for supplier
- Placing order for purchase
- Receipt of Materials


Purchasing Procedures
ORIGINAL DEMAND
(1) PRODUCTION CONTROL
(2) INVENTORY CONTROL
(3) STORES
(4) DEPARTMENTAL MANAGERS
PURCHASE REQUISITION
SEARCH FOR SUPPLIER
REQUESTS FOR TENDERS
RECEIPT OF QUOTATIONS
DESPATCH OF PURCHASE ORDER AFTER SELECTION OF SUPPLIER
Copies to :
(i) originating departments,
(ii) Accounts and
(iii) Costing department
RECEIPT OF GOODS
GOODS RECEIVED CHECKED WITH PURCHASE ORDER
ENTERING IN GOODS RECEIVED NOTE
INSPECTION
GOODS TAKEN TO STORES
Copy to Accounts
Purchase
Production
Inspection

Receipt of Goods



Reception and Inspection procedures

Stores control

Material Control = purchase control

Stores control Avoid

Stores control

- Stores Department – Location and Layout
- Classification and codification.
- Standardisation and simplification

Types of Stores

- Centralised Stores
- Decentralised Stores
- Central Stores with Sub Stores

VALUATION OF MATERIAL ISSUES

1.The frequency of purchases, price fluctuations and its range.

2. The frequency of issue of materials, relative quantity etc

3. Nature of cost accounting system.

4. The nature of business and type of production process.

5. Management policy relating to valuation of closing stock

Requisition of stores

- Re- order level
- Economic order quantity
- Maximum level
- Minimum Level

Duties of storekeeper

- Receiving the stores correctly
- Entering all the receipts regularly in the bin cards
- Store in allotted bin
- Maintain the stores in orderly
- Ensuring that stock do not Exceeding
- Checking bin card balance

Store Records

- Bin Card
- Stores Ledger

BIN CARD

Bin No. _____

UNITED STATES DEPARTMENT OF JUSTICE
Federal Bureau of Prisons

Article _____

Stock No. _____ Unit _____ Size _____

APPR	ALLOT	BA	CC	PMS	PROJ	SUB-OBJ	

Date		Ref.	QUANTITIES		
			Received	Issued	On Hand

USP LVN Previous editions not usable BP-110(44) JUNE 1975

Stores Ledger

Material Code:
Bin No.:
Material Description:
Location:

Maximum Qty:
Minimum Qty:
Ordering Qty:

Date	Receipts				Issues				Balance		
	GR No	Qty	Rate	Amount	SR No	Qty	Rate	Amount	Qty	Rate	Amount

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SUBJECT: COST ACCOUNTYING
(16BCO17)

Methods of valuing Material Issues

UNIT – II

- Material Issued

Material Issued

Following are some important methods, which are commonly used:

- "First-in-First Out" Method
- "Last-in-First-Out" Method
- Average Price Method
- Specific Price Method
- Base Stock Method
- Highest in first out Method
- Market price Method
- Standard price Method

1. The following information is provided by Sunrise Industries .
Material Exe:
Jan 1 Opening Balance 500 units @ Rs. 4.
Jan 5 Received from Vendor 200 Units @ Rs 4.25
Jan 12 Received from Vendor 150 Units @ Rs 4.10.
Jan 20 Received from Vendor 300 Units @ Rs 4.50.
Jan 25 Received from Vendor 400 Units @ Rs 4.

Issues of Material were as follows :
Jan 4 – 200 units
Jan 10 400 units
Jan 15 – 100 units.
Jan 19 – 100 units.
Jan – 26 – 200 units
Jan 30 – 250 units
Issues are to be priced on the principle of First in First out , write out the stores ledger account in respect of the material for the month of January.

Date	Particulars	Receipts			Issues			Balance		
		Quantity (Units)	Total Cost (Rs)	Unit cost (Rs)	Quantity (Units)	Total Cost (Rs)	Unit cost (Rs)	Quantity (Units)	Amount (Rs)	Per Unit (Rs)
Jan 1	Balance b/d	-----	-----	----	----	----	----	500	2000	4
Jan 4	Requisition Slip No.	-----	----	----	200	800	4	300	1200	4
Jan 5	Goods Received Note No.	200	850	4.25	----	----	----	300	1200	4
								200	850	4.25
Jan 10	Requisition Slip No.	----	----	----	300	1200	4			
					100	425	4.25	100	425	4.25
Jan 12	Goods Received Note No.	150	615	4.10	----	----	----	100	425	4.25
								150	615	4.10
Jan 15	Requisition Slip No.	----	----	----	100	425	4.25	150	615	4.10
Jan 19	Requisition Slip No.	----	----	----	100	410	4.10	50	615	4.10

Date	Particulars	Receipts			Issues			Balance		
		Quantity (Units)	Total Cost (Rs)	Unit cost (Rs)	Quantity (Units)	Total Cost (Rs)	Unit cost (Rs)	Quantity (Units)	Amount (Rs)	Per Unit (Rs)
Jan 20	Goods Received Note No.	300	1350	4.50	----	----	----	50	615	4.10
								300	1350	4.50
Jan 25	Goods Received Note No.	400	1600	4.00	----	----	----	50	205	4.10
								300	1350	4.50
								400	1600	4.00
Jan 26	Requisition Slip No.	----	----	----	50	205	4.10	150	675	4.50
					150	675	4.50	400	1600	4.00
Jan 30	Requisition Slip No.	----	----	----	150	625	4.50			
		----	----	----	100	400	4.00	300	1200	4.00

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SUBJECT: COST ACCOUNTYING
(16BCO17)

Methods of valuing Material Issues

UNIT – II

- Material Issued
- FIFO – LIFO method

The following is a summary of the recepits and issues of materials in a factory during the month of April.

Date	Particulars	Qty.	Rate per unit Rs.
1	Received	2000	10
5	Received	300	12
8	Issued	1200	-
10	Received	200	14
12	Issued	1000	-
23	Received	300	11
31	Issued	200	-

Prepare a statement showing the pricing of issues on the basis of -

a) FIFO method

Solution :

a) STORES LEDGER ACCOUNT (FIFO)

Material code ..... Bin No. ..... Maximum Level .....

Type / Size ..... Location code ..... Minimum Level .....

Date	Receipts				Issues				Balance			Remark
April	Ref.	Qty.	Rate Rs.	Amt. Rs.	Ref.	Qty.	Rate Rs.	Amt. Rs.	Qty.	Rate Rs.	Amt. Rs.	
1		2000	10	20,000					2000	10	20,000	
5		300	12	3600					2000	10	20,000	
									300	12	3600	
8						1200	10	12000	800	10	8000	
									300	12	3600	
10		200	14	2800					800	10	8000	
									300	12	3600	
									200	14	2800	

12						800	10	8000	100	12	1200	
						200	12	2400	200	14	2800	
23		300	11	3300					100	12	1200	
									200	14	2800	
									300	11	3300	
31						100	12	1200	100	14	1400	
						100	14	1400	300	11	3300	

1. The following information is provided by Sunrise Industries .
Material Exe:
Jan 1 Opening Balance 500 units @ Rs. 4.
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Jan 12 Received from Vendor 150 Units @ Rs 4.10.
Jan 20 Received from Vendor 300 Units @ Rs 4.50.
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Issues of Material were as follows :
Jan 4 – 200 units
Jan 10 400 units
Jan 15 – 100 units.
Jan 19 – 100 units.
Jan – 26 – 200 units
Jan 30 – 250 units
Issues are to be priced on the principle of **Last in First out** , write out the stores ledger account in respect of the material for the month of January.

Date	Particulars	Receipts			Issues			Balance		
		Quantity (Units)	Total Cost (Rs)	Unit cost (Rs)	Quantity (Units)	Total Cost (Rs)	Unit cost (Rs)	Quantity (Units)	Amount (Rs)	Per Unit (Rs)
Jan 1	Balance b/d	-----	-----	----	----	----	----	500	2000	4
Jan 4	Requisition Slip No.	-----	----	----	200	800	4	300	1200	4
Jan 5	Goods Received Note No.	200	850	4.25	----	----	----	300	1200	4
								200	850	4.25
Jan 10	Requisition Slip No.	----	----	----	200	850	4.25			
					200	8.50	4.00	100	400	4.00
Jan 12	Goods Received Note No.	150	615	4.10	----	----	----	100	400	4.00
								150	615	4.10
Jan 15	Requisition Slip No.	----	----	----	100	410	4.10	100	400	4.00
		----	----	----				50	205	4.10

Date	Particulars	Receipts			Issues			Balance		
		Quantity (Units)	Total Cost (Rs)	Unit cost (Rs)	Quantity (Units)	Total Cost (Rs)	Unit cost (Rs)	Quantity (Units)	Amount (Rs)	Per Unit (Rs)
Jan 19	Requisition Slip No.				50	205	4.10			
					50	200	4.00	50	200	4.00
Jan 20	Goods Received Note No.	300	1350	4.50	----	----	----	50	200	4.00
								300	1350	4.50
Jan 25	Goods Received Note No.	400	1600	4.00	----	----	----	50	200	4.00
								300	1350	4.50
								400	1600	4.00
Jan 26	Requisition Slip No.	----	----	----	200	800	4.00	50	675	4.50
								300	1600	4.00
		----	----	----				200	800	4.00
Jan 30	Requisition Slip No.	----	----	----	200	800	4.00	50	200	4.00
		----	----	----	50	225	4.50	250	1125	4.50

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SUBJECT: COST ACCOUNTYING
(16BCO17)

Methods of valuing Material Issues

UNIT – II

- Material Issued
- LIFO Method
- Simple Average Method

The following is a summary of the recepits and issues of materials in a factory during the month of April.

Date	Particulars	Qty.	Rate per unit Rs.
1	Received	2000	10
5	Received	300	12
8	Issued	1200	-
10	Received	200	14
12	Issued	1000	-
23	Received	300	11
31	Issued	200	-

Prepare a statement showing the pricing of issues on the basis of -

LIFO Method

b) STORES LEDGER ACCOUNT (LIFO)

Material code ..... Bin No. ..... Maximum Level .....

Type / Size ..... Location code ..... Minimum Level .....

Date	Receipts				Issues				Balance			Remark
April	Ref.	Qty.	Rate Rs.	Amt. Rs.	Ref.	Qty.	Rate Rs.	Amt. Rs.	Qty.	Rate Rs.	Amt. Rs.	
1		2000	10	20,000					2000	10	20,000	
5		300	12	3600					2000	10	20,000	
									300	12	3600	
8						300	12	3600				
						900	10	9000	1100	10	11000	

10		200	14	2800					1100	10	11000	
									200	14	2800	
12						200	14	2800				
						800	10	8000	300	10	3000	
23		300	11	3300					300	10	3000	
									300	11	3300	
31						200	11	2200	300	10	3000	
									100	11	1100	

5. The following transaction took place in respect of an item of material:

Date	Receipts QTY.	Rate Rs	Issues QTY.
2-09-2000	300	2.00	-
10.09.200	300	2.40	-
15.09.200	-		250
18.09.200	250	2.60	-
20.09.200	-	-	200

Simple Average rate : Stores ledger Account

Date	Particulars	Receipts			Issues			Balance	
		Quantity (Units)	Total Cost (Rs)	Unit cost (Rs)	Quantity (Units)	Total Cost (Rs)	Unit cost (Rs)	Quantity (Units)	Amount (Rs)
2 nd sep.	Goods receipt note no.	200	400	2.00	----	----	----	200	400
10th sep.	Goods receipt note no.	300	720	2.40	-----	-----	-----	500	1120
15 th sep.	Requisition Slip no.	----	-----	-----	250	550	2.20*	250	570
18th sep.	Goods Receipt Note no.	250	650	2.60	-----	-----	-----	500	1220
20th sep.	Requisition Slip No.	----	----	----	200	500	2.50*	300	720

Calculation of issue rates :
15th sep. issues = 2.00+2.40/ 2
= Rs. 2.20

Calculation of issue rates :
20th sep. issues = 2.40+2.60/ 2
= Rs. 2.50

The following is a summary of the recepits and issues of materials in a factory during the month of April.

Date	Particulars	Qty.	Rate per unit Rs.
1	Received	2000	10
5	Received	300	12
8	Issued	1200	-
10	Received	200	14
12	Issued	1000	-
23	Received	300	11
31	Issued	200	-

Prepare a statement showing the pricing of issues on the basis of -

Simple Average Method

c) STORES LEDGER ACCOUNT (Simple Average)

Material code ..... Bin No. ..... Maximum Level .....

Type / Size ..... Location code ..... Minimum Level .....

Date	Receipts				Issues				Balance			Remark
April	Ref.	Qty.	Rate Rs.	Amt. Rs.	Ref.	Qty.	Rate Rs.	Amt. Rs.	Qty.	Rate Rs.	Amt. Rs.	
1		2000	10	20,000					2000	10	20,000	
5		300	12	3600					2300		23,600	
8						1200	$\frac{10+12}{2}=11$	13200	1100		10400	
10		200	14	2800					1300		13200	
12						1000	$\frac{10+12+14}{3}=12$	12000	300		1200	
23		300	11	3300					600		4500	
31						200	$\frac{12+14+11}{3}=12.33$	2467	400		2033	

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SUBJECT: COST ACCOUNTYING
(16BCO17)

Methods of valuing Material Issues

UNIT – II

- Material Issued
- Weighted Average Method

6. The following transaction took place in respect of an item of material:

Date	Receipts QTY.	Rate Rs	Issues QTY.
2-09-2000	300	2.00	-
10.09.200	300	2.40	-
15.09.200	-		250
18.09.200	250	2.60	-
20.09.200	-	-	200

Weighted Average rate : Stores ledger Account

Date	Particulars	Receipts			Issues			Balance	
		Quantity (Units)	Total Cost (Rs)	Unit cost (Rs)	Quantity (Units)	Total Cost (Rs)	Unit cost (Rs)	Quantity (Units)	Amount (Rs)
2 nd sep.	Goods receipt note no.	200	400	2.00	----	----	----	200	400
10th sep.	Goods receipt note no.	300	720	2.40	-----	-----	-----	500	1120
15 th sep.	Requisition Slip no.	----	-----	-----	250	560	2.24*	250	560
18th sep.	Goods Receipt Note no.	250	650	2.60	-----	-----	-----	500	1210
20th sep.	Requisition Slip No.	----	----	----	200	484	2.42*	300	726

Calculation of issue rates :
15th Sep. issues =1120/500
= Rs. 2.24

Calculation of issue rates :
20th Sep. issues = 1210/500
= Rs. 2.42

The following is a summary of the recepits and issues of materials in a factory during the month of April.

Date	Particulars	Qty.	Rate per unit Rs.
1	Received	2000	10
5	Received	300	12
8	Issued	1200	-
10	Received	200	14
12	Issued	1000	-
23	Received	300	11
31	Issued	200	-

Prepare a statement showing the pricing of issues on the basis of -

Weighted Average Method

d) STORES LEDGER ACCOUNT (Weighted Average)

Material code ..... Bin No. ..... Maximum Level .....

Type / Size ..... Location code ..... Minimum Level .....

Date	Receipts				Issues				Balance		
April	Ref.	Qty.	Rate Rs.	Amt. Rs.	Ref.	Qty.	Rate Rs.	Amt. Rs.	Qty.	Rate Rs.	Amt. Rs.
1		2000	10	20,000					2000	10	20,000
5		300	12	3600					2300	10.26	23600
8						1200	10.26	12312	1100		11288
10		200	14	2800					1300	10.84	14088
12						1000	10.84	10840	300		3248
23		300	11	3300					600	10.91	6548
31						200	10.91	2182	400		4366

6. The following transaction took place in respect of an item of material:

2010 April

1 Opening balance 50 tonnes @ Rs. 10 A tonne
2 Issues 30 tonnes
3 Received 60 tonnes @ Rs. 10.125 a tonne
4 Issued 25 tonnes (Stock verification reveals loss of one tonne)
5 Received back from complete work order 10 tonnes (previously issued @ Rs. 10.00 a tonne)
6 Issued 40 tonnes

Assuming that the issue of material is priced on the weighted average method. Calculate the prices of issued on 3rd, 5th and 7th April, 2010

Weighted Average rate : Stores ledger Account

Date	Particulars	Receipts			Issues			Balance	
		Quantity (Units)	Total Cost (Rs)	Unit cost (Rs)	Quantity (Units)	Total Cost (Rs)	Unit cost (Rs)	Quantity (Units)	Amount (Rs)
1	Opening balance .	----	-----	-----	----	----	----	50	500
2	Requisition Slip No.	----	----	-----	30	300	10	20	200
3	Goods Receipt Note no.	60	607.5	10.12	250	----	-----	80	807.5
4	Requisition Slip no.	----	-----	-----	25	255.5	10.22	54	552
5	Goods received back	10	100	10.00	-----	----	----	64	652
6	Requisition Slip No.	----	-----	-----	40	407.6	10.19	24	244.4

Calculation of issue rates :

2^{nd} = 500/50

4^{th} = 807.5/79 (loss of 1 tonnes)

Calculation of issue rates :

6^{th} = 652/64

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SUBJECT: COST ACCOUNTYING

(16BCO17)

Labour cost UNIT – III

- Piece Rate System

From the following particulars, calculate the earnings of workers X and Y and also comment on the labour cost.

Standard time allowed: 20 units per hour
Normal time rate: Rs 30 per hour
Differential Rate to be applied:
80% of piece rate when below standard
120% of piece rate at or above standard - In a particular day of 8 hours, X produces 140 units while Y produces 165 units.

Solution:

Standard production per day is 20 units × 8 hours = 160 units
Worker 'X' produces 140 units which means he is below standard and will get wages @ 80% of the normal piece rate.

X's earnings:

Normal piece rate = Rs. 30 per hour/20 units = Rs1.5 per unit
80% of the normal piece rate = Rs. 1.20 per unit
Earnings = Rs. 1.20 × 140 units = Rs. 168
Labour cost per unit = Rs. 168/140 units = Rs. 1.20

Y's Earnings:

Y has produced more than the standard production of 160 units and hence he will get wages @ 120% of normal piece rate. His earnings will be as shown below.

Normal piece rate = Rs. 30 per hour/20 units = Rs. 1.50 per unit
120% of normal piece rate = Rs. 1.80 per unit
Earnings = Rs. 1.80 ×165 units = Rs. 297
Labour cost per unit = Rs. 2.97/165 units = Rs. 1.80

Comment: Labour cost increases from `1.20 per unit to `1.80 per unit. Taylor's system is resisted on this ground as well as on the ground that it is very harsh on the workers.

Merrick Differential Piece Rate System

Merrick's system is modification of Taylor's system and is comparatively less harsh on the workers. The scale of remunerations is as follows:-

Production Rates of Payment

Up to 83% of production - Normal piece rate
83% to 100% of production - 110% of ordinary piece rate
Above 100% of production - 120% of ordinary piece rate

As mentioned earlier, this method is less harsh on the workers as compared to Taylor's system. It is particularly useful to beginners and also offers an incentive who have potential of higher productivity.

3. Calculate the earnings of workers A, B and C under Straight piece rate system and Merricks Multiple piece rate system from the following particulars

Normal rate per hour = Rs. 1.80
Standard time per hour = 1 minute
Output per day is as follows :
Worker A = 384 units
Worker B = 450 units
Worker C = 552 units

Calculation of level of performance

Standard output per day = 480 units

Workers A s output per day = 384 units

Workers A s Level of performance 384 / 480 x 100 = 80 %

Workers B s output per day = 450 units

Workers B s Level of performance 450 / 480 x 100 = 93.75 %

Workers C s output per day = 552 units

Workers C s Level of performance 552 / 480 x 100 = 115 %

Standard output per minute = 1 unit
Standard production per hour = 60 units
Standard production per day of 8 hours

= 480 i.e(60 x 8 units)

Normal rate per hour = Rs. 1.80
Normal output per hour = 60 units

Therefore = 1.80 / 60 = 3 paise

Earnings of Worker A

Under Straight piece rate system:

For 384 units @ 3 piece per unit = 384 x 3/100 =Rs. 11.52

Under Merricks Multiple piece rate system:

For 384 units @ 3 piece per unit = 384 x 3/100 =Rs. 11.52

Earnings of Worker B

Under Straight piece rate system:

For 450 units @ 3 piece per unit = 450 x 3/100 =Rs. 13.50

Under Merricks Multiple piece rate system:

For 450 units @ 3 .3 piece per unit = 450 x 3.3/100 =Rs. 14.85

110% of 3 paise = 3 x 110 /100 = 3.3

Earnings of Worker C

Under Straight piece rate system:

For 552 units @ 3 piece per unit = 552 x 3/100 =Rs. 16.56

Under Merricks Multiple piece rate system:

For 552 units @ 3.6 piece per unit = 450 x 3.6 / 100 =Rs. 19.87

120% of 3 paise = 3 x 120 /100 = 3.6

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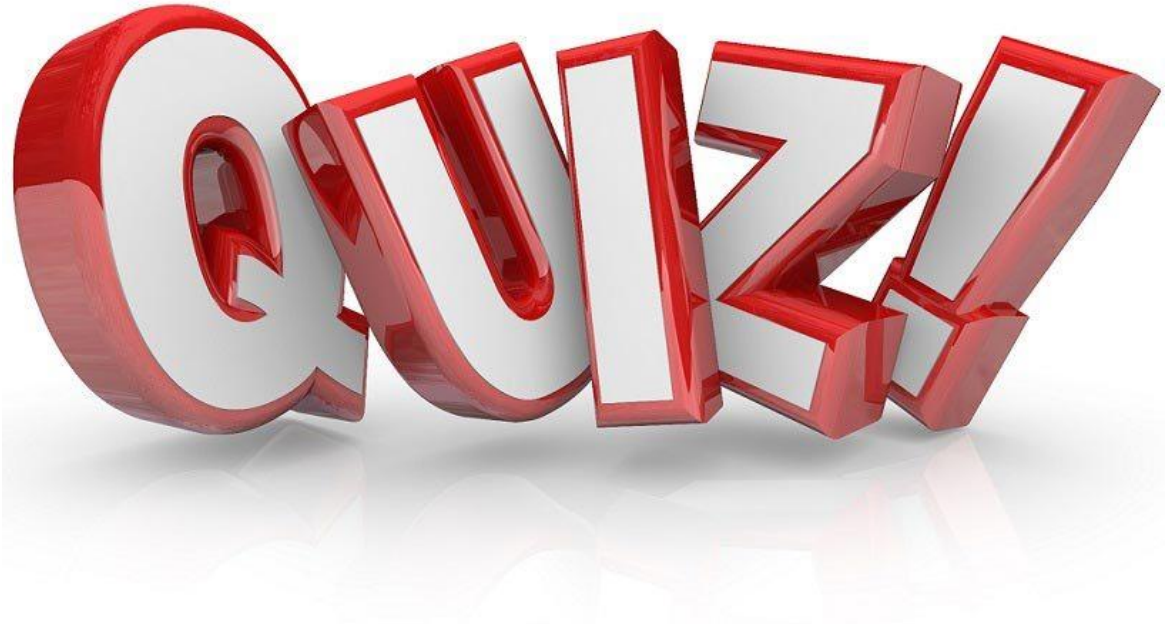

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SUBJECT: COST ACCOUNTYING
(16BCO17)

Labour cost UNIT – III

- Piece Rate System

2. From the following particulars, calculate the earnings of workers A and B Under straight piece rate and Taylors Differential piece rate system

Standard time allowed: 30 seconds
Normal time rate: Rs. 2.40
Differential Rate to be applied:
80% of piece rate when below standard
120% of piece rate at or above standard – Worker A produce 800 units per day and worker B produce 1,000 units per day.

Solution:

Standard production 30 seconds = 1 unit

Standard production per minute = 2 unit

Standard production per Hour = 2 x 60 = 120 units.

Standard production per Day of 8 hours (assumed) = 120 x 8 = 960 unit

Normal rate per hour = Rs. 2.40

Therefore, Normal piece rate = 2.40 / 120 units = 2 paisa

Low piece rate below standard production = 2 p. x 80 / 100 = 1.60 paisa

High piece rate below standard production = 2 p. x 120 / 100 = 2.4 paisa

Earnings of Worker A

Under Straight piece rate system:

800 units @ 2 p. = 800 x 2 / 100

= Rs. 16

Under Taylors Differential piece rate system:

800 units @1.60 p. = 800 x 1.60 / 100

= Rs. 12.8

Low piece rate has been applied because worker A's daily production of 800 units is less than the standard daily production of 960 units

Earnings of Worker B

Under Straight piece rate system:

1,000 units @ 2 p. = 1000 x 2 / 100

= Rs. 20

Under Taylors Differential piece rate system:

1,000 units @2.4 p. = 1000 x 2.4 / 100

= Rs. 24

Definition: Under **Gantt Task System**, the standard time is fixed for the completion of a task based on a careful time and motion study. The worker's actual performance is compared against the standard time to determine his efficiency and make the payments accordingly.

The Gantt task system guarantees the worker's time-rate for the level of output below the standard. Thus, if the worker takes more than the standard time to complete the task, then his efficiency is below 100%, and he is **paid only the time wages.**

If the worker completes the task within the standard time, then his efficiency is 100% and in addition to the time wages, he is also paid a **bonus of 20%** on the wages earned. If the worker takes less than the standard time to complete a task, then his efficiency is more than 100%, and the wages are paid at **high-piece rates**.

Calculation of level of performance

Standard output per month = 1000 units

Workers A s output = 850 units

Workers A s Level of performance = 850 / 1000 x 100 = 85 %

Workers B s output per day = 1000 units

Workers B s Level of performance = 1000 / 1000 x 100 = 100 %

Workers C s output per day = 1100 units

Workers C s Level of performance = 1100 / 1000 x 100 = 110 %

Standard production per month = 1000 units and piece work rate is 50 paise per unit so guaranteed monthly payment is Rs. 500 (i.e., 1000 units @ 50 paise)

3. From the following data, calculate total monthly remuneration of three workers A, B and C under the Gants Task and Bonus Scheme.

i. Standard production per month per worker is 1000
Units.

ii. Actual production during the month
A = 850 units B = 1000 and C = 1100 units.

iii. Piece work rate – 50 paise per unit.

Earnings of Worker A

Earnings of Worker B

Earnings of Worker C

Earnings of Worker A

Worker A level of performance which is below the standard performance = he get Rs 500 – the guaranteed payment

Earnings of Worker B

Worker B level of performance is 100 % + 20 % bonus

Wages for 1000 units @ 50 paise per unit = 500
Add: 20% bonus 500 x 20/100 = 100
= 600

Earnings of Worker C

Worker C level of performance is 100 % + 20 % bonus

Wages for 1100 units @ 50 paise per unit = 550
Add: 20% bonus 550 x 20/100 = 110
= 660

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SUBJECT: COST ACCOUNTYING

(16BCO17)

Labour cost UNIT – III

- EMPLOYEE (LABOUR) TURNOVER

EMPLOYEE (LABOUR) TURNOVER

Employee turnover or labour turnover in an organisation is the rate of change in the composition of employee force during a specified period measured against a suitable index.

The standard of usual employee turnover in the industry or locality or the employee turnover rate for a past period may be taken as the index or norm against which actual turnover rate is compared.

There are three methods

Replacement Method : This method takes into consideration actual replacement of employees irrespective of number of persons leaving the organization. Employee Turnover under this method is calculated as under

Number of employees Replaced during the period / Average number of employees during the period on roll X 100

New employees appointed on account of expansion plan of the organisation are not included in number of replacements.

Separation Method : In this method employee turnover is measured by dividing the total number of employees separated during the period by the average total number of employees on payroll during the same period. Employee Turnover under this method is calculated as under:

$$\frac{\text{Number of employees Separated during the period}}{\text{Average number of employees during the period on roll}} \times 100$$

Flux Method : This method takes both the number of replacements as well as the number of separations during the period into account for calculation of employee turnover. Employee Turnover under this method is calculated as under:

$$\frac{\text{Number of employees Separated + Number of employees Replaced during he period}}{\text{Average number of employees during the period on roll}} \times 100$$

Employee turnover due to new recruitment : Generally, employees recruited on account of expansion of an organisation, are not considered for calculation of employee turnover. But it is considered that the newly recruited employees are also responsible for changes in the composition or work force. Due to this feature, some management accountants feel to take new recruitment for calculating employee turnover.

The total number of workers joining, including replacements, is called accessions.

When number of accessions are considered for measuring employee turnover, the employee turnover rate by Flux method may be computed by using any one of the following expressions:

$$\frac{\text{No.of Separation + No.of Replacements + No.of new Joinings}}{\text{Average o.of employees during the period on roll}} \times 100$$

Or

$$\frac{\text{No. of Separations + No. of Accessions}}{\text{Average no. of employees during the period on roll}} \times 100$$

Average number of employees during the period is calculated as follows:

No. of employees at beginning + No. of employees at end of the period / 2

Equivalent Employee (Labour) Turnover rate : If in the above computations, the data given is for a period other than a year, the employee turnover rate so computed may be converted into equivalent annual employee turnover rate by using the following formula:

$$\frac{\text{Employee Turnover rate for the period}}{\text{Number of days in the period}} \times 365$$

1. From the following information calculate the labour turn over rate and labour flux rate during the year

Number of employees at the beginning 3800
Number of employees at the End 4200

During the year 40 workers leave while 160 workers where discharged , 600 workers are recruited during the year , of these 150 workers recruited because of leavers and rest are engaged in accordance with an expansion.

Solution :

Average number of employees during the period is calculated as follows:

No. of employees at beginning + No. of employees at end of the period / 2

3800+ 4200/ 2 = 4000

Number of employees Replaced during the period / Average number of employees during the period on roll X 100

150 /4000 x 100 = 3.75 %

$$\frac{\text{Number of employees Separated + Number of employees Replaced during he period}}{\text{Average number of employees during the period on roll}} \times 100$$

$$\frac{600 + 200}{4000} \times 100 = 20\ \%$$

- Kindly type the link to attend the Questionnaires (MCQ).

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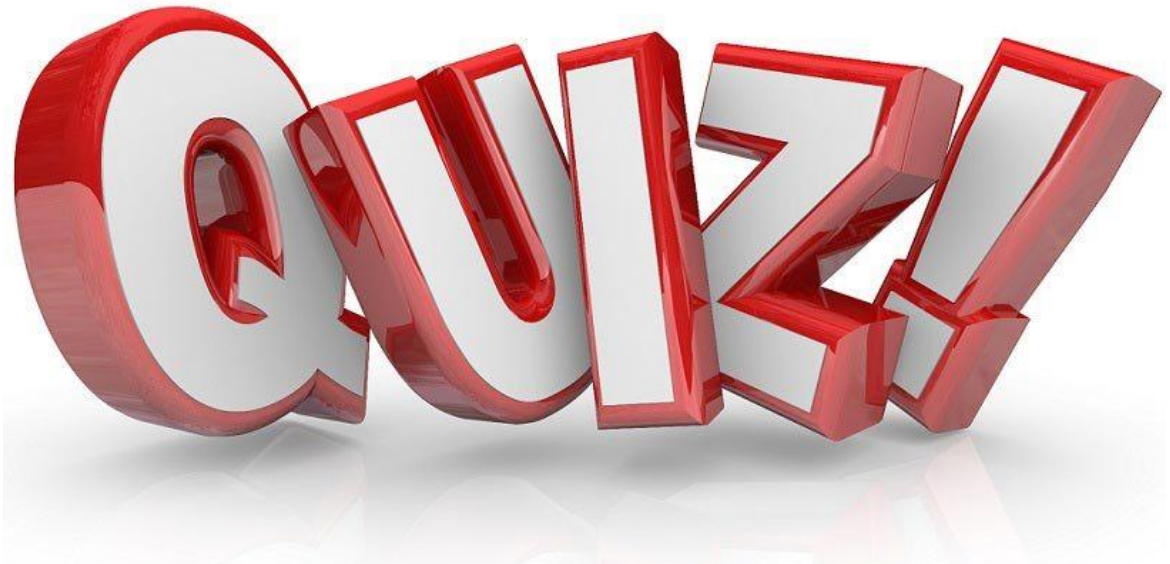

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Labour cost UNIT – III

- EMPLOYEE (LABOUR) TURNOVER

EMPLOYEE (LABOUR) TURNOVER

2.From the following data provided to you find out the labour turnover rate by applying

á. Flux method

b. Replacement Method

c. Separation Method

No. of workers on the payroll

At the beginning of the month 500, at the end of the month 600

During the month 5 workers left ,

20 persons were Discharged and 75 workers were recruited. Of these 10 workers were recruited in the vacancies of those leaving, while the rest were engaged for an expansion scheme.

Flux method

$$\frac{\text{Addition + Number of employees Separated the period}}{\text{Average number of employees during the period on roll}} \times 100$$

$$\frac{75 + 5 + 20}{\frac{1}{2}(500 + 600)} \times 100 = 18.2\ \%$$

Replacement Method

Number of employees Replaced during the period / Average number of employees during the period on roll X 100

$$\frac{10}{\frac{1}{2}(500 + 600)} \times 100 = 1.8\ \%$$

Separation Method

$$\frac{\text{No.of Separation}}{\text{Average of employees during the period on roll}} \times 100$$

$$\frac{5 + 20}{\frac{1}{2}(500 + 600)} \times 100 = 4.5\ \%$$

3. The Accountant of Y Ltd. has computed employee turnover rates for the quarter ended 31st March, 2011 as 10%, 5% and 3% respectively under 'Flux method', 'Replacement method' and 'Separation method' respectively. If the number of workers replaced during that quarter is 30, find out the number of workers for the quarter (i) recruited and joined and (ii) left and discharged

Calculation of average number of workers on roll

Replacement Method =

Number of employees Replaced during the period / Average number of employees during the period on roll X 100

$$5\ \% = \frac{30}{\text{AVG no. of Workers}}$$

AVG no. of Workers = 30 x 100 / 5 = 600

Calculation of number of workers Recruited and Jointed

Flux Method =

$$\frac{\text{Number of employees Separated + Number of Accessions}}{\text{Average number of employees during the period on roll}} \times 100$$

$$10\ \% = \frac{18 + \text{Number of Accessions}}{600}$$

18/600 x 100/10
=18 x 100 / 60
= 60-18
= 42

Number of Accessions = 60 – 18 = 42

Calculation of number of workers Left and discharged

Separation Method =

$$\frac{\text{Number of employees Separated}}{\text{Average number of employees during the period on roll}}$$

$$3\ \% = \frac{\text{Number of employees Separated}}{600}$$

Number of employee Separated = 600 x 3 / 100 = 18

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Labour cost UNIT – III

- EMPLOYEE (LABOUR) TURNOVER
- OVERTIME

OVERTIME

Work done beyond normal working hours is known as ‘overtime work’. Overtime payment is the amount of wages paid for working beyond normal working hours. Overtime payment consist of two elements-

(i) Normal wages for overtime work and

(ii) Premium payment for overtime work.

1. Calculate the normal and over time wages payable to a workman from the following data

Days	Hours Worked
Monday	8
Tuesday	10
Wednesday	9
Thursday	11
Friday	9
Saturday	4
Total	51 hrs

Normal working hours 8 hours per day

Normal Rate Re. 1 per hour, overtime rate upto 9 hours in a single rate and over 9 hours in a day at double rate :
or upto 48 hours in a week at single rate and over 48 hrs at double rate whichever
Is more beneficial to the workman.

Days	Hours	Normal Working hours	Overtime At single rate	Overtime At double rate
Monday	8	8	---	----
Tuesday	10	8	1	1
Wednesday	9	8	1	----
Thursday	11	8	1	2
Friday	9	8	1	----
Saturday	4	4	----	------
Total	**51**	44	4	3

1. Normal Wages for 48 hours @ re. 1 = 48

Overtime wages :

Wages for 51-48v = 3 hours @ 2 per hour = 6

Total wages = 54

2. Normal Wages for 44 hours @ re. 1 = 44

Overtime wages :

At single rate for 4 hours @ Rs. 1= Rs.4

At double rate for 3 hours @Rs. 2 = Rs. 6 = 10

Total wages = 54

Premium Bonus Plan

Under these methods, standard time is established for performing a job. The worker is guaranteed his daily wages (except in Barth System), if his output is below and upto standard. In case the task is completed in less than the standard time, the saved time is shared between the employee and the employer.

(i) Halsey Premium Plan : Under Halsey premium plan a standard time is fixed for each job or process. If there is no saving on this standard time allowance, the worker is paid only his day rate. He gets his time rate even if he exceeds the standard time limit, since his day rate is guaranteed.

1. Calculate the earnings of a worker under Halsey System. The relevant data is as below:

Time Rate (per hour) `60

Time allowed 8 hours

Time taken 6 hours

Time saved 2 hours

Calculation of total earnings :

= Time taken × Time rate + 50% (Time Allowed – Time Taken) × Time rate

= 6 hrs. × 60 + 1/2 × (2 hrs. × 60) or 360 + 60 = 420

Of his total earnings, 360 is on account of the time worked and 60 is on account of his share of the premium bonus.

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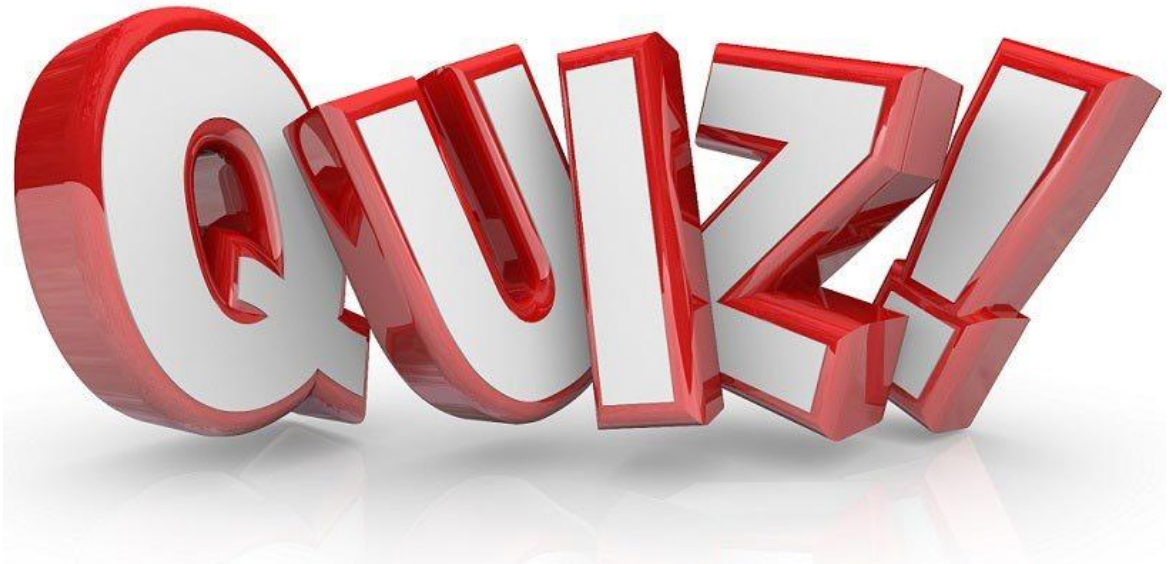

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SUBJECT: COST ACCOUNTYING
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Labour cost UNIT – III

- Bonus Plan

1. Calculate the earnings of a worker under Halsey System. And also find out effective rate of earnings.

Time Rate (per hour) = RS. 1.50 per hour

Time allowed 20 hours

Time taken 15 hours

T x R + % (S-T) R

S (Standard Time) = 20 hours

T (Time Taken) = 15 hours

R (Rate) = Rs. 1.50 per hour

Total Earnings = T x R + 50 % (S- T) X R

= 15 x Rs. 1.50 + 50 / 100 (20-15) x Rs. 1.50

= 22.50 + 3.75 = 26.25

Total Wages for 15 hours = 26.25

Therefore , effective rate of earning per hour = Total Wages / Actual Time Taken = 26.25 / 15

= 1.75

Note : **Percentage of bonus is to taken 50% when its not given**

Rowan Premium Plan : According to this system a standard time allowance is fixed for the performance of a job and bonus is paid if time is saved. Under Rowan System the bonus is that proportion of the time wages as time saved bears to the standard time.

Time taken × Rate per hour + Time Saved /Time Allowed × (Time taken × Rate per hour)

Bonus Calculation : S – T / S x T x R

Earnings Calculation : T x R + S-T / S x T x R
T = Time taken (Actual time)
S = Standard (Time Allowed)
R = Rate per hour

1. A worker Completes a job in a certain number of hours. The standard time allowed for the job is 10 hours, and the hourly rate of wages is Re. 01 the worker earns at the 50% rate a bonus of Rs. 2 under halsey plan. Ascertain his total wages under the rowan premium plan.

The worker earns Rs. 2 as bonus at 50% ; sp total bonus should be Rs. 4 . The hourly rate of wages being re. 1, the time saved be 4 hours,

Standard time allowed 10 hours
Less: Time saved = 4 hours
Time taken = 6 hours

Earnings under rowan premium plan

Earnings = T x R + S=- T / S x T x R.

T = 6 hours

S = 10 hours

R = Re. 1

Earnings = 6 x 1 + 10 -6 / 10 x 6 x 1
= 6 + Rs. 2.40
= 8.40.

1. Hourly rate 2
2. 4 days =40 hours= time taken 5 workers 40 = 200 hours
3. Standard time for 5 workers @ 48 hours = 240 hours

Halsay Paln

= T x R + ½ (S-T) R

= 200 x 2 + ½ (40) 2

=400 + 20 x2

=400+40

=440

Rowan Plan

= T x + S-T/S (TxR)

= 200 2 + 240-200 / 240 (200 x 2)

= 400 + 67

=467

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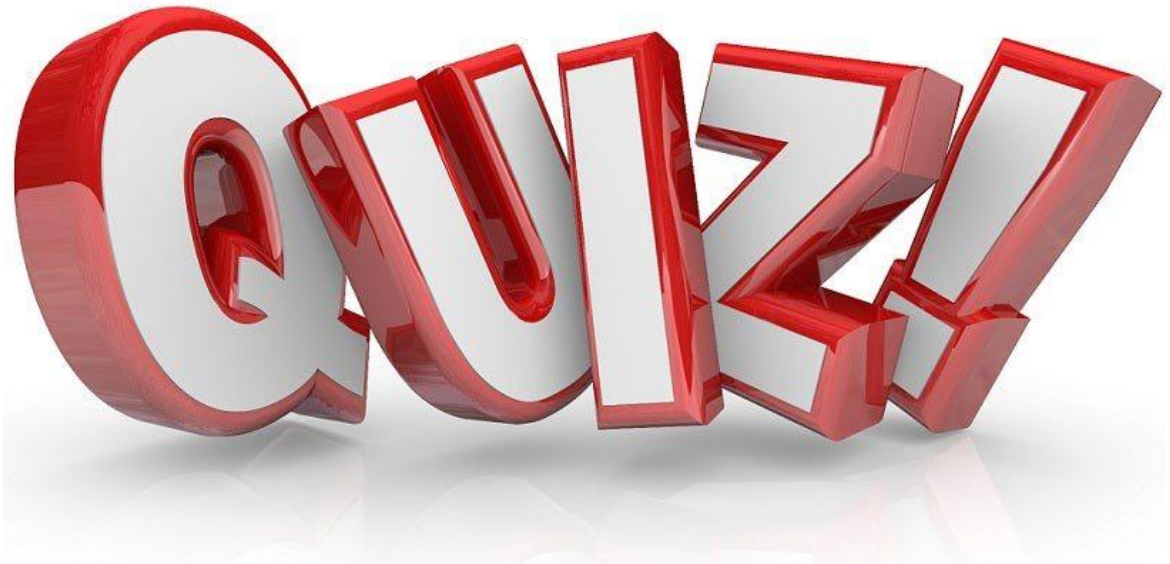

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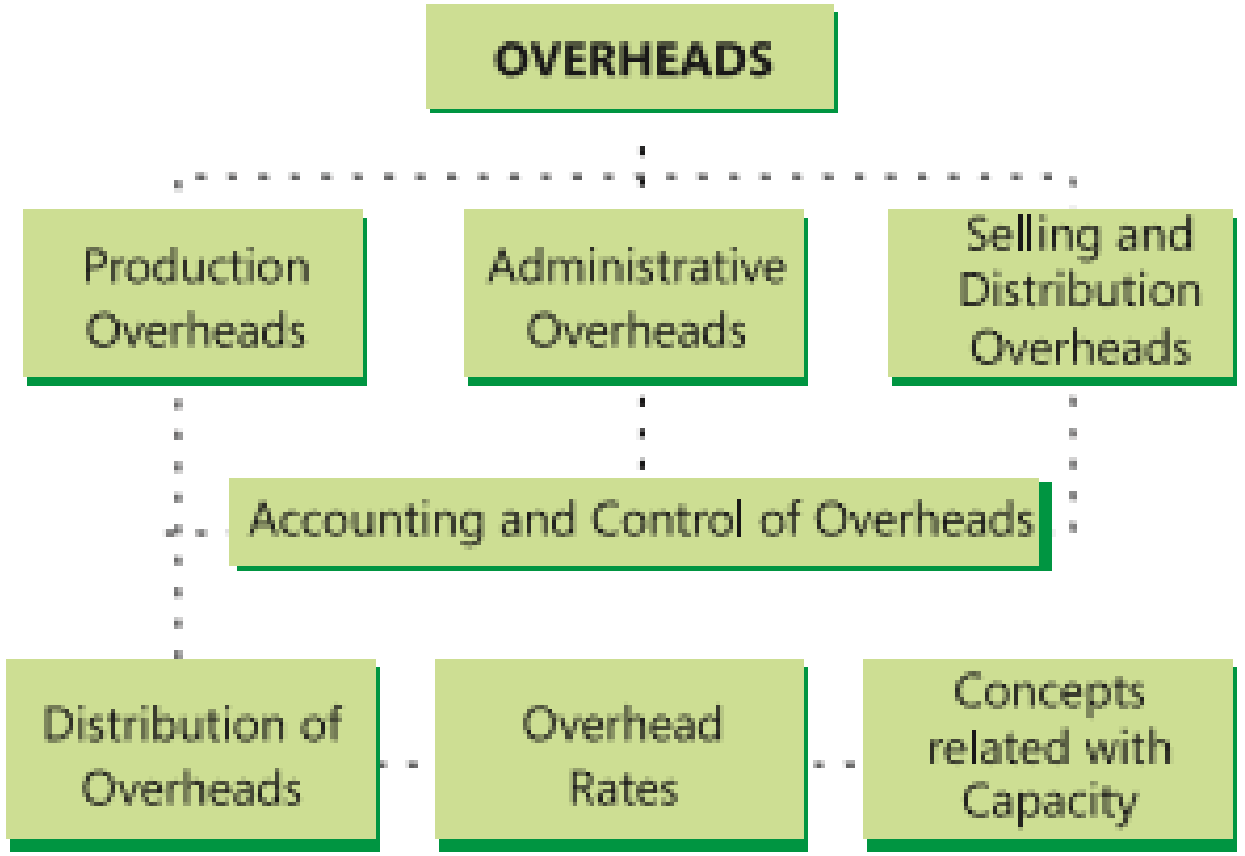
SUBJECT: COST ACCOUNTYING
(16BCO17)

Overheads UNIT – III

Overheads

- Definition
- Classification


OVERHEADS
Production Overheads
Administrative Overheads
Selling and Distribution Overheads
Accounting and Control of Overheads
Distribution of Overheads
Overhead Rates
Concepts related with Capacity

INTRODUCTION

- Overheads are the expenditure which cannot be conveniently traced to or identified with any particular cost unit.
- Such expenses are incurred for output generally and not for a particular work order e.g., wages paid to watch and ward staff, heating and lighting expenses of factory etc.
- Overheads are also very important cost element along with direct materials and direct employees.
- Overheads also represent expenses that have been incurred in providing certain ancillary facilities or services which facilitate or make possible the carrying out of the production process; by themselves these services are not of any use.
- For instance, a boiler house produces steam so that machines may run and, without the generation of steam, production would be seriously hampered. But if machines do not run or do not require steam, the boiler house would be useless and the expenses incurred would be a waste.
- Overheads are incurred not only in the factory of production but also on administration, selling and distribution.

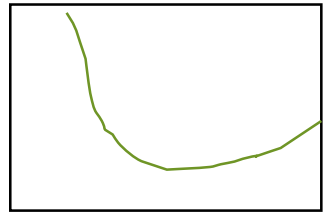
CLASSIFICATION OF OVERHEADS

Functional Classification

- Manufacturing or production or work overhead
- Administration overhead
- Selling overhead
- Distribution overhead
- Research and development Expenses

Classification with regard to behaviour of Expenditure

Fixed overhead



Variable overhead

Semi Variable overhead

Classification with regard to behaviour of Expenditure

- Fixed overhead
- Variable overhead
- Semi Variable overhead

Elements-wise Classification

- Indirect Material
- Indirect Labour
- Indirect Expenses

Classification of Overhead Accounting to Nature of Expenses

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Overheads UNIT – III

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CLASSIFICATION OF OVERHEADS

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- Manufacturing or production or work overhead
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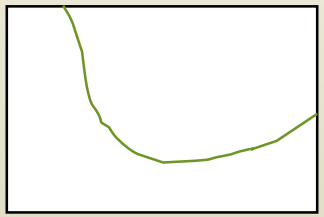
- Variable overhead

- Semi Variable overhead



Classification with regard to behaviour of Expenditure

- Fixed overhead
- Variable overhead
- Semi Variable overhead

Elements-wise Classification

- Indirect Material
- Indirect Labour
- Indirect Expenses

Classification of Overhead Accounting to Nature of Expenses

Advantages of Classification of Overheads into Fixed and Variable

Controlling Expenses : The classification of expenses into fixed and variable components helps in controlling expenses. Fixed costs are generally policy costs, which cannot be easily reduced. They are incurred irrespective of the output and hence are more or less non controllable. Variable expenses vary with the volume of activity and the responsibility for incurring such expenditure is determined in relation to the output. The management can control these costs by giving proper allowances in accordance with the output achieved.

(b) Preparation of Budget Estimates : The segregation of overheads into fixed and variable part helps in the preparation of flexible budget. It enables a firm to estimate costs at different levels of activity and make comparison with the actual expenses incurred.

(c) Decision Making : The segregation of semi variable cost between fixed and variable overhead also helps the management to take many important decisions. For example, decisions regarding the price to be charged during depression or recession or for export market. Likewise, decisions on make or buy, shut down or continue, etc., are also taken after separating fixed costs from variable costs.

Overhead Cost Overhead Cost	Bases of Apportionment
1. (i) Rent and other building expenses (ii) Lighting and heating (conditioning) (iii) Fire precaution service (iv) Air- conditioning	Floor area, or volume of department
2. (i) Perquisites (ii) Labour welfare expenses (iii) Time keeping (iv) Personnel office (v) Supervision	Number of workers
3. (i) Compensation to workers (ii) Holiday pay (iii) ESI and PF contribution (iv) Perquisites	Direct wages
4. General overhead	Direct labour hour, or Direct wages, or Machine hours.
5. (i) Depreciation of plant and machinery (ii) Repairs and maintenance of plant	Capital values

	(iii) Insurance of stock	
6.	(i) Power/steam consumption (ii) Internal transport (iii) Managerial salaries	Technical estimates
7.	Lighting expenses (light)	No. of light points, or Area or Metered units
8.	Electric power (machine operation)	Horse power of machines, or Number of machine hour, or value of machines or units consumed.
9.	(i) Material handling (ii) Stores overhead	Weight of materials, or volume of materials, or value of materials or unit of materials.

What basis would you follow for distribution of the following overhead Expenses to the department?

a. Store services expenses , b. Employees state insurance c. Factory rent d. Municipal Rent, Rates and taxes e. Insurance on building and Machinery f. Welfare department Expenses g. Creche expenses h. Steam i. Electric Light j. Fire insurance.

a. Store services expenses ,
b. Employees state insurance
c. Factory rent
d. Municipal Rent, Rates and taxes
e. Insurance on building and Machinery
f. Welfare department Expenses
g. Creche expenses
h. Steam
i. Electric Light
j. Fire insurance.

a. Valuation of material Consumed
b. Wages of Each Department
c. Floor Area
d. Floor Area
e. Insurable Value
f. Number of employees
g. Number of Female employees
h. Potential demand
i. Calculated units
   - For capital items – Value of capital items
   - For store – Average value of goods in stock

The Modern Company is divided into four department : p1,p2,p3 are producing departments and s1 is a service department. The actual costs for a period are as follows :

Rent 1,000, Repairs to plant 600, Depreciation of plant 450 , Employers liability for insurance 150

Supervision 1,500, Fire insurance in respect of stock 500, Power 900 and Light 120

The following information available in respect of the 4 department :

	Department p1	Department P2	Department P3	Department P4
Area Sq. Metres	1,500	1,100	900	500
Number of Employees	20	15	10	5
Total wages (Rs.)	6,000	4,000	3,000	2,000
Value of Plant (Rs.)	24,000	18,000	12,000	6,000
Value of Stock (Rs.)	15,000	9,000	6,000	----
H.P of Plant	24	18	12	6

Item	Basis of Apportionment	Total Amount	P1	P260	P3	S1
Rent	Floor area (25 p per Metre)	1000	375	275	225	125
Repairs to plant	Plant Value (1 Paisa Per rupee	600	240	180	120	60
Depreciation of plant	Plant value (0.75 P per rupee	450	180	135	90	45
Light	Floor Area (3 P per Sq. Metre)	120	45	33	27	15
Power	H.P. of Plant (Rs. 15 per H.P)	900	360	270	180	90
Supervision	NO. of Employees (30 per employee)	1500	600	450	300	150
Fire Insurance	Stock Value (1/60 of value of stock)	500	250	150	100	----
Employers liability for insurance	No. of Employees (3 per employee)	150	60	45	30	15
		5220	**2110**	**1538**	**1072**	**500**

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Labour cost UNIT – III

- Labour Turnover

Labor turnover

Labor turnover, also known as staffing turnover, refers to the ratio of a number of employees who leave a company through attrition, dismissal or resignation to the total number of employees on the payroll in that period.

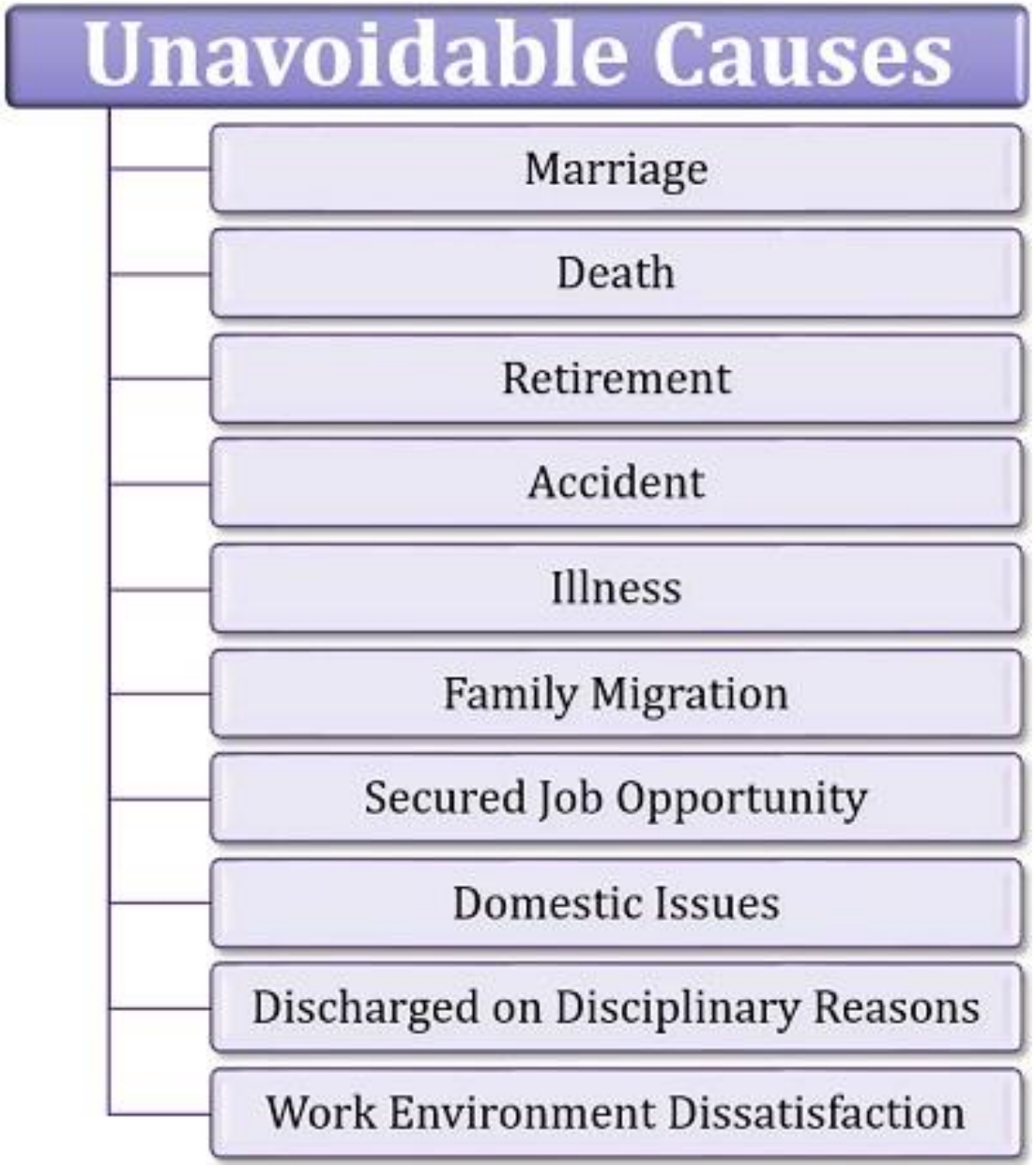
Labor turnover, also known as staffing turnover, refers to the ratio of a number of employees who leave a company through attrition, dismissal or resignation to the total number of employees on the payroll in that period. It's used for measuring employee retention.

Types of turnovers

1. Voluntary: when an employee leaves the organization on his/her own.
2. Involuntary: when the employees get terminated from his/her services.
3. Functional: when low performing employees are dent from the company in order to enhance the overall performance.
4. Dysfunctional: when skillful, good performing employees leave the company leaving the company in a bad shape.

Causes of labour Turnover:

Unavoidable causes:



Effects of Labour Turnover:

(i) With frequent changes in labour force, production planning cannot be properly executed resulting in substantial loss in production.

(ii) Since the new workers have no previous experience in production there is loss arising out of defective work, increased spoilage and wastage resulting in high cost of production.

(iii) Newly recruited workers are likely to mishandle tools and equipment which results in breakages.

(iv) The organisation has to incur extra cost for workers' training.

(v) Labour turnover causes increased replacement cost.

(vi) Labour cost increases because of lower productivity of newly recruited workers as they do not possess the same expertise as the old workers who have left the organization.

Types of Labour Turnover

Strategies to Reduce Labour Turnover

- Work on Company's Interpersonal Relationships
- Revise Wages and Allowance Policy
- Improve Personnel or HR Policy
- Focus on Non-Monetary Benefits
- Carry Out Exit Interviews
- Enhance Working Conditions
- Adopt Appropriate Labour Welfare Measures
- Develop a Performance Based Reward System
- Appreciate Employee Suggestions
- Strengthen Grievance Redressal Procedure
- Fair and Impartial Treatment
- Create Opportunities for Promotion

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Overheads UNIT – III

Overheads

4.4.4 Re-apportioning service department overheads over production department

The re-apportionment of the service department cost to the production department is known as secondary distribution. The suggestive bases that may be adopted for re-apportionment are given below:

Cost of the Service Departments:	Basis
1. Maintenance and Repair shop	Direct labour hours, Machine hours,
2. Planning and progress	Direct labour wages, Asset value
3. Tool room	× Hours worked.
4. Canteen and Welfare	No. of direct workers
5. Hospital and Dispensary	No. of employees etc.
6. Personnel Department	
7. Time-keeping	No. of card punched, No. of employees
8. Computer Section	Computer hours, Specific allocation to departments
9. Power House (electric lighting cost)	Floor area, Cubic content, No. of electric Points, Wattage.
10. Power House (electric power cost)	Horse power, kWh, Horse power × Machine hours, kWh × Machine hours
11. Stores Department	No. of requisitions, Weight or value ofMaterials issued.

12. Transport Department	Crane hours, Truck hours, Truck mileage, Truck tonnage, Truck ton- hours, Tonnage handled. No. of packages of Standard size
13. Fire Protection	Capital values
14. Inspection	Inspection hours

Notes :

(1) Repairs included in repairs shop cost, building maintenance cost included in maintenance shop cost etc. should be apportioned on the basis of capital values.

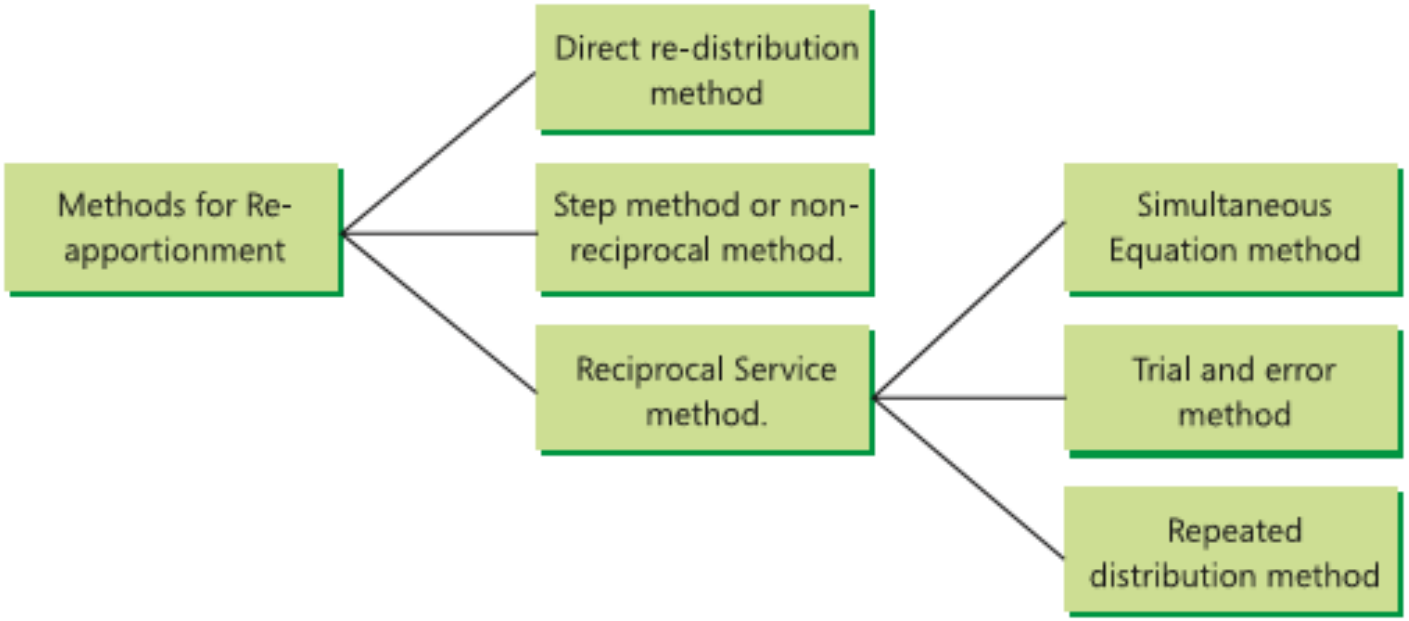
(2) Economy, practicability, equitability and reliability are the matters of consideration for selection of the base.

Methods for Re-apportionment : The re-apportionment of service department expenses over the production departments may be carried out by using any one of the following methods:

(i) Direct re-distribution method.

(ii) Step method of secondary distribution or non-reciprocal method.

(iii) Reciprocal Service method.



(i) Direct Re-Distribution Method :

Service department costs under this method are apportioned over the production departments only, ignoring the services rendered by one service department to the other. To understand the applications of this method, go through the illustration which follows.

ILLUSTRATION 1

XL Ltd., has three production departments and four service departments. The expenses for these departments as per Primary Distribution Summary are as follows:

Production Departments:	*(₹)*	*(₹)*
A	*30,00,000*	
B	*26,00,000*	
C	*24,00,000*	*80,00,000*
Service Departments:	*(₹)*	*(₹)*
Stores	*4,00,000*	
Time-keeping and Accounts	*3,00,000*	
Power	*1,60,000*	
Canteen	*1,00,000*	*9,60,000*

The following information is also available in respect of the production departments:

	Dept. A	*Dept. B*	*Dept. C*
Horse power of Machine	*300*	*300*	*200*

SOLUTION

Secondary Overhead Distribution Statement

Items of cost (as per primary distribution summary)	Basis of apportionment	Total (₹)	Production Departments		
			A (₹)	B (₹)	C (₹)
Cost as per primary distribution summary		80,00,000	30,00,000	26,00,000	24,00,000
Stores(5:3:2)	Value of Store requisition	4,00,000	2,00,000	1,20,000	80,000
Time-keeping and Accounts (4:3:3)	No. of workers	3,00,000	1,20,000	90,000	90,000
Power (3:3:2)	H.P. of Machine	1,60,000	60,000	60,000	40,000
Canteen (4:3:3)	No. of workers	1,00,000	40,000	30,000	30,000
		89,60,000	34,20,000	29,00,000	26,40,000

(ii) Step Method or Non-reciprocal method : This method gives cognizance to the services rendered by service department to another service department. Therefore, as compared to previous method, this method is more complicated because a sequence of apportionments has to be selected here.

(A manufacturing company has two production department, P1 and P2 and three service department, Time keeping , stores and maintenance. Time keeping department is rendering service to two production departments and two other service department , stores department is rendering service to maintenance department along with production department and maintenance department is rendering service to production departments only. The departmental summary showed the following expenses for july, 2009.

Production		Service department		
p1	P2	S1	S2	S3
16,000	10,000	4,000	5,000	3,000

Particulars	Service department			Production	Production
	S1	S2	S3	P1	P2
No.of Employees	--	20	10	40	30
No.of Stores req	**--**	**----**	**6**	**24**	20
Machine hours	**--**	**----**	**----**	**2,400**	1,600

Department	As per primary distribution				
S1 time keeping	4,000	-4000			
S2 Stores	5,000	800	-5800		
S3 Maintenance	3,000	400	696	-4096	
P 1	16,000	1600	2784	2458	22842
P 2	10,000	1200	2320	1638	15158
total	**38,000**				**38,000**

Basis of Apportionment

i. **Time keeping – No. of Employees (2:1:4:3)**
ii. **Stores – Number of store requisition (3:12:10)**
iii. **Maintenance – machine hours(3:2)**

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SUBJECT: COST ACCOUNTYING
(16BCO17)

Labour cost UNIT – III

- Time Study
- Idle Time
- Time Keeping

Important Factors for the Control of Employee Cost

- Assessment of manpower requirements.
- Control over time-keeping and time-booking.
- Time & Motion Study.
- Control over idle time and overtime.
- Control over employee turnover.
- Wage and Incentive systems.
- Job Evaluation and Merit Rating.
- Employee productivity.

Attendance Procedure / Time-keeping

It refers to correct recording of the employees' attendance time. Students may note the difference between "time keeping" and "time booking". The latter refers to break up of time on various jobs while the former implies a record of total time spent by the employees in a factory.

Objectives of Time-keeping

For the preparation of payrolls.

(ii) For calculating overtime.

(iii) For ascertaining and controlling employee cost.

(iv) For ascertaining idle time.

(v) For disciplinary purposes.

(vi) For overhead distribution.

Methods of Time-keeping

1. Manual Methods
   - (a) Attendance Register method
   - (b) Metal Disc/ Token method

2. Mechanical/ Automated Methods
   - (a) Punch Card Attendance
   - (b) Bio- Metric Attendance system

IDLE TIME

The time during which no production is carried-out because the worker remains idle but are paid. In other words, it is the difference between the time paid and the time booked. Idle time can be normal or abnormal. The time for which employees are paid includes holidays, paid leaves, allowable rest or off time etc

Normal idle time : It is the time which cannot be avoided or reduced in the normal course of business.

Causes

1. The time lost between factory gate and the place of work,
2. The interval between one job and another,
3. The setting up time for the machine,
4. Normal rest time, break for lunch

Abnormal idle time : Apart from normal idle time, there may be factors which give rise to abnormal idle time.

1. Idle time may also arise due to abnormal factors like lack of coordination
2. Power failure, Breakdown of machines
3. Non-availability of raw materials, strikes, lockouts, poor supervision, fire, flood etc.
4. The causes for abnormal idle time should be further analyzed into controllable and uncontrollable.

OVERTIME

Work done beyond normal working hours is known as 'overtime work'. Overtime payment is the amount of wages paid for working beyond normal working hours. Overtime payment consist of two elements-

(i) Normal wages for overtime work and

(ii) Premium payment for overtime work.

Overtime is paid at a higher rate

Overtime Payment = Wages paid for overtime at normal rate + Premium (extra) payment for overtime work

Time-Booking

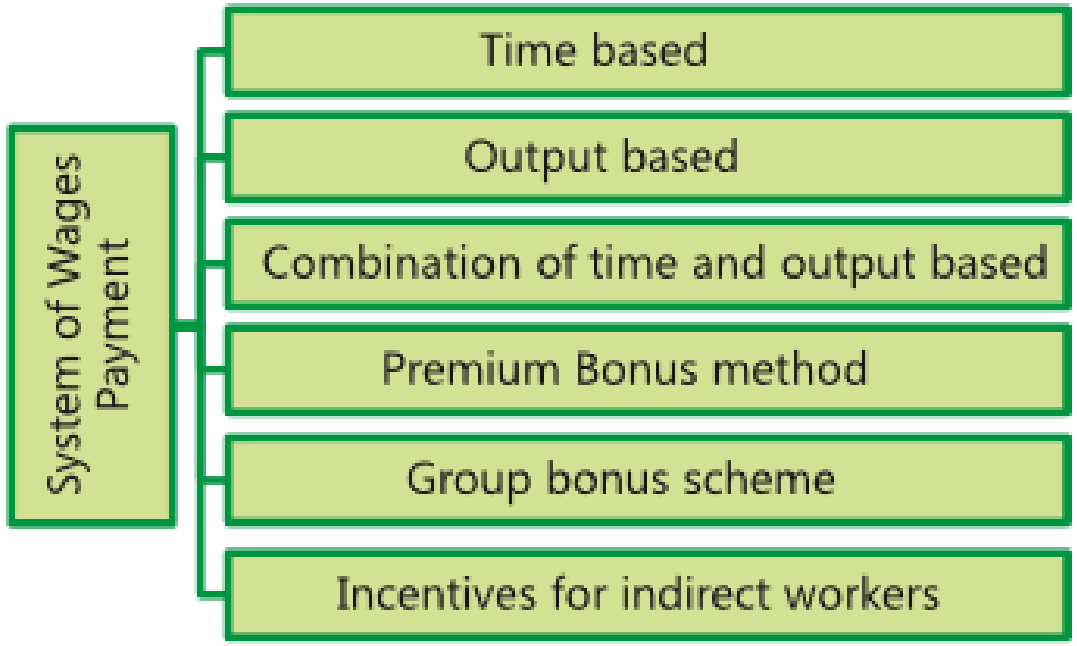
Time booking refers to a method wherein each activity of an employee is recorded. This data recorded is further used for measure the time spent on a particular job for costing, measurement of efficiency, fixation of responsibility etc.

a. Daily Time Sheet
b. Weakly time sheet
c. Job ticket or job cards

SYSTEMS OF WAGE PAYMENT AND INCENTIVES

Features of Wage system

- Based on time and Motion Study
- Fixed Minimum Wages
- Wages fixed Based on Merits
- Skilled Workers Get more Salary
- Equal Pay to Equal Work
- Flexibility
- Minimize Labour Turnover
- System not violate any unions



Time based (Time Rate System)

Under this system, the workers are paid on time basis i.e. hour, day, week, or month. The amount of wages due to a worker are arrived at by multiplying the time worked (including normal idle period) by rate for the time. Time based wages payment is suitable for the employees (i) whose services cannot be directly or tangibly measured, e.g., general helpers, supervisory and clerical staff etc. (ii) engaged in highly skilled jobs, (iii) where the pace of output is independent of the operator, e.g., automatic chemical plants.

Wages = Time Worked (Hours/ Days/ Months) × Rate for the time

Differential Time Rate System

According to this method, different hourly rates are fixed for different levels of efficiency. Up to a certain level of efficiency the normal time or day rate is paid. Based on efficiency level the hourly rate increases gradu¬ally. The following is an example of differential time ratesystem:

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SUBJECT: COST ACCOUNTYING

(16BCO17)

Labour cost UNIT – III

- System of Wage payment

Merits and Demerits of Time rate system Merits :

(i) Simple to understand and to calculate wages.

(ii) Reduces temptation on the part of workers to increase the output at the cost of quality.

(iii) Unity in employee, no distinction between efficient and inefficient employee due to quality of production.

(iv) Stability in wages

Demerits :

(i) No monetary incentive to raise the level of production.

(ii) No distinction between the slow and the efficient worker.

(iii) The tendency is for the fall in output; this raises the cost per unit (because both employee and fixed expenses will be spread over a smaller number of units).

(iv) A firm cannot be sure of employee costs per unit under this method and, hence, may suffer a loss on quotations if already submitted.

Output Based (Piece Rate System)

(i) Straight Piece Rate System

Under this system, each operation, job or unit of production is termed a piece. A rate of payment, known as the piece rate or piece work rate is fixed for each piece. The wages of the worker depend upon his output and rate of each unit of output; it is in fact independent of the time taken by him. The wages paid to a worker are calculated as

(ii) Differential Piece Rate System

Under this system, the rate of wages is linked to efficiency of the workers for producing a unit. Efficiency is measured against a set standard. Different rate is given for different efficiency level. The main feature of all differential piece-work systems is that several piece rates on a slab scale are fixed for a job or operation. For different levels of output below and above the standard, different piece rates are applicable. The two important differential piece rate systems to be discussed here are

(a) Taylor's Differential Piece Rate System and

(b) Merrick's Differential Piece Rate System.

Calculate the earnings of workers A and B under **Straight piece rate System and Taylors Differential Piece rate system** From the following particulars:

Normal rate per hour = Rs. 1.80
Standard time per unit = 20 seconds
Differentials to be applied :
80% of piece rate below standards
120% of piece rate at or above standard
Worker A produces 1,300 units per day and worker B produces 1,500 units per day.

Solution :

Standard production per seconds = 1 unit

Standard production per minute = 60 / 20 = 3 unit

Standard production per Hour = 3 x 60 = 180 units.

Standard production per Day of 8 hours (assumed) = 180 x 8 = 1,440 unit

Normal rate per hour = Rs. 1.80

Therefore, Normal piece rate = 1.80 / 180 units = 1 paisa (0.01)

Low piece rate below standard production = 1 p. x 80 / 100 = 0.80 paisa

High piece rate below standard production = 1 p. x 120 / 100 = 1.2 paisa

Earnings of Worker A

Under Straight piece rate system:

1,300 units @ 1 p. = 1300 x 1 / 100

= Rs. 13

Under Taylors Differential piece rate system:

1,300 units @ 0.8 p. = 1300 x 8 / 10 x 1 / 100 (Or) 1300 x 0.8 / 100

= Rs. 10.40

Low piece rate has been applied because worker A's daily production of 1,300 units is less than the standard daily production of 1,440 units

Earnings of Worker B

Under Straight piece rate system:

1,500 units @ 1 p. = 1500 x 1 / 100

= Rs. 15

Under Taylors Differential piece rate system:

1,500 units @ 1.2 p. = 1500 x / 12 x 1 / 100

= Rs. 18

2. Using Taylor's differential piece rate system, find the earnings of 'A' from the following particulars:

Standard time per piece = 12 minutes

Normal rate per hour (in an 8 hour- day) Rs. 20

A produced = 37 units

Actual output = 37 units
Standard output = 8hrs. × 60 minutes 12 minutes per piece = 40 units

Efficiency = 37 units 40 unitsn× 100 = 92.5%

Under Taylor's differential piece rate system, a worker is paid lower piece rate of 83%, since his efficiency is less than 100%.

Standard production per hour = 60 minutes/12 minutes = 5 units
Normal Rate per hour = Rs. 20
Normal piece rate per unit = Rs. 20/5 units = Rs. 4
Lower piece rate per unit = Rs. 4 × 83/100 = Rs. 3.32
Total earnings = 37 units × Rs. 3.32 = Rs 122.84

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(16BCO17)

Labour cost UNIT – III

- Piece Rate System

2. From the following particulars, calculate the earnings of workers X and Y and also comment on the labour cost.

Standard time allowed: 20 units per hour
Normal time rate: `30 per hour
Differential Rate to be applied:
80% of piece rate when below standard
120% of piece rate at or above standard - In a particular day of 8 hours, X produces 140 units while Y produces 165 units.

Solution:

Standard production per day is 20 units × 8 hours = 160 units
Worker 'X' produces 140 units which means he is below standard and will get wages @ 80% of the normal piece rate.

X's earnings:

Normal piece rate = Rs. 30 per hour/20 units = Rs1.5 per unit
80% of the normal piece rate = Rs. 1.20 per unit
Earnings = Rs. 1.20 × 140 units = Rs. 168
Labour cost per unit = Rs. 168/140 units = Rs. 1.20

Y's Earnings:

Y has produced more than the standard production of 160 units and hence he will get wages @ 120% of normal piece rate. His earnings will be as shown below.

Normal piece rate = Rs. 30 per hour/20 units = Rs. 1.50 per unit
120% of normal piece rate = Rs. 1.80 per unit
Earnings = Rs. 1.80 ×165 units = Rs. 297
Labour cost per unit = Rs. 2.97/165 units = Rs. 1.80

Comment: Labour cost increases from `1.20 per unit to `1.80 per unit. Taylor's system is resisted on this ground as well as on the ground that it is very harsh on the workers.

Merrick Differential Piece Rate System

Merrick's system is modification of Taylor's system and is comparatively less harsh on the workers. The scale of remunerations is as follows:-

Production Rates of Payment

Up to 83% of production - Normal piece rate
83% to 100% of production - 110% of ordinary piece rate
Above 100% of production - 120% of ordinary piece rate

As mentioned earlier, this method is less harsh on the workers as compared to Taylor's system. It is particularly useful to beginners and also offers an incentive who have potential of higher productivity.

3. Calculate the earnings of workers A, B and C under Straight piece rate system and Merricks Multiple piece rate system from the following particulars

Normal rate per hour = Rs. 1.80
Standard time per hour = 1 minute
Output per day is as follows :
Worker A = 384 units
Worker B = 450 units
Worker C = 552 units

Calculation of level of performance

Standard output per day = 480 units

Workers A s output per day = 384 units

Workers A s Level of performance 384 / 480 x 100 = 80 %

Workers B s output per day = 450 units

Workers B s Level of performance 450 / 480 x 100 = 93.75 %

Workers C s output per day = 552 units

Workers C s Level of performance 552 / 480 x 100 = 115 %

Standard output per minute = 1 unit
Standard production per hour = 60 units
Standard production per day of 8 hours

= 480 i.e 60 x 8 units

Normal rate per hour = Rs. 1.80
Normal output per hour = 60 units

Therefore = 1.80 / 60 = 3 paise

Earnings of Worker A

Earnings of Worker B

Earnings of Worker C

Under Straight piece rate system:

Under Merricks Multiple piece rate system:

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SUBJECT: COST ACCOUNTYING
(16BCO17)

Labour cost UNIT – III

- Piece Rate System

2. From the following particulars, calculate the earnings of workers A and B Under straight piece rate and Taylors Differential piece rate system

Standard time allowed: 30 seconds
Normal time rate: Rs. 2.40
Differential Rate to be applied:
80% of piece rate when below standard
120% of piece rate at or above standard – Worker A produce 800 units per day and worker B produce 1,000 units per day.

Solution:

Standard production 30 seconds = 1 unit

Standard production per minute = 2 unit

Standard production per Hour = 2 x 60 = 120 units.

Standard production per Day of 8 hours (assumed) = 120 x 8 = 960 unit

Normal rate per hour = Rs. 2.40

Therefore, Normal piece rate = 2.40 / 120 units = 2 paisa

Low piece rate below standard production = 2 p. x 80 / 100 = 1.60 paisa

High piece rate below standard production = 1 p. x 120 / 100 = 2.4 paisa

Earnings of Worker A

Under Straight piece rate system:

800 units @ 2 p. = 800 x 2 / 100

= Rs. 16

Under Taylors Differential piece rate system:

800 units @1.60 p. = 800 x 1.60 / 100

= Rs. 12.8

Low piece rate has been applied because worker A's daily production of 800 units is less than the standard daily production of 960 units

Earnings of Worker B

Under Straight piece rate system:

1,000 units @ 2 p. = 1000 x 2 / 100

= Rs. 20

Under Taylors Differential piece rate system:

1,000 units @2.4 p. = 1000 x 2.4 / 100

= Rs. 24

Definition: Under **Gantt Task System**, the standard time is fixed for the completion of a task based on a careful time and motion study. The worker's actual performance is compared against the standard time to determine his efficiency and make the payments accordingly.

The Gantt task system guarantees the worker's time-rate for the level of output below the standard. Thus, if the worker takes more than the standard time to complete the task, then his efficiency is below 100%, and he is **paid only the time wages.**

If the worker completes the task within the standard time, then his efficiency is 100% and in addition to the time wages, he is also paid a **bonus of 20%** on the wages earned. If the worker takes less than the standard time to complete a task, then his efficiency is more than 100%, and the wages are paid at **high-piece rates**.

Calculation of level of performance

Standard output per month = 1000 units

Workers A s output = 850 units

Workers A s Level of performance = 850 / 1000 x 100 = 85 %

Workers B s output per day = 1000 units

Workers B s Level of performance = 1000 / 1000 x 100 = 100 %

Workers C s output per day = 1100 units

Workers C s Level of performance = 1100 / 1000 x 100 = 110 %

Standard production per month = 1000 units and piece work rate is 50 paise per unit so guaranteed monthly payment is Rs. 500 (i.e., 1000 units @ 50 paise)

3. From the following data, calculate total monthly remuneration of three workers A, B and C under the Gants Task and Bonus Scheme.

i. Standard production per month per worker is 1000
Units.
ii. Actual production during the month
A = 850 units B = 1000 and C = 1100 units.
iii. Piece work rate – 50 paise per unit.

Earnings of Worker A

Earnings of Worker B

Earnings of Worker C

- Kindly type the link to attend the Questionnaires (MCQ).

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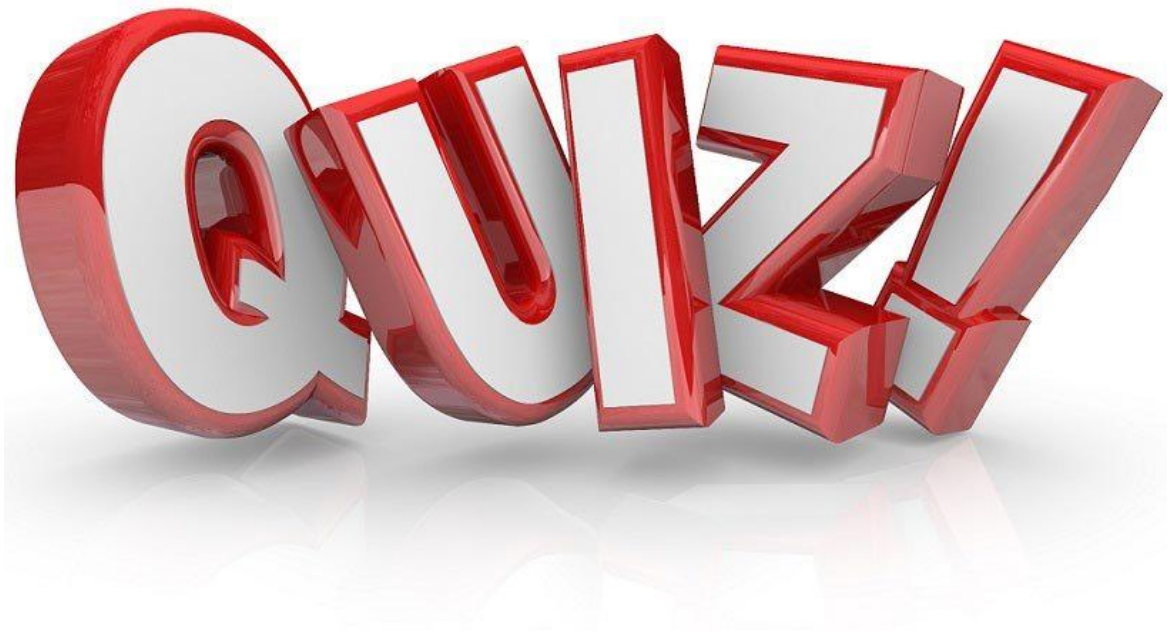

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SUBJECT: COST ACCOUNTYING
(16BCO17)

Overheads UNIT – IV

Job Cost

1. The information given below has been taken from the cost records of a factory in respect of job No. 707:

Wages details:

Department – A : 60 hours @ Rs. 3 per hour

– B : 40 hours @ Rs. 2 per hour

– C : 20 hours @ Rs. 5 per hour

The Variable overheads are as follows :

Department – A : Rs. 5,000 for 5,000 hours

– B : Rs. 3,000 for 1,500 hours

– C : Rs. 2,000 for 500 hours

Fixed Expenses estimated at Rs. 20,000 for 10,000 working hours. Calculated the cost of the job No. 707 and the price for the Job top give a profit of 25% on the selling price.

Particulars			Rs.	Rs.
Direct Materials				4,010
Wages :		Department A 60 x 3	180	
		Department B 40 x 2	80	
		Department C 20 x 5	100	360
		Prime Cost		**4,370**
Overheads				
Variable	i.	Department A 60 x 1	60	
		Department B 40 x 2	80	
		Department C 20 x 4	80	220
Fixed	ii.	120 hours @ Rs. 2 hour		240
				4,830
Profit (33 1/3 % on Cost or 25 % on selling Price) = 4830 x 25/75				1,610
Selling Price				**6,440**

(1) Variable Overhead Rates: Department A = Rs. 5,000/5,000 Hrs. =Rs. 1 per hour
- B = Rs. 3,000/1,500 Hrs. =Rs. 2 per hour
- C = Rs. 2,000/500 Hrs. = Rs. 4 per hour

(2) Fixed Overhead Rates = Rs. 20,000/10,000 Hrs. =Rs. 2 per hour

2. Estimated material Rs. 5,00,000
And Direct labour cost Rs.100000
Machine X = For 20 hours M Y for 6 hours
Rate of M- X 1000
Rate of M – Y 1500
The direct wages for last year amounted to 80,00,000 as against Rs. 48,00,000 factory O/h
The last year factory cost amounted tp Rs. 2,50,00,000 as against 37,50,000 office expenses

20 % profit on selling price

Statement of estimated Cost of job No. 550

Particulars	Amount
Material Cost Direct Labour cost	5,00,000 1,00,000
Prime Cost	**6,00,000**
Factory Overheads (60 % of Direct wages) Rs. 1,00,000	60,000
Machine Expenses : X 20 hours @ Rs. 1,000 = 20,000 Y 6 hours @ Rs. 1,500 = 9000	29,000
Factory Overheads (WORK COST)	**6,89,000**
Office Expenses : 15 % of Factory overheads (15/100 x 6890000)	1,03,350
Cost of production **Profit (20 on sales price 20/70 x 7,92,350)** **Selling price**	**7,92,350** **1,98,087.50** **9,90,437.50**

Working Notes

Calculation of percentage of FACTORY OVERHEADS to DIRECT WAGES

48,00,000 / 80,00,000 x100 = 60 %

Calculation of OFFICE EXPENSES to WORK COST

37,50,000/ 2,50,00,000 X 100 = 15 %

In accordance with company policy the following are chargeable to jobs:
Fixed production overheads – Rs. 5 per direct labour hour
Fixed administration overheads – 80 % of work cost
Profit mark up – 20 % margin on Selling price.

Required :
i. Calculate the total cost and 4321.
ii. Assume that shortly after the job is completed the original customer goes bankrupt and the job is not delivered. The only other possible customer is prepared to pay Rs. 9,000. briefly indicate, with reasons, weather you would accept the offer of Rs. 9,000.

➢ Kindly type the link to attend the Questionnaires (MCQ).

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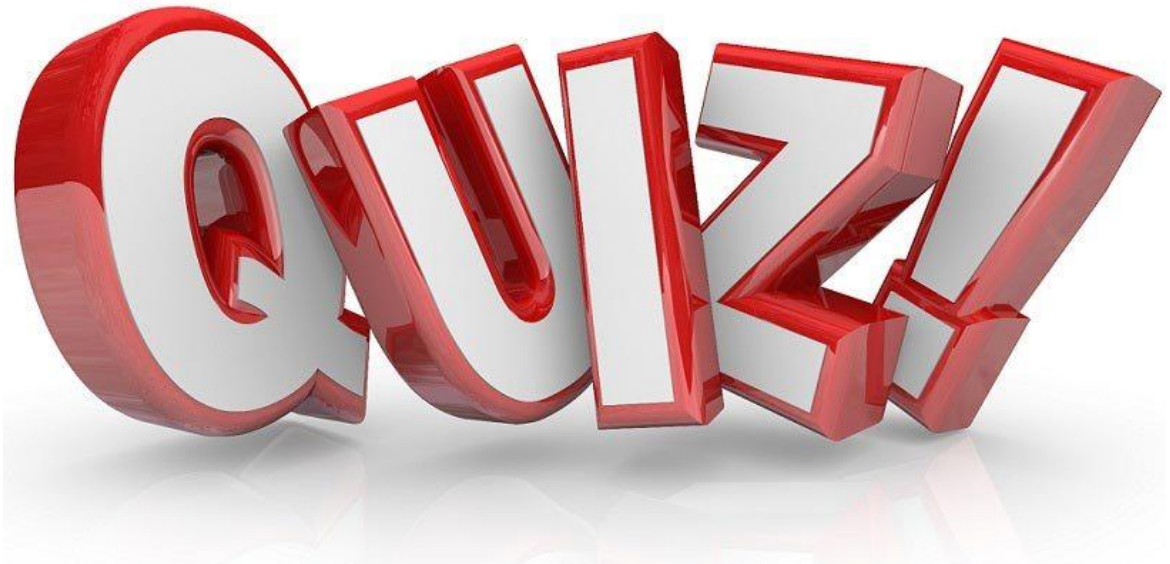

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SUBJECT: COST ACCOUNTYING
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Overheads UNIT – IV

Job Cost

1. The information given below has been taken from the cost records of a factory in respect of job No. 707:

Wages details:

Department – A : 60 hours @ Rs. 3 per hour

– B : 40 hours @ Rs. 2 per hour

– C : 20 hours @ Rs. 5 per hour

The Variable overheads are as follows :

Department – A : Rs. 5,000 for 5,000 hours

– B : Rs. 3,000 for 1,500 hours

– C : Rs. 2,000 for 500 hours

Fixed Expenses estimated at Rs. 20,000 for 10,000 working hours. Calculated the cost of the job No. 707 and the price for the Job top give a profit of 25% on the selling price.

Particulars			Rs.	Rs.
Direct Materials				4,010
Wages :		Department A 60 x 3	180	
		Department B 40 x 2	80	
		Department C 20 x 5	100	360
		Prime Cost		**4,370**
Overheads				
Variable	i.	Department A 60 x 1	60	
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		Department C 20 x 4	80	220
Fixed	ii.	120 hours @ Rs. 2 hour		240
				4,830
Profit (33 1/3 % on Cost or 25 % on selling Price) = 4830 x 25/75				1,610
Selling Price				**6,440**

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(2) Fixed Overhead Rates = Rs. 20,000/10,000 Hrs. =Rs. 2 per hour

2. Estimated material Rs. 5,00,000
And Direct labour cost Rs.100000
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Rate of M- X 1000
Rate of M – Y 1500
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The last year factory cost amounted tp Rs. 2,50,00,000 as against 37,50,000 office expenses

20 % profit on selling price

Statement of estimated Cost of job No. 550

Particulars	Amount
Material Cost Direct Labour cost	5,00,000 1,00,000
Prime Cost	**6,00,000**
Factory Overheads (60 % of Direct wages) Rs. 1,00,000	60,000
Machine Expenses : X 20 hours @ Rs. 1,000 = 20,000 Y 6 hours @ Rs. 1,500 = 9000	29,000
Factory Overheads (WORK COST)	**6,89,000**
Office Expenses : 15 % of Factory overheads (15/100 x 6890000)	1,03,350
Cost of production **Profit (20 on sales price 20/70 x 7,92,350)** **Selling price**	**7,92,350** **1,98,087.50** **9,90,437.50**

Working Notes

Calculation of percentage of FACTORY OVERHEADS to DIRECT WAGES

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In accordance with company policy the following are chargeable to jobs:
Fixed production overheads – Rs. 5 per direct labour hour
Fixed administration overheads – 80 % of work cost
Profit mark up – 20 % margin on Selling price.

Required :
i. Calculate the total cost and 4321.
ii. Assume that shortly after the job is completed the original customer goes bankrupt and the job is not delivered. The only other possible customer is prepared to pay Rs. 9,000. briefly indicate, with reasons, weather you would accept the offer of Rs. 9,000.

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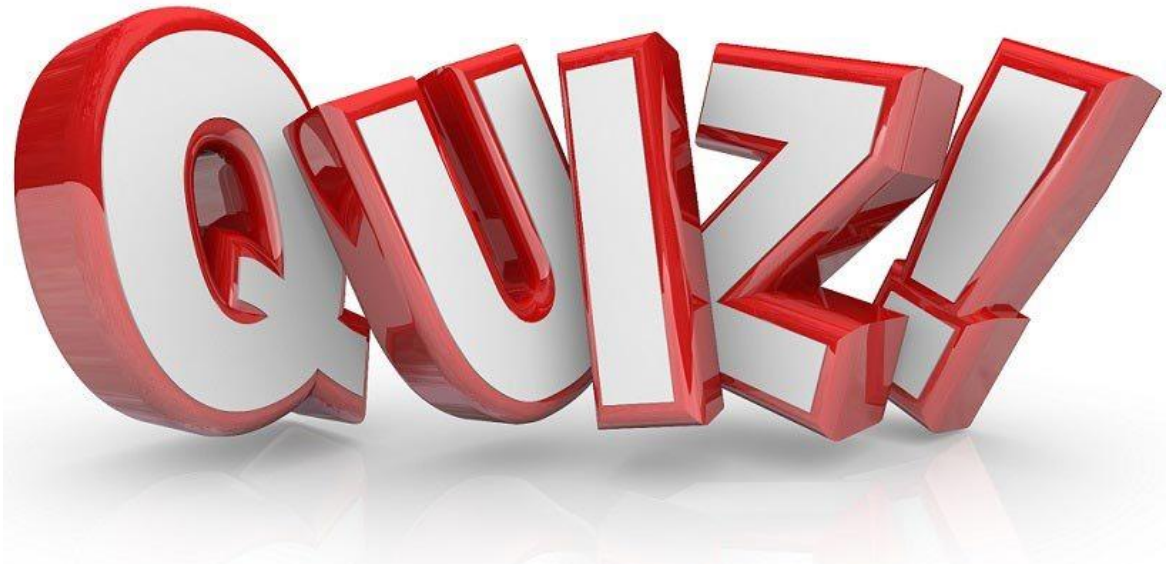

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SUBJECT: COST ACCOUNTYING
(16BCO17)

Overheads UNIT – IV

Job Cost

A shop floor supervisor of a small factory pre¬sented the following cost for Job No. 303, to determine the selling price.

	Per unit (₹)
Materials	70
Direct wages 18 hours @ ₹ 2.50 (Deptt. X 8 hours; Deptt. Y 6 hours; Deptt. Z 4 hours)	45
Chargeable expenses	5
	120
Add : 33-1/3 % for expenses cost	40
	160

Analysis of the Profit/Loss Account

(for the year 20X2)

		(₹)		(₹)
Materials used		1,50,000	Sales less returns	2,50,000
Direct wages :				
Deptt. X	10,000			
Deptt. Y	12,000			
Deptt. Z	8,000	30,000		

Special stores items		*4,000*		
Overheads :				
Deptt. X	*5,000*			
Deptt. Y	*9,000*			
Deptt. Z	*2,000*	*16,000*		
Works cost		*2,00,000*		
Gross profit c/d		*50,000*		
		2,50,000		*2,50,000*
Selling expenses		*20,000*	*Gross profit b/d*	*50,000*
Net profit		*30,000*		
		50,000		*50,000*

It is also noted that average hourly rates for the three Departments X, Y and Z are similar.

You are required to :

(i) Draw up a job cost sheet.

(ii) Calculate the entire revised cost using 20X2 actual figures as basis.

(iii) Add 20% to total cost to determine selling price.

Job Cost Sheet

Customer Details ———— Job No._____

Date of commencement —— Date of completion _____

Particulars	Amount (₹)
Direct materials	70
Direct wages:	
Deptt. X ₹ 2.50 × 8 hrs. = ₹ 20.00	
Deptt. Y ₹ 2.50 × 6 hrs. = ₹ 15.00	
Deptt. Z ₹ 2.50 × 4 hrs. = ₹ 10.00	45
Chargeable expenses	5
Prime cost	120
Overheads :	

Deptt. X $= \frac{₹5,000}{₹10,000} \times 100 = 50\%$ of ₹ 20 = ₹ 10.00

Deptt. Y $= \frac{₹9,000}{₹12,000} \times 100 = 75\%$ of ₹ 15 = ₹ 11.25

Deptt. Z	$= \frac{₹\,2,000}{₹\,8,000} \times 100 = 25\%$ of ₹ 10 = ₹2.50	23.75
Works cost		143.75
Selling expenses	$= \frac{₹\,20,000}{₹\,2,00,000} \times 100 = 10\%$ of work cost	14.38
Total cost		158.13
Profit (20% of total cost)		31.63
Selling price		189.76

Some of the advantages and disadvantages of Job costing are summarised as below:

Advantages	Disadvantages
1. The details of Cost of material, labour and overhead for all job is available to control.	1. Job Costing is costly and laborious method.
2. Profitability of each job can be derived.	2. As lot of clerical process is involved the chances of error is more.
3. It facilitates production planning.	3. This method is not suitable in inflationary condition.
4. Budgetary control and Standard Costing can be applied in job costing.	4. Previous records of costs will be meaningless if there is any change in market condition.
5. Spoilage and detective can be identified and responsibilities can be fixed accordingly.	

➢ Kindly type the link to attend the Questionnaires (MCQ).

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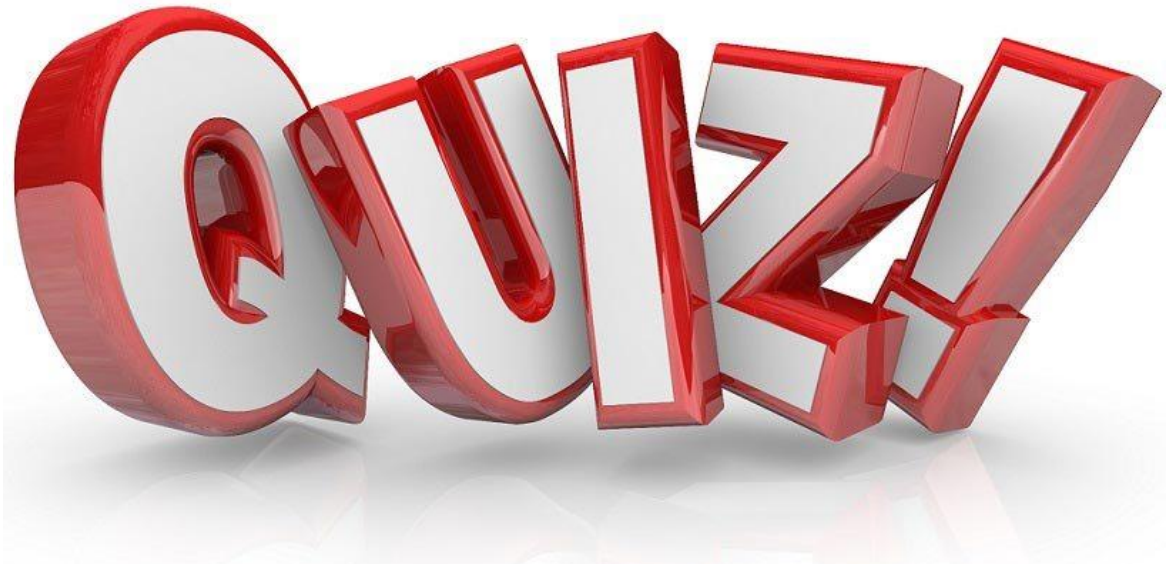

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SUBJECT: COST ACCOUNTYING
(16BCO17)

Overheads UNIT – IV

Job Cost

4. The following information is available for job 4,321, which is being produced at the request of a customer:

Material Consumed Rs.
Department A : 4,000
Department B : 1,000
Department C : 1,500

Direct Labour : Wages rate per hour :
Department A : 3
Department B : 4
Department C : 5

Direct Labour hours
Department A : 300
Department B : 200
Department C : 400

In accordance with company policy the following are chargeable to jobs:
Fixed production overheads – Rs. 5 per direct labour hour
Fixed administration overheads – 80 % of work cost
Profit mark up – 20 % margin on Selling price.

Required :

i. Calculate the total cost and 4321.

ii. Assume that shortly after the job is completed the original customer goes bankrupt and the job is not delivered. The only other possible customer is prepared to pay Rs. 9,000. briefly indicate, with reasons, weather you would accept the offer of Rs. 9,000.

Particulars	Dept A	Dept B	Dept C	Total
Direct Material	4000	1000	1500	6500
Direct Labour Dept A :3 x 300 Dept B : 4 x 200 Dept C: 5 x 400	900	800	2000	3700
Production over heads 300+200+400 = 900 hrs x 5 per hour				4500
			Work cost	**14700**
Administration over heads 80 % of work cost				11760
			Cost of production	**26460**
Profit 20 on selling 26460 x 20/80			**Selling price**	6615 **33075**

Work in Progress

The following information for the year ended December 31,2001 is obtained from the books and records of a factory :

Particulars	Completed jobs Rs.	Work in progress Rs.
Raw Material supplied from stores	1,00,000	34,000
Wages	1,00,000	40,000
Material transferred to work in progress	2,000	2,000
Material returned to stores	1,000	-----

Factory overheads are 80 % of wages and administration overheads 25 % of factory cost.
The value of the executed jobs during 2001 was Rs. 4,10,000.
Prepare i. Consolidated completed jobs Account showing the profit made or loss incurred on the jobs, and also ii. Consolidated work in progress Account.

Consolidated Completed Jobs Account

Particulars		Rs	Particulars	Rs
To materials	1,00,000		BY customer A/C	4,10,000
Supplies from stores				
Less : Transfer to WIP	2000			
	98,000			
Less : Returned to stores	1000			
		97,000		
To wages		1,00,000		
To Factory Overheads 80 % of work cost		80,000		
		2.77,000		
To Administration O/H 25 % of factory cost		69,250		
To profit transfer to P/L a/c		**63,750**		
		4,10,000		**4,10,000**

Consolidated WIP Jobs Account

Particulars		Rs	Particulars	Rs
To materials	34,000		BY Balance C/ D	1,35,000
Supplies from stores				
ADD : Transfer to WIP	2000			
		36,000		
To wages		40,000		
To Factory Overheads 80 % of Wages		32,000		
		1,08,000		
To Administration O/H 25 % of factory cost		27,000		
		1,35,000		**1,35,000**

➢ Kindly type the link to attend the Questionnaires (MCQ).

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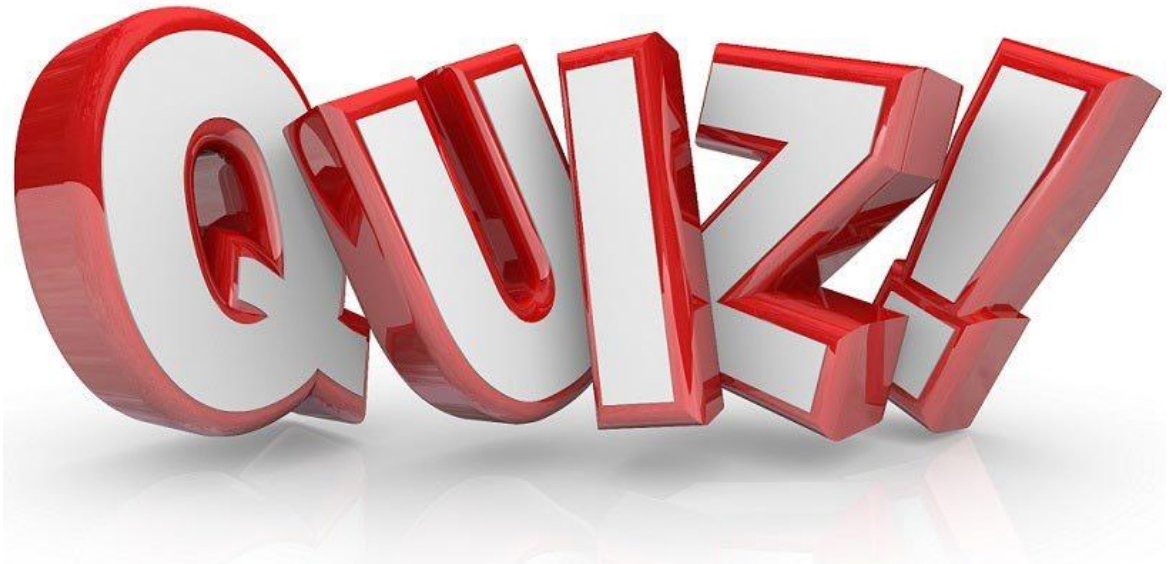

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SUBJECT: COST ACCOUNTYING
(16BCO17)

Overheads UNIT – IV

Job Cost and Batch Costing

5. During June 2001, a company was engaged on three jobs, all of which were started on 1st june. The following relating to the jobs are available:

Particulars	Total	Job No. 120	Job No 121	Job NO. 122
Purchase of Material	5,600	2,000	2,200	1,400
Stores Issued	940	240	----	700
Direct Wages	2,200	900	700	600
Material returned to stores	----	----	----	40

Material Valued at Rs. 80 were transferred from Job No. 120 to Job No. 122. Overheads for the month amounted to Rs. 2,800 and overheads are absorbed at 120% of direct wages. Job No. 121 was completed during the month and invoiced to the customer at Rs. 4,200.
Prepare a (Job Cost Accounts b. Work in progress , c. Overheads Control Account and d. Costing Profit and loss account for June 2001.

BATCH COSTING

Batch Costing is a type of specific order costing where articles are manufactured in predetermined lots, known as batch.

Under this costing method the cost object for cost determination is a batch for production rather output as seen in unit costing method.

A batch consists of certain number of units which are processed simultaneously to be for manufacturing operation.

Under this method of manufacturing the inputs are accumulated in the assembly line till it reaches minimum batch size. Soon after a batch size is reached, all inputs in a batch is processed for further operation. Reasons for batch manufacturing may either technical or economical or both.

For example, in pen manufacturing industry, it would be too costly to manufacture one pen of a particular design at a time to meet the demand of one customer. On the other hand, the production of say 10,000 pens of the same design will reduce the cost to a sizeable extent. To initiate production process, an entity has to incur expenditures on engaging workers for production and supervision, setting-up of machine to run for production etc. These are the minimum level of expenditure which has to be incurred each time a batch is run irrespective of number of units produced.

1. Arnav Confectioners (AC) owns a bakery which is used to make bakery items like pastries, cakes and muffins. AC use to bake at least 50 units of any item at a time. A customer has given an order for 600 muffins. To process a batch of 50 muffins, the following cost would be incurred: Direct materials- ` 500 Direct wages- ` 50 Oven set- up cost `150 AC absorbs production overheads at a rate of 20% of direct wages cost. 10% is added to the total production cost of each batch to allow for selling, distribution and administration overheads. AC requires a profit margin of 25% of sales value. Determine the selling price for 600 muffins.

Statement of cost per batch and per order No. of batch = 600 units ÷ 50 units = **12 batches**

Particulars	Cost per batch (₹)	Total Cost (₹)
Direct Material Cost	500.00	6,000
Direct Wages	50.00	600
Oven set-up cost	150.00	1,800
Add: Production Overheads (20% of Direct wages)	10.00	120
Total Production cost	710.00	8,520
Add: S&D and Administration overheads (10% of Total production cost)	71.00	852
Total Cost	781.00	9,372
Add: Profit (1/3rd of total cost)	260.33	3,124
Selling price	1,041.33	12,496

➢ Kindly type the link to attend the Questionnaires (MCQ).

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SUBJECT: COST ACCOUNTYING
(16BCO17)

Overheads UNIT – IV

Job Cost and Batch Costing

5. During June 2001, a company was engaged on three jobs, all of which were started on 1st june. The following relating to the jobs are available:

Particulars	Total	Job No. 120	Job No 121	Job NO. 122
Purchase of Material	5,600	2,000	2,200	1,400
Stores Issued	940	240	----	700
Direct Wages	2,200	900	700	600
Material returned to stores	----	----	----	40

Material Valued at Rs. 80 were transferred from Job No. 120 to Job No. 122. Overheads for the month amounted to Rs. 2,800 and overheads are absorbed at 120% of direct wages. Job No. 121 was completed during the month and invoiced to the customer at Rs. 4,200.
Prepare a . Job Cost Accounts b. Work in progress , c. Overheads Control Account and d. Costing Profit and loss account for June 2001.

Job No. 120 Account

particulars	Rs.	particulars	Rs.
To Material To stores issued To Direct wages To Overheads (120 % of Rs. 900)	2,000 240 900 1,080	By material valued transfer to job 122 By balance C/D	80 4140
	4,220		**4,220**

Job No. 121 Account

particulars	Rs.	particulars	Rs.
To Material To Direct wages To Overheads (120 % of Rs. 700)	2,200 700 840	By Costing P/L a/c	3,740
	3,740		**3,740**

Job No. 122 Account

particulars	Rs.	particulars	Rs.
To Material To Transfer from job 120 To Direct wages To stores issue To Overheads (120 % of Rs. 600)	1,400 80 600 700 720	By material Returned By balance C/D	40 3,460
	3,500		**3,500**

BATCH COSTING

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1. Arnav Confectioners (AC) owns a bakery which is used to make bakery items like pastries, cakes and muffins. AC use to bake at least 50 units of any item at a time. A customer has given an order for 600 muffins. To process a batch of 50 muffins, the following cost would be incurred: Direct materials- ` 500 Direct wages- ` 50 Oven set- up cost `150 AC absorbs production overheads at a rate of 20% of direct wages cost. 10% is added to the total production cost of each batch to allow for selling, distribution and administration overheads. AC requires a profit margin of 25% of sales value. Determine the selling price for 600 muffins.

Statement of cost per batch and per order No. of batch = 600 units ÷ 50 units = **12 batches**

Particulars	Cost per batch (₹)	Total Cost (₹)
Direct Material Cost	500.00	6,000
Direct Wages	50.00	600
Oven set-up cost	150.00	1,800
Add: Production Overheads (20% of Direct wages)	10.00	120
Total Production cost	710.00	8,520
Add: S&D and Administration overheads (10% of Total production cost)	71.00	852
Total Cost	781.00	9,372
Add: Profit (1/3rd of total cost)	260.33	3,124
Selling price	1,041.33	12,496

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Overheads UNIT – IV

Job Cost and Batch Costing

5. During June 2001, a company was engaged on three jobs, all of which were started on 1st june. The following relating to the jobs are available:

Particulars	Total	Job No. 120	Job No 121	Job NO. 122
Purchase of Material	5,600	2,000	2,200	1,400
Stores Issued	940	240	----	700
Direct Wages	2,200	900	700	600
Material returned to stores	----	----	----	40

Material Valued at Rs. 80 were transferred from Job No. 120 to Job No. 122. Overheads for the month amounted to Rs. 2,800 and overheads are absorbed at 120% of direct wages. Job No. 121 was completed during the month and invoiced to the customer at Rs. 4,200.
Prepare a . Job Cost Accounts b. Work in progress , c. Overheads Control Account and d. Costing Profit and loss account for June 2001.

Job No. 120 Account

particulars	Rs.	particulars	Rs.
To Material To stores issued To Direct wages To Overheads (120 % of Rs. 900)	2,000 240 900 1,080	By material valued transfer to job 122 By balance C/D	80 4140
	4,220		**4,220**

Job No. 121 Account

particulars	Rs.	particulars	Rs.
To Material To Direct wages To Overheads (120 % of Rs. 700)	2,200 700 840	By Costing P/L a/c	3,740
	3,740		**3,740**

Job No. 122 Account

particulars	Rs.	particulars	Rs.
To Material	1,400	By material Returned	40
To Transfer from job 120	80	By balance C/D	3,460
To Direct wages	600		
To stores issue	700		
To Overheads (120 % of Rs. 600)	720		
	3,500		**3,500**

Work in Progress control Account

particulars	Rs.	particulars	Rs.
To Material	5,600	By material Returned	40
To Stores Issue	940	By Job No. 121 A/C	3,740
To Direct wages	2,200	By balance C/D	7,600
To Overheads (120 % of Rs. 2,200)	2640		
	11,380		**11,380**

Overheads Control Account

particulars	Rs.	particulars	Rs.
To Overheads incurred	2800	By Overheads absorbed By balance c/d	2,640 160
	2,800		**2,800**

Costing Profit and Loss A/c

particulars	Rs.	particulars	Rs.
To Job No. 121 A/C To profit	3,740 460	By Sales	4,200
	4,200		**4,200**

BATCH COSTING

Batch Costing is a type of specific order costing where articles are manufactured in predetermined lots, known as batch.

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Under this method of manufacturing the inputs are accumulated in the assembly line till it reaches minimum batch size. Soon after a batch size is reached, all inputs in a batch is processed for further operation. Reasons for batch manufacturing may either technical or economical or both.

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1. Arnav Confectioners (AC) owns a bakery which is used to make bakery items like pastries, cakes and muffins. AC use to bake at least 50 units of any item at a time. A customer has given an order for 600 muffins. To process a batch of 50 muffins, the following cost would be incurred:

Direct materials- `Rs. 500
Direct wages- `Rs. 50
Oven set- up cost Rs. 150
AC absorbs production overheads at a rate of 20% of direct wages cost. 10% is added to the total production cost of each batch to allow for selling, distribution and administration overheads. AC requires a profit margin of 25% of sales value. Determine the selling price for 600 muffins.

Statement of cost per batch and per order
No. of batch
= 600 units ÷ 50 units = **12 batches**

Particulars	Cost per batch (₹)	Total Cost (₹)
Direct Material Cost	500.00	6,000
Direct Wages	50.00	600
Oven set-up cost	150.00	1,800
Add: Production Overheads (20% of Direct wages)	10.00	120
Total Production cost	710.00	8,520
Add: S&D and Administration overheads (10% of Total production cost)	71.00	852
Total Cost	781.00	9,372
Add: Profit (1/3rd of total cost)	260.33	3,124
Selling price	1,041.33	12,496

2. Batch no. A – 100 incurred following costs

Direct material Rs. 10,000
Department A 800 labour hours @ 5 per hour
Department B 1400 labour hours 6 per hour Factory overheads are absorbed on labour hours basis and the rates are Rs. 7 per hour for Department A and Rs. 4 per hour for department B. the firm uses a cost plus system for selling prices and expects a 25 % gross profit (sales value minus factory cost). Administration overheads are absorbed at 10% of selling price. Assuming that 1000 unit were produced in batch A- 100, calculate the selling price per unit.

➢ Kindly type the link to attend the Questionnaires (MCQ).

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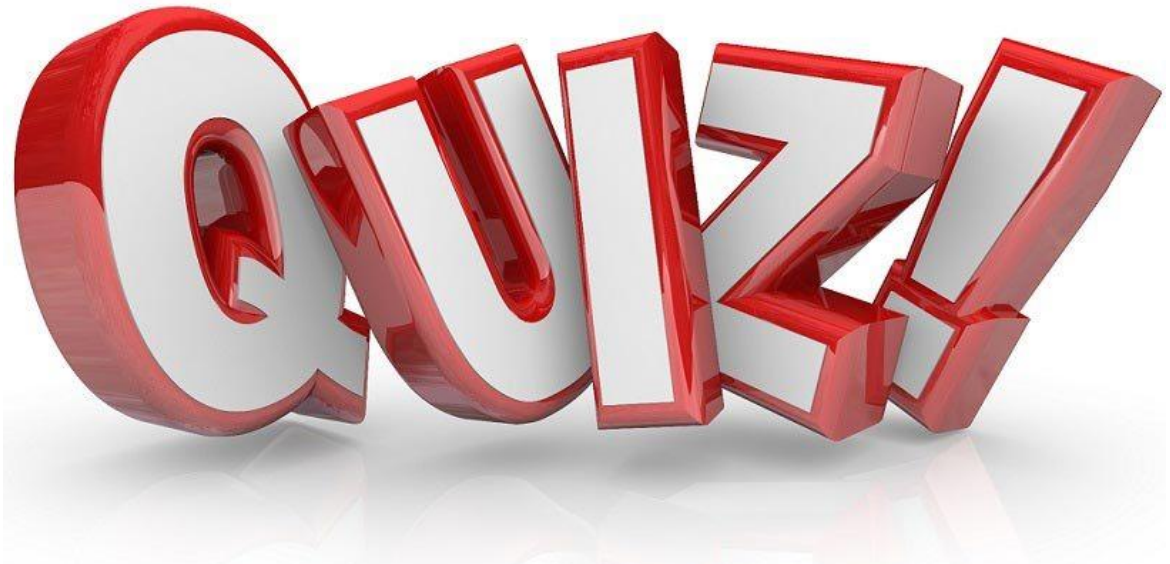

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SUBJECT: COST ACCOUNTYING
(16BCO17)

Overheads UNIT – IV

Job Cost and Batch Costing

5. During June 2001, a company was engaged on three jobs, all of which were started on 1st june. The following relating to the jobs are available:

Particulars	Total	Job No. 120	Job No 121	Job NO. 122
Purchase of Material	5,600	2,000	2,200	1,400
Stores Issued	940	240	----	700
Direct Wages	2,200	900	700	600
Material returned to stores	----	----	----	40

Material Valued at Rs. 80 were transferred from Job No. 120 to Job No. 122. Overheads for the month amounted to Rs. 2,800 and overheads are absorbed at 120% of direct wages. Job No. 121 was completed during the month and invoiced to the customer at Rs. 4,200.
Prepare a . Job Cost Accounts b. Work in progress , c. Overheads Control Account and d. Costing Profit and loss account for June 2001.

Job No. 120 Account

particulars	Rs.	particulars	Rs.
To Material To stores issued To Direct wages To Overheads (120 % of Rs. 900)	2,000 240 900 1,080	By material valued transfer to job 122 By balance C/D	80 4140
	4,220		**4,220**

Job No. 121 Account

particulars	Rs.	particulars	Rs.
To Material To Direct wages To Overheads (120 % of Rs. 700)	2,200 700 840	By Costing P/L a/c	3,740
	3,740		**3,740**

Job No. 122 Account

particulars	Rs.	particulars	Rs.
To Material	1,400	By material Returned	40
To Transfer from job 120	80	By balance C/D	3,460
To Direct wages	600		
To stores issue	700		
To Overheads (120 % of Rs. 600)	720		
	3,500		**3,500**

Work in Progress control Account

particulars	Rs.	particulars	Rs.
To Material	5,600	By material Returned	40
To Stores Issue	940	By Job No. 121 A/C	3,740
To Direct wages	2,200	By balance C/D	7,600
To Overheads (120 % of Rs. 2,200)	2640		
	11,380		**11,380**

Overheads Control Account

particulars	Rs.	particulars	Rs.
To Overheads incurred	2800	By Overheads absorbed By balance c/d	2,640 160
	2,800		**2,800**

Costing Profit and Loss A/c

particulars	Rs.	particulars	Rs.
To Job No. 121 A/C To profit	3,740 460	By Sales	4,200
	4,200		**4,200**

BATCH COSTING

Batch Costing is a type of specific order costing where articles are manufactured in predetermined lots, known as batch.

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1. Arnav Confectioners (AC) owns a bakery which is used to make bakery items like pastries, cakes and muffins. AC use to bake at least 50 units of any item at a time. A customer has given an order for 600 muffins. To process a batch of 50 muffins, the following cost would be incurred:

Direct materials- `Rs. 500

Direct wages- `Rs. 50

Oven set- up cost Rs. 150

AC absorbs production overheads at a rate of 20% of direct wages cost. 10% is added to the total production cost of each batch to allow for selling, distribution and administration overheads. AC requires a profit margin of 25% of sales value. Determine the selling price for 600 muffins.

Statement of cost per batch and per order

No. of batch

= 600 units ÷ 50 units = **12 batches**

Particulars	Cost per batch (₹)	Total Cost (₹)
Direct Material Cost	500.00	6,000
Direct Wages	50.00	600
Oven set-up cost	150.00	1,800
Add: Production Overheads (20% of Direct wages)	10.00	120
Total Production cost	710.00	8,520
Add: S&D and Administration overheads (10% of Total production cost)	71.00	852
Total Cost	781.00	9,372
Add: Profit (1/3rd of total cost)	260.33	3,124
Selling price	1,041.33	12,496

2. Batch no. A – 100 incurred following costs

Direct material Rs. 10,000
Department A 800 labour hours @ 5 per hour
Department B 1400 labour hours 6 per hour Factory overheads are absorbed on labour hours basis and the rates are Rs. 7 per hour for Department A and Rs. 4 per hour for department B. the firm uses a cost plus system for selling prices and expects a 25 % gross profit (sales value minus factory cost). Administration overheads are absorbed at 10% of selling price. Assuming that 1000 unit were produced in batch A- 100, calculate the selling price per unit.

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https://forms.gle/dD58pwFXmTAcGfCr8

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SUBJECT: COST ACCOUNTYING
(16BCO17)

Overheads UNIT – IV

Job Cost and Batch Costing

5. During June 2001, a company was engaged on three jobs, all of which were started on 1st june. The following relating to the jobs are available:

Particulars	Total	Job No. 120	Job No 121	Job NO. 122
Purchase of Material	5,600	2,000	2,200	1,400
Stores Issued	940	240	----	700
Direct Wages	2,200	900	700	600
Material returned to stores	----	----	----	40

Material Valued at Rs. 80 were transferred from Job No. 120 to Job No. 122. Overheads for the month amounted to Rs. 2,800 and overheads are absorbed at 120% of direct wages. Job No. 121 was completed during the month and invoiced to the customer at Rs. 4,200.
Prepare a . Job Cost Accounts b. Work in progress , c. Overheads Control Account and d. Costing Profit and loss account for June 2001.

Job No. 120 Account

particulars	Rs.	particulars	Rs.
To Material To stores issued To Direct wages To Overheads (120 % of Rs. 900)	2,000 240 900 1,080	By material valued transfer to job 122 By balance C/D	80 4140
	4,220		**4,220**

Job No. 121 Account

particulars	Rs.	particulars	Rs.
To Material To Direct wages To Overheads (120 % of Rs. 700)	2,200 700 840	By Costing P/L a/c	3,740
	3,740		**3,740**

Job No. 122 Account

particulars	Rs.	particulars	Rs.
To Material	1,400	By material Returned	40
To Transfer from job 120	80	By balance C/D	3,460
To Direct wages	600		
To stores issue	700		
To Overheads (120 % of Rs. 600)	720		
	3,500		**3,500**

Work in Progress control Account

particulars	Rs.	particulars	Rs.
To Material	5,600	By material Returned	40
To Stores Issue	940	By Job No. 121 A/C	3,740
To Direct wages	2,200	By balance C/D	7,600
To Overheads (120 % of Rs. 2,200)	2640		
	11,380		**11,380**

Overheads Control Account

particulars	Rs.	particulars	Rs.
To Overheads incurred	2800	By Overheads absorbed By balance c/d	2,640 160
	2,800		**2,800**

Costing Profit and Loss A/c

particulars	Rs.	particulars	Rs.
To Job No. 121 A/C To profit	3,740 460	By Sales	4,200
	4,200		**4,200**

BATCH COSTING

Batch Costing is a type of specific order costing where articles are manufactured in predetermined lots, known as batch.

Under this costing method the cost object for cost determination is a batch for production rather output as seen in unit costing method.

A batch consists of certain number of units which are processed simultaneously to be for manufacturing operation.

Under this method of manufacturing the inputs are accumulated in the assembly line till it reaches minimum batch size. Soon after a batch size is reached, all inputs in a batch is processed for further operation. Reasons for batch manufacturing may either technical or economical or both.

For example, in pen manufacturing industry, it would be too costly to manufacture one pen of a particular design at a time to meet the demand of one customer. On the other hand, the production of say 10,000 pens of the same design will reduce the cost to a sizeable extent. To initiate production process, an entity has to incur expenditures on engaging workers for production and supervision, setting-up of machine to run for production etc. These are the minimum level of expenditure which has to be incurred each time a batch is run irrespective of number of units produced.

1. Arnav Confectioners (AC) owns a bakery which is used to make bakery items like pastries, cakes and muffins. AC use to bake at least 50 units of any item at a time. A customer has given an order for 600 muffins. To process a batch of 50 muffins, the following cost would be incurred:

Direct materials- `Rs. 500

Direct wages- `Rs. 50

Oven set- up cost Rs. 150

AC absorbs production overheads at a rate of 20% of direct wages cost. 10% is added to the total production cost of each batch to allow for selling, distribution and administration overheads. AC requires a profit margin of 25% of sales value. Determine the selling price for 600 muffins.

Statement of cost per batch and per order

No. of batch

= 600 units ÷ 50 units = **12 batches**

Particulars	Cost per batch (₹)	Total Cost (₹)
Direct Material Cost	500.00	6,000
Direct Wages	50.00	600
Oven set-up cost	150.00	1,800
Add: Production Overheads (20% of Direct wages)	10.00	120
Total Production cost	710.00	8,520
Add: S&D and Administration overheads (10% of Total production cost)	71.00	852
Total Cost	781.00	9,372
Add: Profit (1/3rd of total cost)	260.33	3,124
Selling price	1,041.33	12,496

2. Batch no. A – 100 incurred following costs

Direct material Rs. 10,000, Department A 800 labour hours @ 5 per hour, Department B 1400 labour hours 6 per hour Factory overheads are absorbed on labour hours basis and the rates are Rs. 7 per hour for Department A and Rs. 4 per hour for department B. the firm uses a cost plus system for selling prices and expects a 25 % gross profit (sales value minus factory cost). Administration overheads are absorbed at 10% of selling price. Assuming that 1000 unit were produced in batch A- 100, calculate the selling price per unit.

Particulars	Rs.	Rs.
Materials		10,000
Labour:		
Department A : 800 x 5	4,000	
Department B : 1,400 x 6	8,400	12,400
Factory Overheads:		
Department A : 800 x 7	5,600	
Department B : 1,400 x 4	5,600	11,200
Factory Cost		**33,600**
Administration Overheads (10 % of Selling price)		**4,480**
Cost of Production		**38,080**
Profit (15 % of selling price)		6,720
Selling price		**44,800**

Working Notes :

Calculation of selling price

Selling price

(33,600 x 100 / 75)=44,800

Less factory cost =33,600

=11,200

Less

administration o/h =4,480

Profit =**6,720**

3. A company Manufactures small assemblies to order and has the following budgeted overheads form the year,

Based on normal activity levels.

Department	Budgeted overheads	Overheads absorption base
Blanking	7,500	1,500 labour hours
Machining	22,500	2,500 labour hours
Welding	9,000	1,800 labour hours
Assembling	5,000	1,000 labour hours

Selling and administrative overheads are 20% of factory cost

An order for 250 assemblies type x 128 made as 5931 incurred the following cost:

Material Rs. 5,702,

Labour 128 hours Blanking shop at Rs. 4.50 / Hour

452 hours Machining shop at Rs. 5.0 / Hour

90 hours Welding shop at Rs. 4.50 / Hour

175 hours Assembly shop at Rs. 3.6 / Hour

Rs. 525 was paid for the hire of special X-ray equipment for testing the welds. The time booking In the machine shop was 643 machine hours.

Calculate the total cost of the batch, unit cost and profit per assembly, if selling price Rs. 100 assembly

Working Notes : the first step is to calculate overheads absorption rates for the production department.

Blanking = 7500/1500 = 5 per labour hour
Machining = 22500 / 2500 = 9 per machine hour
Welding = 9000/1800 = 5 per labour hour
Assembling = 5000/1000 = 5 per labour hour

Total Cost – batch No, 5931

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Particulars			Rs.
Direct Material			5,702
Direct Labour	128 x Rs. 4.50	= 576	
	452 x Rs. 5.00	= 2,260	
	90 x Rs 4.50	= 405	
	175 x Rs. 3.60	= 630	3,871
Hire of Special X-Ray Machine			525
Prime Cost			**10,098**
Factory Overhead			
Blanking	= 128 x 5 = 640		
Machining	=643 x 9 = 5,787		
Welding	= 90 x 5 = 450		
Assembling	= 175 x 5 = 875		7,752
Factory Cost			**17,850**
Selling and Administration Overheads (20% of factory cost)			3,570
Total Cost			**21,420**
Total Cost Per unit = 21,420 / 250 = 85.68			
Profit per unit =		= **14.32**	
Selling price		= 100.00	

CONTRACT COSTING

Contract costing is a form of specific order costing where job undertaken is relatively large and normally takes period longer than a year to complete.

Contract costing is usually adopted by the contractors engaged in any type of contracts like construction of building, road, bridge, erection of tower, setting up of plant etc

Features :

1. The major part of the work in connection with each con-tract is ordinarily carried out at the site of the contract.
2. The bulk of the expenses incurred by the contractor are considered as direct.
3. The indirect expenses mostly consist of office expenses, stores and works.
4. A separate account is usually maintained for each contract.
5. The number of contracts undertaken by a contractor at a time is usually few.
6. The cost unit in contract costing is the contract itself.

Distinguish Features of Contact Accounts

i. Higher proportion of direct costs
ii. Low indirect cost
iii. Difficulties of cost control
iv. Surplus materials.

Comparison between Job and Contract costing

i. Size
ii. Place of work
iii. Time for completion
iv. Payment of price
v. Investment
vi. Nature of Expenses
vii. Transfer of profit

Types of Contract

i. Fixed price contracts

ii. Cost plus Contract price

RECORDING OF CONTRACT COSTS

1. Material Cost
2. Labour or wages
3. Site expenses
4. Plant and machinery
5. Sub-contracts
6. Extra Work

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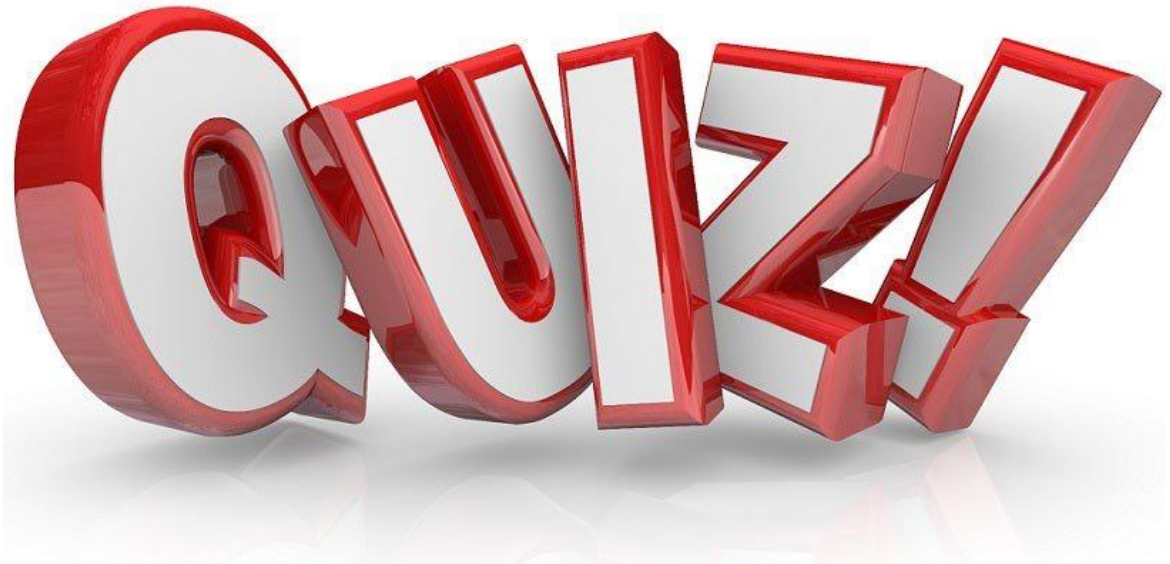

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SUBJECT: COST ACCOUNTYING
(16BCO17)

Overheads UNIT – IV

Batch Costing and Contract Costing

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Particulars	Rs.	Rs.
Materials		10,000
Labour:		
Department A : 800 x 5	4,000	
Department B : 1,400 x 6	8,400	12,400
Factory Overheads:		
Department A : 800 x 7	5,600	
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CONTRACT COSTING

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iv. Surplus materials.

Comparison between Job and Contract costing

i. Size

ii. Place of work

iii. Time for completion

iv. Payment of price

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RECORDING OF CONTRACT COSTS

1. Material Cost
2. Labour or wages
3. Site expenses
4. Plant and machinery
5. Sub-contracts
6. Extra Work

➢ Kindly type the link to attend the Questionnaires (MCQ).

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SUBJECT: COST ACCOUNTYING
(16BCO17)

Overheads UNIT – IV

Contract Costing

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RECORDING OF CONTRACT COSTS

1. Material Cost
2. Labour or wages
3. Site expenses
4. Plant and machinery
5. Sub-contracts
6. Extra Work

The following was the expenditure on a contract for Rs. 6,00,000 commenced in January , 2001
Material Rs. 1,20,000
Wages 1,64,400
Plant 20,000
Business Charges 8,600
Cash Received on account to 31st December,2001 amounted to Rs. 2,40,000 being 80 percent of Work certified : the value of materials in hand on 31-12-2001 was Rs. 10,000. Prepare the contract Account for 2001 showing the profit to be credited to the years profit and loss account. Plant is to be 10%. De

Contract Accounting

Particulars	Rs.	Particulars	Rs
TO Material TO Wages To Plant To Business Charges To Notional Profit		BY Plant in hand Less: % Depreciation BY Material in Hand By Work in Progress By Work Certified (240000 x 100/80)	
To Profit and Loss Account (15000 x 2/3 x 80/100) To Work in Progress A/C (Reserve)		By Notional Profit b/d	

The following expenses were incurred on a contract :
Materials purchased 6,00,000
Material drawn from stores 1,00,000
Wages 2,25,000
Plant issued 75,000
Chargeable expenses 75,000
Apportioned indirect expenses 25,000
The contract was for ` 20,00,000 and it commenced on January 1, 2011.
The value of the work completed and certified upto 30th November, 2011 was ` 13,00,000 of which ` 10,40,000 was received in cash, the balance being held back as retention money by the contractee.
The value of work completed subsequent to the architect's certificate but before 31st December, 2011 was ` 60,000. There were also lying on the site materials of the value of ` 40,000. It was estimated that the value of plant as at 31st December, 2011 was ` 30,000. You are required to compute value of work certified, cost of work not certified and notional profit on the contract till the year ended 31st December, 2011.

Contract Accounting

Particulars	Rs.	Particulars	Rs
TO Material	6,00,000	By Work Certified	13,00,000
TO Stores Issued	1,00,000	By Cost of work uncertified	60.000
To wages	1,00,000	By Material unused	40.000
To Plant	75,000	By Plant less depreciation	30,000
To Chargeable expenses	75,000		
To indirect Expenses	25,000		
To Notional Profit	3,30,000		

An alternative method of presentation can be to deduct the balance of profit to be carried down (` 1,54,000 in the above case) from the work certified before it is entered in the contract account. It will be ` 11,46,000 in the illustration given above. Of course, the reserve to be so deducted from the work certified will have to be first ascertained by considering the value of the work certified.

➢ Kindly type the link to attend the Questionnaires (MCQ).

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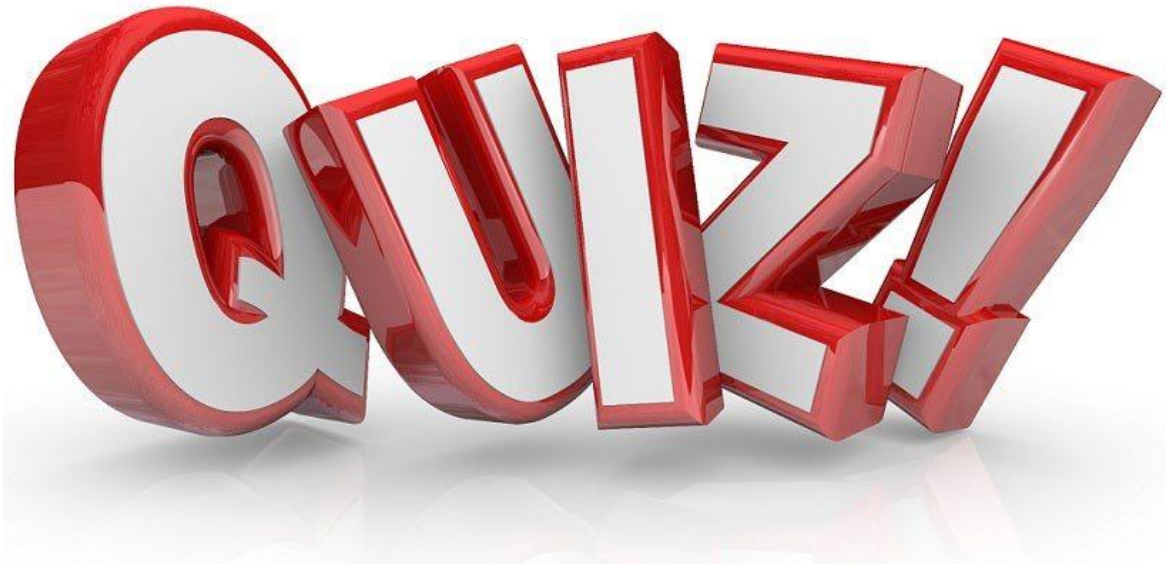

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SUBJECT: COST ACCOUNTYING
(16BCO17)

Overheads UNIT – IV

Job Cost

Meaning of Job Costing

CIMA London defines Job Costing as "the category of basic costing methods which is applicable where the work consists of separate contracts, jobs or batches, each of which is authorized by specific order or contract."

According to this method costs are collected and accumulated according to jobs, contracts, products or work orders. Each job or unit of production is treated as a separate entity for the purpose of costing. Job costing is carried out for the purpose of ascertaining cost of each job and takes into account the cost of materials, employees and overhead etc.

The job costing method is also applicable to industries in which production is carried out in batches. Batch production basically is of the same character as the job order production, the difference being mainly one in the size of different orders.

Process of Job costing

- Prepare a separate cost sheet for each job
- Disclose cost of materials issued for the job
- Employee costs incurred(on the basis of bill of material and time cards respectively)
- When job is completed, overhead charges are added for ascertaining total expenditure

Suitability of Job Costing

- When jobs are executed for different customers according to their specifications.
- When no two orders are alike and each order/job needs special treatment.
- Where the work-in-progress differs from period to period on the basis of the number of jobs in hand.

Features of Job Costing:

(a) It is a Specific Order Costing.

(b) The job is carried out or a product is produced to meet the specific requirements of the order. It may be related to single unit or a batch of similar units.

(c) It is concerned with the cost of an individual job or batch regardless of the time taken to produce it, but normally short duration jobs.

(d) Costs are collected to each job at the end of its completion.

(e) The costs of each job is ascertained by adding materials, labour and overheads.

(f) Only prime cost elements are traceable and the overheads are apportioned to each job on some appropriate basis and sometimes it is difficult to select a suitable method of absorption of overheads to individual jobs.

(g) Standardization of controls is comparatively difficult as each job differs and more detailed supervision and control is necessary.

(h) Work-in-progress may or may not exist at the end of the accounting period.

Procedures of Job Costing:

The Job Order Costing involves the following procedures:

(1) Each job is given a job number or work order number that identifies it and distinguishes it from every other job.

(2) Each job has a Job Cost Card prepared for it that bears the job number and which is used to collect all cost data relating to the job. Job Cost Cards must be carefully designed so that they effectively and logically collect all the cost data pertaining to the job. A proforma of Job Cost Card is shown in figure 11.1. This card is used for small jobs and for larger jobs, summary details will be entered in Job Cost Cards and supporting schedules relating to material labour and overheads will be enclosed.

Advantages of Job Costing:

The advantages of Job Costing are as follows:

(a) The profit or loss made on each job can be measured if cost is set against the price tendered for the job.

(b) It generates the cost data useful for the analysis and control by the management.

(c) It highlights whether or not a job is likely to be profitable or not.

(d) It readily fits into the double entry system, and lends itself to performance evaluation and review of costs.

(e) Job costing enables a comparison to be made with performance on other jobs so that inefficiencies are identified and rectified.

(f) Some jobs are negotiated on a 'cost plus' basis, if there is difficulty in estimating a price for a certain job and the customer agrees to pay the cost of the job plus an agreed percentage as a profit margin. In cost plus jobs it is essential to maintain reliable costing records.

(g) The cost incurred to date on the job are known before the job is completed, and any mistakes or excessive costs show up at an early stage.

The major disadvantage of Job costing is that it is too expensive, time consuming in maintenance of cost records for each job undertaken.

➢ Kindly type the link to attend the Questionnaires (MCQ).

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SUBJECT: COST ACCOUNTYING
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Overheads UNIT – IV

Job Cost

1. The information given below has been taken from the cost records of a factory in respect of job No. 707:

Wages details:

Department – A : 60 hours @ Rs. 3 per hour

– B : 40 hours @ Rs. 2 per hour

– C : 20 hours @ Rs. 5 per hour

The Variable overheads are as follows :

Department – A : Rs. 5,000 for 5,000 hours

– B : Rs. 3,000 for 1,500 hours

– C : Rs. 2,000 for 500 hours

Fixed Expenses estimated at Rs. 20,000 for 10,000 working hours. Calculated the cost of the job No. 707 and the price for the Job top give a profit of 25% on the selling price.

Particulars			Rs.	Rs.
Direct Materials				4,010
Wages :		Department A 60 x 3	180	
		Department B 40 x 2	80	
		Department C 20 x 5	100	360
		Prime Cost		4,370
Overheads				
Variable	i.	Department A 60 x 1	60	
		Department B 40 x 2	80	
		Department C 20 x 4	80	220
Fixed	ii.	120 hours @ Rs. 2 hour		240
				4,830
Profit (331/3 % on Cost or 25 % on selling Price) = 4830 x 25/75				1,610
Selling Price				**6,440**

Working Notes :

Variables Rate :

Fixed Rates :

2. The following information is available for job 4,321, which is being produced at the request of a customer:

Material Consumed Rs.
Department A : 4,000
Department B : 1,000
Department C : 1,500

Direct Labour : Wages rate per hour :
Department A : 3
Department B : 4
Department C : 5

Direct Labour hours
Department A : 300
Department B : 200
Department C : 400

In accordance with company policy the following are chargeable to jobs:
Fixed production overheads – Rs. 5 per direct labour hour
Fixed administration overheads – 80 % of work cost
Profit mark up – 20 % margin on Selling price.

Required :
i. Calculate the total cost and 4321.
ii. Assume that shortly after the job is completed the original customer goes bankrupt and the job is not delivered. The only other possible customer is prepared to pay Rs. 9,000. briefly indicate, with reasons, weather you would accept the offer of Rs. 9,000.

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SUBJECT: COST ACCOUNTYING
(16BCO17)

Overheads UNIT – IV

Job Cost

A shop floor supervisor of a small factory pre¬sented the following cost for Job No. 303, to determine the selling price.

	Per unit (₹)
Materials	70
Direct wages 18 hours @ ₹ 2.50 (Deptt. X 8 hours; Deptt. Y 6 hours; Deptt. Z 4 hours)	45
Chargeable expenses	5
	120
Add : 33-1/3 % for expenses cost	40
	160

Analysis of the Profit/Loss Account

(for the year 20X2)

		(₹)		(₹)
Materials used		1,50,000	Sales less returns	2,50,000
Direct wages :				
Deptt. X	10,000			
Deptt. Y	12,000			
Deptt. Z	8,000	30,000		

Special stores items		*4,000*		
Overheads :				
Deptt. X	*5,000*			
Deptt. Y	*9,000*			
Deptt. Z	*2,000*	*16,000*		
Works cost		*2,00,000*		
Gross profit c/d		*50,000*		
		2,50,000		*2,50,000*
Selling expenses		*20,000*	*Gross profit b/d*	*50,000*
Net profit		*30,000*		
		50,000		*50,000*

It is also noted that average hourly rates for the three Departments X, Y and Z are similar.

You are required to :

(i) Draw up a job cost sheet.

(ii) Calculate the entire revised cost using 20X2 actual figures as basis.

(iii) Add 20% to total cost to determine selling price.

Job Cost Sheet

Customer Details ———— Job No._____

Date of commencement —— Date of completion _____

Particulars	Amount (₹)
Direct materials	70
Direct wages:	
Deptt. X ₹ 2.50 × 8 hrs. = ₹ 20.00	
Deptt. Y ₹ 2.50 × 6 hrs. = ₹ 15.00	
Deptt. Z ₹ 2.50 × 4 hrs. = ₹ 10.00	45
Chargeable expenses	5
Prime cost	120
Overheads :	

Deptt. X $= \frac{₹5,000}{₹10,000} \times 100 = 50\%$ of ₹ 20 = ₹ 10.00

Deptt. Y $= \frac{₹9,000}{₹12,000} \times 100 = 75\%$ of ₹ 15 = ₹ 11.25

Deptt. Z	$= \frac{₹\,2,000}{₹\,8,000} \times 100 = 25\%$ of ₹ 10 = ₹2.50	23.75
Works cost		143.75
Selling expenses	$= \frac{₹\,20,000}{₹\,2,00,000} \times 100 = 10\%$ of work cost	14.38
Total cost		158.13
Profit (20% of total cost)		31.63
Selling price		189.76

Some of the advantages and disadvantages of Job costing are summarised as below:

Advantages	Disadvantages
1. The details of Cost of material, labour and overhead for all job is available to control.	1. Job Costing is costly and laborious method.
2. Profitability of each job can be derived.	2. As lot of clerical process is involved the chances of error is more.
3. It facilitates production planning.	3. This method is not suitable in inflationary condition.
4. Budgetary control and Standard Costing can be applied in job costing.	4. Previous records of costs will be meaningless if there is any change in market condition.
5. Spoilage and detective can be identified and responsibilities can be fixed accordingly.	

➢ Kindly type the link to attend the Questionnaires (MCQ).

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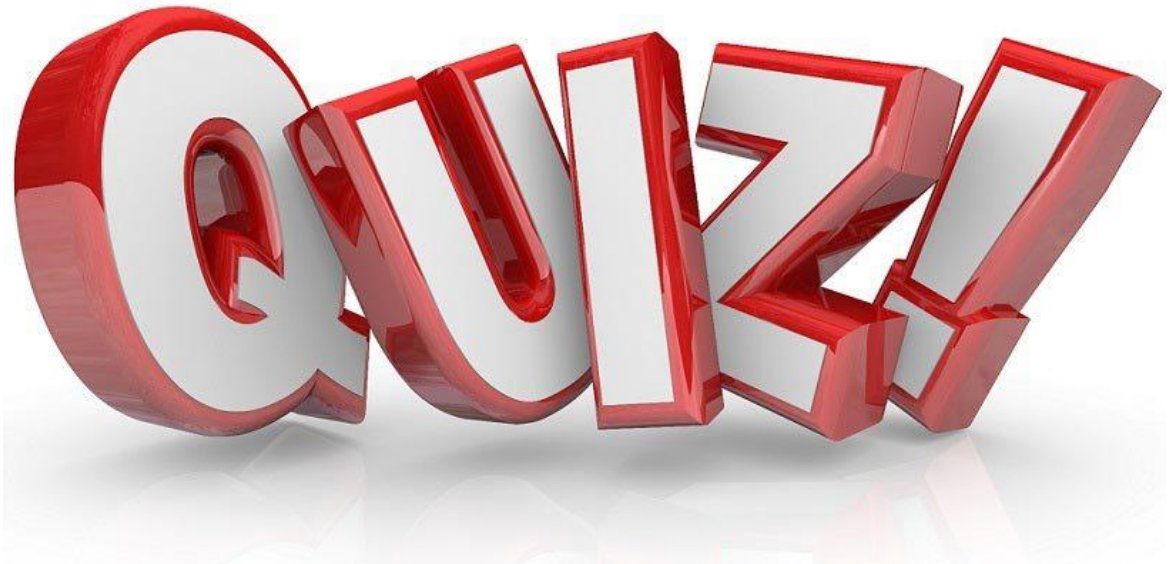

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SUBJECT: COST ACCOUNTYING
(16BCO17)

Overheads UNIT – IV

Job Cost

4. The following information is available for job 4,321, which is being produced at the request of a customer:

Material Consumed Rs.
Department A : 4,000
Department B : 1,000
Department C : 1,500

Direct Labour : Wages rate per hour :
Department A : 3
Department B : 4
Department C : 5

Direct Labour hours
Department A : 300
Department B : 200
Department C : 400

In accordance with company policy the following are chargeable to jobs:
Fixed production overheads – Rs. 5 per direct labour hour
Fixed administration overheads – 80 % of work cost
Profit mark up – 20 % margin on Selling price.

Required :

i. Calculate the total cost and 4321.

ii. Assume that shortly after the job is completed the original customer goes bankrupt and the job is not delivered. The only other possible customer is prepared to pay Rs. 9,000. briefly indicate, with reasons, weather you would accept the offer of Rs. 9,000.

Particulars	Dept A	Dept B	Dept C	Total
Direct Material	4000	1000	1500	6500
Direct Labour Dept A :3 x 300 Dept B : 4 x 200 Dept C: 5 x 400	900	800	2000	3700
Production over heads 300+200+400 = 900 hrs x 5 per hour				4500
			Work cost	**14700**
Administration over heads 80 % of work cost				11760
			Cost of production	**26460**
Profit 20 on selling 26460 x 20/80			**Selling price**	6615 **33075**

Work in Progress

The following information for the year ended December 31,2001 is obtained from the books and records of a factory :

Particulars	Completed jobs Rs.	Work in progress Rs.
Raw Material supplied from stores	1,00,000	34,000
Wages	1,00,000	40,000
Material transferred to work in progress	2,000	2,000
Material returned to stores	1,000	-----

Factory overheads are 80 % of wages and administration overheads 25 % of factory cost.
The value of the executed jobs during 2001 was Rs. 4,10,000.
Prepare i. Consolidated completed jobs Account showing the profit made or loss incurred on the jobs, and also ii. Consolidated work in progress Account.

Consolidated Completed Jobs Account

Particulars		Rs	Particulars	Rs
To materials	1,00,000		BY customer A/C	4,10,000
Supplies from stores				
Less : Transfer to WIP	2000			
	98,000			
Less : Returned to stores	1000			
		97,000		
To wages		1,00,000		
To Factory Overheads 80 % of work cost		80,000		
		2.77,000		
To Administration O/H 25 % of factory cost		69,250		
To profit transfer to P/L a/c		**63,750**		
		4,10,000		**4,10,000**

Consolidated WIP Jobs Account

Particulars		Rs	Particulars	Rs
To materials	34,000		BY Balance C/ D	1,35,000
Supplies from stores				
ADD : Transfer to WIP	2000			
		36,000		
To wages		40,000		
To Factory Overheads 80 % of Wages		32,000		
		1,08,000		
To Administration O/H 25 % of factory cost		27,000		
		1,35,000		**1,35,000**

➢ Kindly type the link to attend the Questionnaires (MCQ).

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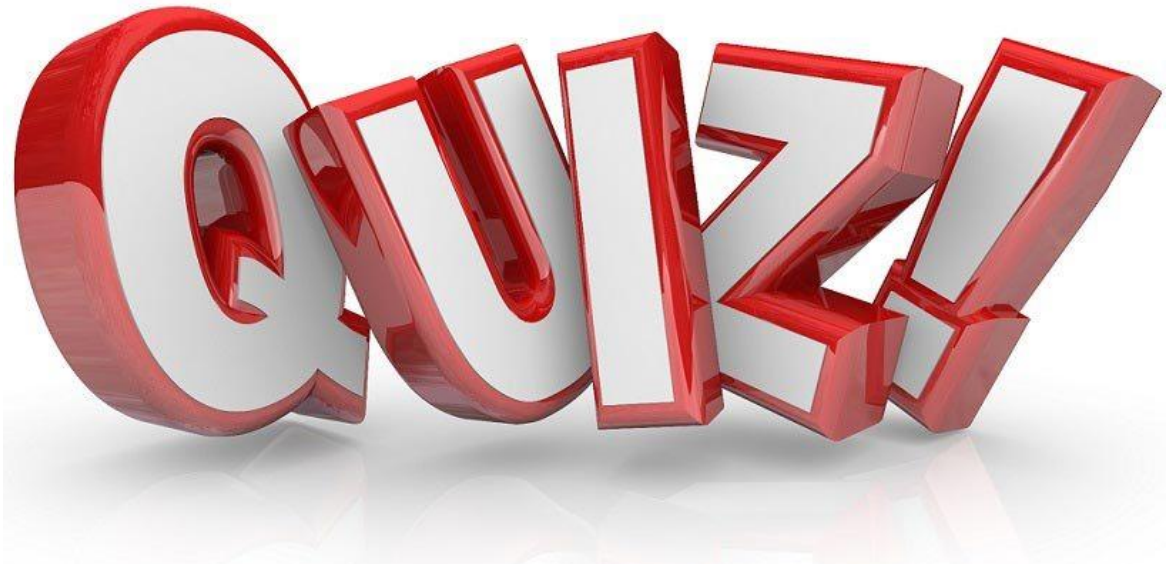

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SUBJECT: COST ACCOUNTYING
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Overheads UNIT – IV

Job Cost and Batch Costing

5. During June 2001, a company was engaged on three jobs, all of which were started on 1st june. The following relating to the jobs are available:

Particulars	Total	Job No. 120	Job No 121	Job NO. 122
Purchase of Material	5,600	2,000	2,200	1,400
Stores Issued	940	240	----	700
Direct Wages	2,200	900	700	600
Material returned to stores	----	----	----	40

Material Valued at Rs. 80 were transferred from Job No. 120 to Job No. 122. Overheads for the month amounted to Rs. 2,800 and overheads are absorbed at 120% of direct wages. Job No. 121 was completed during the month and invoiced to the customer at Rs. 4,200.
Prepare a (Job Cost Accounts b. Work in progress , c. Overheads Control Account and d. Costing Profit and loss account for June 2001.

BATCH COSTING

Batch Costing is a type of specific order costing where articles are manufactured in predetermined lots, known as batch.

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A batch consists of certain number of units which are processed simultaneously to be for manufacturing operation.

Under this method of manufacturing the inputs are accumulated in the assembly line till it reaches minimum batch size. Soon after a batch size is reached, all inputs in a batch is processed for further operation. Reasons for batch manufacturing may either technical or economical or both.

For example, in pen manufacturing industry, it would be too costly to manufacture one pen of a particular design at a time to meet the demand of one customer. On the other hand, the production of say 10,000 pens of the same design will reduce the cost to a sizeable extent. To initiate production process, an entity has to incur expenditures on engaging workers for production and supervision, setting-up of machine to run for production etc. These are the minimum level of expenditure which has to be incurred each time a batch is run irrespective of number of units produced.

1. Arnav Confectioners (AC) owns a bakery which is used to make bakery items like pastries, cakes and muffins. AC use to bake at least 50 units of any item at a time. A customer has given an order for 600 muffins. To process a batch of 50 muffins, the following cost would be incurred: Direct materials- ` 500 Direct wages- ` 50 Oven set- up cost `150 AC absorbs production overheads at a rate of 20% of direct wages cost. 10% is added to the total production cost of each batch to allow for selling, distribution and administration overheads. AC requires a profit margin of 25% of sales value. Determine the selling price for 600 muffins.

Statement of cost per batch and per order No. of batch = 600 units ÷ 50 units = **12 batches**

Particulars	Cost per batch (₹)	Total Cost (₹)
Direct Material Cost	500.00	6,000
Direct Wages	50.00	600
Oven set-up cost	150.00	1,800
Add: Production Overheads (20% of Direct wages)	10.00	120
Total Production cost	710.00	8,520
Add: S&D and Administration overheads (10% of Total production cost)	71.00	852
Total Cost	781.00	9,372
Add: Profit (1/3rd of total cost)	260.33	3,124
Selling price	1,041.33	12,496

➢ Kindly type the link to attend the Questionnaires (MCQ).

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SUBJECT: COST ACCOUNTYING
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Overheads UNIT – IV

Job Cost and Batch Costing

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Particulars	Total	Job No. 120	Job No 121	Job NO. 122
Purchase of Material	5,600	2,000	2,200	1,400
Stores Issued	940	240	----	700
Direct Wages	2,200	900	700	600
Material returned to stores	----	----	----	40

Material Valued at Rs. 80 were transferred from Job No. 120 to Job No. 122. Overheads for the month amounted to Rs. 2,800 and overheads are absorbed at 120% of direct wages. Job No. 121 was completed during the month and invoiced to the customer at Rs. 4,200.
Prepare a . Job Cost Accounts b. Work in progress , c. Overheads Control Account and d. Costing Profit and loss account for June 2001.

Job No. 120 Account

particulars	Rs.	particulars	Rs.
To Material To stores issued To Direct wages To Overheads (120 % of Rs. 900)	2,000 240 900 1,080	By material valued transfer to job 122 By balance C/D	80 4140
	4,220		**4,220**

Job No. 121 Account

particulars	Rs.	particulars	Rs.
To Material To Direct wages To Overheads (120 % of Rs. 700)	2,200 700 840	By Costing P/L a/c	3,740
	3,740		**3,740**

Job No. 122 Account

particulars	Rs.	particulars	Rs.
To Material To Transfer from job 120 To Direct wages To stores issue To Overheads (120 % of Rs. 600)	1,400 80 600 700 720	By material Returned By balance C/D	40 3,460
	3,500		**3,500**

BATCH COSTING

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1. Arnav Confectioners (AC) owns a bakery which is used to make bakery items like pastries, cakes and muffins. AC use to bake at least 50 units of any item at a time. A customer has given an order for 600 muffins. To process a batch of 50 muffins, the following cost would be incurred: Direct materials- ` 500 Direct wages- ` 50 Oven set- up cost `150 AC absorbs production overheads at a rate of 20% of direct wages cost. 10% is added to the total production cost of each batch to allow for selling, distribution and administration overheads. AC requires a profit margin of 25% of sales value. Determine the selling price for 600 muffins.

Statement of cost per batch and per order No. of batch = 600 units ÷ 50 units = **12 batches**

Particulars	Cost per batch (₹)	Total Cost (₹)
Direct Material Cost	500.00	6,000
Direct Wages	50.00	600
Oven set-up cost	150.00	1,800
Add: Production Overheads (20% of Direct wages)	10.00	120
Total Production cost	710.00	8,520
Add: S&D and Administration overheads (10% of Total production cost)	71.00	852
Total Cost	781.00	9,372
Add: Profit (1/3rd of total cost)	260.33	3,124
Selling price	1,041.33	12,496

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Overheads UNIT – IV

Job Cost and Batch Costing

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Particulars	Total	Job No. 120	Job No 121	Job NO. 122
Purchase of Material	5,600	2,000	2,200	1,400
Stores Issued	940	240	----	700
Direct Wages	2,200	900	700	600
Material returned to stores	----	----	----	40

Material Valued at Rs. 80 were transferred from Job No. 120 to Job No. 122. Overheads for the month amounted to Rs. 2,800 and overheads are absorbed at 120% of direct wages. Job No. 121 was completed during the month and invoiced to the customer at Rs. 4,200.
Prepare a . Job Cost Accounts b. Work in progress , c. Overheads Control Account and d. Costing Profit and loss account for June 2001.

Job No. 120 Account

particulars	Rs.	particulars	Rs.
To Material To stores issued To Direct wages To Overheads (120 % of Rs. 900)	2,000 240 900 1,080	By material valued transfer to job 122 By balance C/D	80 4140
	4,220		**4,220**

Job No. 121 Account

particulars	Rs.	particulars	Rs.
To Material To Direct wages To Overheads (120 % of Rs. 700)	2,200 700 840	By Costing P/L a/c	3,740
	3,740		**3,740**

Job No. 122 Account

particulars	Rs.	particulars	Rs.
To Material	1,400	By material Returned	40
To Transfer from job 120	80	By balance C/D	3,460
To Direct wages	600		
To stores issue	700		
To Overheads (120 % of Rs. 600)	720		
	3,500		**3,500**

Work in Progress control Account

particulars	Rs.	particulars	Rs.
To Material	5,600	By material Returned	40
To Stores Issue	940	By Job No. 121 A/C	3,740
To Direct wages	2,200	By balance C/D	7,600
To Overheads (120 % of Rs. 2,200)	2640		
	11,380		**11,380**

Overheads Control Account

particulars	Rs.	particulars	Rs.
To Overheads incurred	2800	By Overheads absorbed By balance c/d	2,640 160
	2,800		**2,800**

Costing Profit and Loss A/c

particulars	Rs.	particulars	Rs.
To Job No. 121 A/C To profit	3,740 460	By Sales	4,200
	4,200		**4,200**

BATCH COSTING

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1. Arnav Confectioners (AC) owns a bakery which is used to make bakery items like pastries, cakes and muffins. AC use to bake at least 50 units of any item at a time. A customer has given an order for 600 muffins. To process a batch of 50 muffins, the following cost would be incurred:

Direct materials- `Rs. 500
Direct wages- `Rs. 50
Oven set- up cost Rs. 150
AC absorbs production overheads at a rate of 20% of direct wages cost. 10% is added to the total production cost of each batch to allow for selling, distribution and administration overheads. AC requires a profit margin of 25% of sales value. Determine the selling price for 600 muffins.

Statement of cost per batch and per order
No. of batch
= 600 units ÷ 50 units = **12 batches**

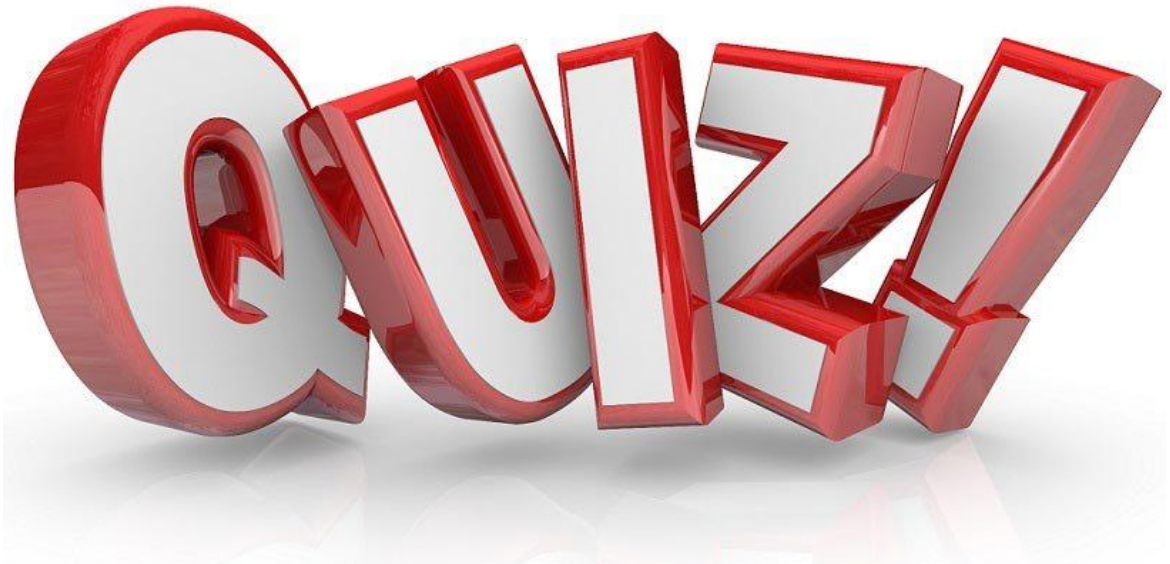
Particulars	Cost per batch (₹)	Total Cost (₹)
Direct Material Cost	500.00	6,000
Direct Wages	50.00	600
Oven set-up cost	150.00	1,800
Add: Production Overheads (20% of Direct wages)	10.00	120
Total Production cost	710.00	8,520
Add: S&D and Administration overheads (10% of Total production cost)	71.00	852
Total Cost	781.00	9,372
Add: Profit (1/3rd of total cost)	260.33	3,124
Selling price	1,041.33	12,496

2. Batch no. A – 100 incurred following costs

Direct material Rs. 10,000
Department A 800 labour hours @ 5 per hour
Department B 1400 labour hours 6 per hour Factory overheads are absorbed on labour hours basis and the rates are Rs. 7 per hour for Department A and Rs. 4 per hour for department B. the firm uses a cost plus system for selling prices and expects a 25 % gross profit (sales value minus factory cost). Administration overheads are absorbed at 10% of selling price. Assuming that 1000 unit were produced in batch A- 100, calculate the selling price per unit.

➢ Kindly type the link to attend the Questionnaires (MCQ).

https://forms.gle/dD58pwFXmTAcGfCr8



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Overheads UNIT – IV

Job Cost and Batch Costing

5. During June 2001, a company was engaged on three jobs, all of which were started on 1st june. The following relating to the jobs are available:

Particulars	Total	Job No. 120	Job No 121	Job NO. 122
Purchase of Material	5,600	2,000	2,200	1,400
Stores Issued	940	240	----	700
Direct Wages	2,200	900	700	600
Material returned to stores	----	----	----	40

Material Valued at Rs. 80 were transferred from Job No. 120 to Job No. 122. Overheads for the month amounted to Rs. 2,800 and overheads are absorbed at 120% of direct wages. Job No. 121 was completed during the month and invoiced to the customer at Rs. 4,200.
Prepare a . Job Cost Accounts b. Work in progress , c. Overheads Control Account and d. Costing Profit and loss account for June 2001.

Job No. 120 Account

particulars	Rs.	particulars	Rs.
To Material To stores issued To Direct wages To Overheads (120 % of Rs. 900)	2,000 240 900 1,080	By material valued transfer to job 122 By balance C/D	80 4140
	4,220		**4,220**

Job No. 121 Account

particulars	Rs.	particulars	Rs.
To Material To Direct wages To Overheads (120 % of Rs. 700)	2,200 700 840	By Costing P/L a/c	3,740
	3,740		**3,740**

Job No. 122 Account

particulars	Rs.	particulars	Rs.
To Material	1,400	By material Returned	40
To Transfer from job 120	80	By balance C/D	3,460
To Direct wages	600		
To stores issue	700		
To Overheads (120 % of Rs. 600)	720		
	3,500		**3,500**

Work in Progress control Account

particulars	Rs.	particulars	Rs.
To Material	5,600	By material Returned	40
To Stores Issue	940	By Job No. 121 A/C	3,740
To Direct wages	2,200	By balance C/D	7,600
To Overheads (120 % of Rs. 2,200)	2640		
	11,380		**11,380**

Overheads Control Account

particulars	Rs.	particulars	Rs.
To Overheads incurred	2800	By Overheads absorbed By balance c/d	2,640 160
	2,800		**2,800**

Costing Profit and Loss A/c

particulars	Rs.	particulars	Rs.
To Job No. 121 A/C To profit	3,740 460	By Sales	4,200
	4,200		**4,200**

BATCH COSTING

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Direct materials- `Rs. 500

Direct wages- `Rs. 50

Oven set- up cost Rs. 150

AC absorbs production overheads at a rate of 20% of direct wages cost. 10% is added to the total production cost of each batch to allow for selling, distribution and administration overheads. AC requires a profit margin of 25% of sales value. Determine the selling price for 600 muffins.

Statement of cost per batch and per order

No. of batch

= 600 units ÷ 50 units = **12 batches**

Particulars	Cost per batch (₹)	Total Cost (₹)
Direct Material Cost	500.00	6,000
Direct Wages	50.00	600
Oven set-up cost	150.00	1,800
Add: Production Overheads (20% of Direct wages)	10.00	120
Total Production cost	710.00	8,520
Add: S&D and Administration overheads (10% of Total production cost)	71.00	852
Total Cost	781.00	9,372
Add: Profit (1/3rd of total cost)	260.33	3,124
Selling price	1,041.33	12,496

2. Batch no. A – 100 incurred following costs

Direct material Rs. 10,000
Department A 800 labour hours @ 5 per hour
Department B 1400 labour hours 6 per hour Factory overheads are absorbed on labour hours basis and the rates are Rs. 7 per hour for Department A and Rs. 4 per hour for department B. the firm uses a cost plus system for selling prices and expects a 25 % gross profit (sales value minus factory cost). Administration overheads are absorbed at 10% of selling price. Assuming that 1000 unit were produced in batch A- 100, calculate the selling price per unit.

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SUBJECT: COST ACCOUNTYING
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Overheads UNIT – IV

Job Cost and Batch Costing

5. During June 2001, a company was engaged on three jobs, all of which were started on 1st june. The following relating to the jobs are available:

Particulars	Total	Job No. 120	Job No 121	Job NO. 122
Purchase of Material	5,600	2,000	2,200	1,400
Stores Issued	940	240	----	700
Direct Wages	2,200	900	700	600
Material returned to stores	----	----	----	40

Material Valued at Rs. 80 were transferred from Job No. 120 to Job No. 122. Overheads for the month amounted to Rs. 2,800 and overheads are absorbed at 120% of direct wages. Job No. 121 was completed during the month and invoiced to the customer at Rs. 4,200.
Prepare a . Job Cost Accounts b. Work in progress , c. Overheads Control Account and d. Costing Profit and loss account for June 2001.

Job No. 120 Account

particulars	Rs.	particulars	Rs.
To Material To stores issued To Direct wages To Overheads (120 % of Rs. 900)	2,000 240 900 1,080	By material valued transfer to job 122 By balance C/D	80 4140
	4,220		**4,220**

Job No. 121 Account

particulars	Rs.	particulars	Rs.
To Material To Direct wages To Overheads (120 % of Rs. 700)	2,200 700 840	By Costing P/L a/c	3,740
	3,740		**3,740**

Job No. 122 Account

particulars	Rs.	particulars	Rs.
To Material	1,400	By material Returned	40
To Transfer from job 120	80	By balance C/D	3,460
To Direct wages	600		
To stores issue	700		
To Overheads (120 % of Rs. 600)	720		
	3,500		**3,500**

Work in Progress control Account

particulars	Rs.	particulars	Rs.
To Material	5,600	By material Returned	40
To Stores Issue	940	By Job No. 121 A/C	3,740
To Direct wages	2,200	By balance C/D	7,600
To Overheads (120 % of Rs. 2,200)	2640		
	11,380		**11,380**

Overheads Control Account

particulars	Rs.	particulars	Rs.
To Overheads incurred	2800	By Overheads absorbed By balance c/d	2,640 160
	2,800		**2,800**

Costing Profit and Loss A/c

particulars	Rs.	particulars	Rs.
To Job No. 121 A/C To profit	3,740 460	By Sales	4,200
	4,200		**4,200**

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For example, in pen manufacturing industry, it would be too costly to manufacture one pen of a particular design at a time to meet the demand of one customer. On the other hand, the production of say 10,000 pens of the same design will reduce the cost to a sizeable extent. To initiate production process, an entity has to incur expenditures on engaging workers for production and supervision, setting-up of machine to run for production etc. These are the minimum level of expenditure which has to be incurred each time a batch is run irrespective of number of units produced.

1. Arnav Confectioners (AC) owns a bakery which is used to make bakery items like pastries, cakes and muffins. AC use to bake at least 50 units of any item at a time. A customer has given an order for 600 muffins. To process a batch of 50 muffins, the following cost would be incurred:

Direct materials- `Rs. 500

Direct wages- `Rs. 50

Oven set- up cost Rs. 150

AC absorbs production overheads at a rate of 20% of direct wages cost. 10% is added to the total production cost of each batch to allow for selling, distribution and administration overheads. AC requires a profit margin of 25% of sales value. Determine the selling price for 600 muffins.

Statement of cost per batch and per order

No. of batch

= 600 units ÷ 50 units = **12 batches**

Particulars	Cost per batch (₹)	Total Cost (₹)
Direct Material Cost	500.00	6,000
Direct Wages	50.00	600
Oven set-up cost	150.00	1,800
Add: Production Overheads (20% of Direct wages)	10.00	120
Total Production cost	710.00	8,520
Add: S&D and Administration overheads (10% of Total production cost)	71.00	852
Total Cost	781.00	9,372
Add: Profit (1/3rd of total cost)	260.33	3,124
Selling price	1,041.33	12,496

2. Batch no. A – 100 incurred following costs

Direct material Rs. 10,000, Department A 800 labour hours @ 5 per hour, Department B 1400 labour hours 6 per hour Factory overheads are absorbed on labour hours basis and the rates are Rs. 7 per hour for Department A and Rs. 4 per hour for department B. the firm uses a cost plus system for selling prices and expects a 25 % gross profit (sales value minus factory cost). Administration overheads are absorbed at 10% of selling price. Assuming that 1000 unit were produced in batch A- 100, calculate the selling price per unit.

Particulars	Rs.	Rs.
Materials		10,000
Labour:		
Department A : 800 x 5	4,000	
Department B : 1,400 x 6	8,400	12,400
Factory Overheads:		
Department A : 800 x 7	5,600	
Department B : 1,400 x 4	5,600	11,200
Factory Cost		**33,600**
Administration Overheads (10 % of Selling price)		**4,480**
Cost of Production		**38,080**
Profit (15 % of selling price)		6,720
Selling price		**44,800**

Working Notes :

Calculation of selling price

Selling price

(33,600 x 100 / 75)=44,800

Less factory cost =33,600

=11,200

Less

administration o/h =4,480

Profit =**6,720**

3. A company Manufactures small assemblies to order and has the following budgeted overheads form the year,

Based on normal activity levels.

Department	Budgeted overheads	Overheads absorption base
Blanking	7,500	1,500 labour hours
Machining	22,500	2,500 labour hours
Welding	9,000	1,800 labour hours
Assembling	5,000	1,000 labour hours

Selling and administrative overheads are 20% of factory cost

An order for 250 assemblies type x 128 made as 5931 incurred the following cost:

Material Rs. 5,702,

Labour 128 hours Blanking shop at Rs. 4.50 / Hour

452 hours Machining shop at Rs. 5.0 / Hour

90 hours Welding shop at Rs. 4.50 / Hour

175 hours Assembly shop at Rs. 3.6 / Hour

Rs. 525 was paid for the hire of special X-ray equipment for testing the welds. The time booking In the machine shop was 643 machine hours.

Calculate the total cost of the batch, unit cost and profit per assembly, if selling price Rs. 100 assembly

Working Notes : the first step is to calculate overheads absorption rates for the production department.

Blanking = 7500/1500 = 5 per labour hour
Machining = 22500 / 2500 = 9 per machine hour
Welding = 9000/1800 = 5 per labour hour
Assembling = 5000/1000 = 5 per labour hour

Total Cost – batch No, 5931

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Particulars			Rs.
Direct Material			5,702
Direct Labour	128 x Rs. 4.50	= 576	
	452 x Rs. 5.00	= 2,260	
	90 x Rs 4.50	= 405	
	175 x Rs. 3.60	= 630	3,871
Hire of Special X-Ray Machine			525
Prime Cost			**10,098**
Factory Overhead			
Blanking	= 128 x 5 = 640		
Machining	=643 x 9 = 5,787		
Welding	= 90 x 5 = 450		
Assembling	= 175 x 5 = 875		7,752
Factory Cost			**17,850**
Selling and Administration Overheads (20% of factory cost)			3,570
Total Cost			**21,420**
Total Cost Per unit = 21,420 / 250 = 85.68			
Profit per unit =		= **14.32**	
Selling price		= 100.00	

CONTRACT COSTING

Contract costing is a form of specific order costing where job undertaken is relatively large and normally takes period longer than a year to complete.

Contract costing is usually adopted by the contractors engaged in any type of contracts like construction of building, road, bridge, erection of tower, setting up of plant etc

Features :

1. The major part of the work in connection with each con-tract is ordinarily carried out at the site of the contract.
2. The bulk of the expenses incurred by the contractor are considered as direct.
3. The indirect expenses mostly consist of office expenses, stores and works.
4. A separate account is usually maintained for each contract.
5. The number of contracts undertaken by a contractor at a time is usually few.
6. The cost unit in contract costing is the contract itself.

Distinguish Features of Contact Accounts

i. Higher proportion of direct costs
ii. Low indirect cost
iii. Difficulties of cost control
iv. Surplus materials.

Comparison between Job and Contract costing

i. Size
ii. Place of work
iii. Time for completion
iv. Payment of price
v. Investment
vi. Nature of Expenses
vii. Transfer of profit

Types of Contract

i. Fixed price contracts

ii. Cost plus Contract price

RECORDING OF CONTRACT COSTS

1. Material Cost
2. Labour or wages
3. Site expenses
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5. Sub-contracts
6. Extra Work

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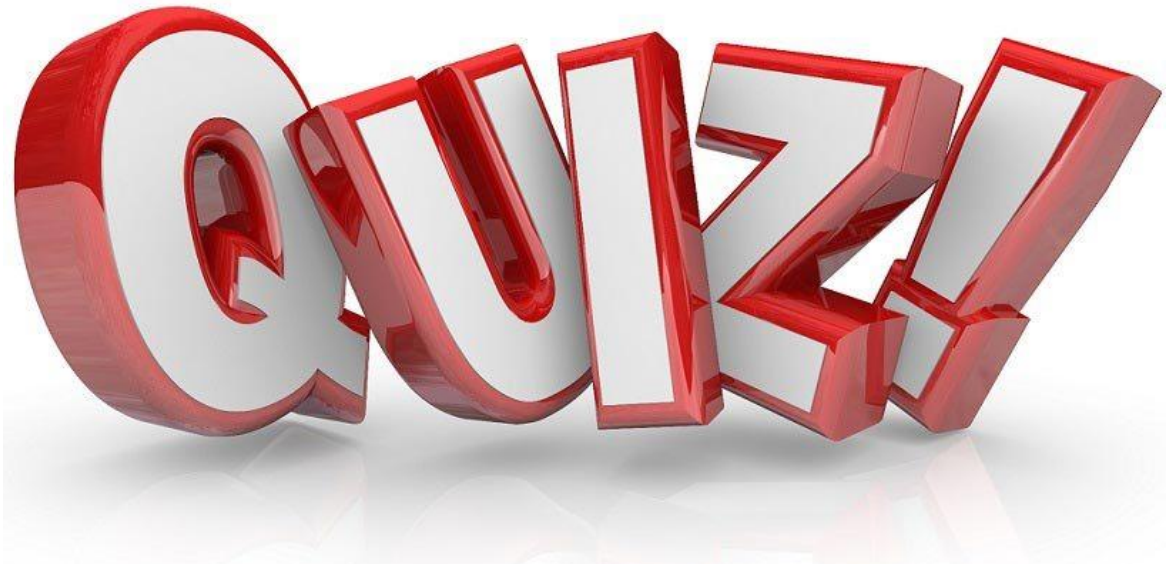

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SUBJECT: COST ACCOUNTYING
(16BCO17)

Overheads UNIT – IV

Batch Costing and Contract Costing

BATCH COSTING

Batch Costing is a type of specific order costing where articles are manufactured in predetermined lots, known as batch.

Under this costing method the cost object for cost determination is a batch for production rather output as seen in unit costing method.

A batch consists of certain number of units which are processed simultaneously to be for manufacturing operation.

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iv. Surplus materials.

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i. Size

ii. Place of work

iii. Time for completion

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2. Labour or wages
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5. Sub-contracts
6. Extra Work

➢ Kindly type the link to attend the Questionnaires (MCQ).

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SUBJECT: COST ACCOUNTYING
(16BCO17)

Overheads UNIT – IV

Contract Costing

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RECORDING OF CONTRACT COSTS

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The following was the expenditure on a contract for Rs. 6,00,000 commenced in January , 2001
Material Rs. 1,20,000
Wages 1,64,400
Plant 20,000
Business Charges 8,600
Cash Received on account to 31st December,2001 amounted to Rs. 2,40,000 being 80 percent of Work certified : the value of materials in hand on 31-12-2001 was Rs. 10,000. Prepare the contract Account for 2001 showing the profit to be credited to the years profit and loss account. Plant is to be 10%. De

Contract Accounting

Particulars	Rs.	Particulars	Rs
TO Material TO Wages To Plant To Business Charges To Notional Profit		BY Plant in hand Less: % Depreciation BY Material in Hand By Work in Progress By Work Certified (240000 x 100/80)	
To Profit and Loss Account (15000 x 2/3 x 80/100) To Work in Progress A/C (Reserve)		By Notional Profit b/d	

The following expenses were incurred on a contract :
Materials purchased 6,00,000
Material drawn from stores 1,00,000
Wages 2,25,000
Plant issued 75,000
Chargeable expenses 75,000
Apportioned indirect expenses 25,000
The contract was for ` 20,00,000 and it commenced on January 1, 2011.
The value of the work completed and certified upto 30th November, 2011 was ` 13,00,000 of which ` 10,40,000 was received in cash, the balance being held back as retention money by the contractee.
The value of work completed subsequent to the architect's certificate but before 31st December, 2011 was ` 60,000. There were also lying on the site materials of the value of ` 40,000. It was estimated that the value of plant as at 31st December, 2011 was ` 30,000. You are required to compute value of work certified, cost of work not certified and notional profit on the contract till the year ended 31st December, 2011.

Contract Accounting

Particulars	Rs.	Particulars	Rs
TO Material	6,00,000	By Work Certified	13,00,000
TO Stores Issued	1,00,000	By Cost of work uncertified	60.000
To wages	1,00,000	By Material unused	40.000
To Plant	75,000	By Plant less depreciation	30,000
To Chargeable expenses	75,000		
To indirect Expenses	25,000		
To Notional Profit	3,30,000		

An alternative method of presentation can be to deduct the balance of profit to be carried down (` 1,54,000 in the above case) from the work certified before it is entered in the contract account. It will be ` 11,46,000 in the illustration given above. Of course, the reserve to be so deducted from the work certified will have to be first ascertained by considering the value of the work certified.

➢ Kindly type the link to attend the Questionnaires (MCQ).

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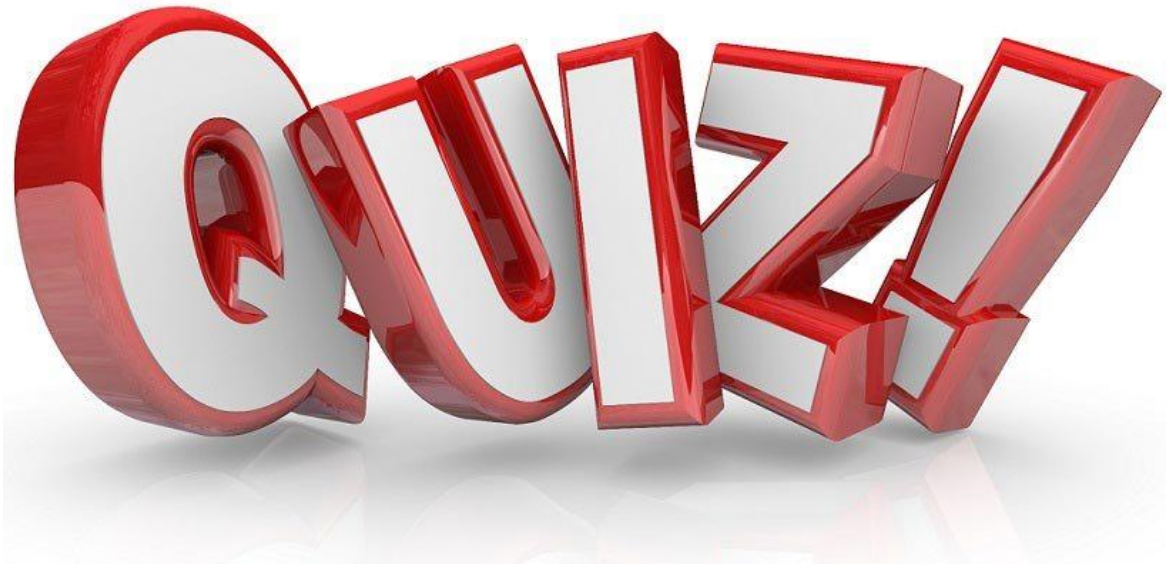

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SUBJECT: COST ACCOUNTYING
(16BCO17)

Overheads UNIT – IV

Job Cost

Meaning of Job Costing

CIMA London defines Job Costing as "the category of basic costing methods which is applicable where the work consists of separate contracts, jobs or batches, each of which is authorized by specific order or contract."

According to this method costs are collected and accumulated according to jobs, contracts, products or work orders. Each job or unit of production is treated as a separate entity for the purpose of costing. Job costing is carried out for the purpose of ascertaining cost of each job and takes into account the cost of materials, employees and overhead etc.

The job costing method is also applicable to industries in which production is carried out in batches. Batch production basically is of the same character as the job order production, the difference being mainly one in the size of different orders.

Process of Job costing

- Prepare a separate cost sheet for each job
- Disclose cost of materials issued for the job
- Employee costs incurred(on the basis of bill of material and time cards respectively)
- When job is completed, overhead charges are added for ascertaining total expenditure

Suitability of Job Costing

- When jobs are executed for different customers according to their specifications.
- When no two orders are alike and each order/job needs special treatment.
- Where the work-in-progress differs from period to period on the basis of the number of jobs in hand.

Features of Job Costing:

(a) It is a Specific Order Costing.

(b) The job is carried out or a product is produced to meet the specific requirements of the order. It may be related to single unit or a batch of similar units.

(c) It is concerned with the cost of an individual job or batch regardless of the time taken to produce it, but normally short duration jobs.

(d) Costs are collected to each job at the end of its completion.

(e) The costs of each job is ascertained by adding materials, labour and overheads.

(f) Only prime cost elements are traceable and the overheads are apportioned to each job on some appropriate basis and sometimes it is difficult to select a suitable method of absorption of overheads to individual jobs.

(g) Standardization of controls is comparatively difficult as each job differs and more detailed supervision and control is necessary.

(h) Work-in-progress may or may not exist at the end of the accounting period.

Procedures of Job Costing:

The Job Order Costing involves the following procedures:

(1) Each job is given a job number or work order number that identifies it and distinguishes it from every other job.

(2) Each job has a Job Cost Card prepared for it that bears the job number and which is used to collect all cost data relating to the job. Job Cost Cards must be carefully designed so that they effectively and logically collect all the cost data pertaining to the job. A proforma of Job Cost Card is shown in figure 11.1. This card is used for small jobs and for larger jobs, summary details will be entered in Job Cost Cards and supporting schedules relating to material labour and overheads will be enclosed.

Advantages of Job Costing:

The advantages of Job Costing are as follows:

(a) The profit or loss made on each job can be measured if cost is set against the price tendered for the job.

(b) It generates the cost data useful for the analysis and control by the management.

(c) It highlights whether or not a job is likely to be profitable or not.

(d) It readily fits into the double entry system, and lends itself to performance evaluation and review of costs.

(e) Job costing enables a comparison to be made with performance on other jobs so that inefficiencies are identified and rectified.

(f) Some jobs are negotiated on a 'cost plus' basis, if there is difficulty in estimating a price for a certain job and the customer agrees to pay the cost of the job plus an agreed percentage as a profit margin. In cost plus jobs it is essential to maintain reliable costing records.

(g) The cost incurred to date on the job are known before the job is completed, and any mistakes or excessive costs show up at an early stage.

The major disadvantage of Job costing is that it is too expensive, time consuming in maintenance of cost records for each job undertaken.

➢ Kindly type the link to attend the Questionnaires (MCQ).

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SUBJECT: COST ACCOUNTYING
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Overheads UNIT – IV

Job Cost

1. The information given below has been taken from the cost records of a factory in respect of job No. 707:

Wages details:

Department – A : 60 hours @ Rs. 3 per hour

– B : 40 hours @ Rs. 2 per hour

– C : 20 hours @ Rs. 5 per hour

The Variable overheads are as follows :

Department – A : Rs. 5,000 for 5,000 hours

– B : Rs. 3,000 for 1,500 hours

– C : Rs. 2,000 for 500 hours

Fixed Expenses estimated at Rs. 20,000 for 10,000 working hours. Calculated the cost of the job No. 707 and the price for the Job top give a profit of 25% on the selling price.

Particulars			Rs.	Rs.
Direct Materials				4,010
Wages :		Department A 60 x 3	180	
		Department B 40 x 2	80	
		Department C 20 x 5	100	360
		Prime Cost		4,370
Overheads				
Variable	i.	Department A 60 x 1	60	
		Department B 40 x 2	80	
		Department C 20 x 4	80	220
Fixed	ii.	120 hours @ Rs. 2 hour		240
				4,830
Profit (331/3 % on Cost or 25 % on selling Price) = 4830 x 25/75				1,610
Selling Price				**6,440**

Working Notes :

Variables Rate :

Fixed Rates :

2. The following information is available for job 4,321, which is being produced at the request of a customer:

Material Consumed Rs.
Department A : 4,000
Department B : 1,000
Department C : 1,500

Direct Labour : Wages rate per hour :
Department A : 3
Department B : 4
Department C : 5

Direct Labour hours
Department A : 300
Department B : 200
Department C : 400

In accordance with company policy the following are chargeable to jobs:
Fixed production overheads – Rs. 5 per direct labour hour
Fixed administration overheads – 80 % of work cost
Profit mark up – 20 % margin on Selling price.

Required :
i. Calculate the total cost and 4321.
ii. Assume that shortly after the job is completed the original customer goes bankrupt and the job is not delivered. The only other possible customer is prepared to pay Rs. 9,000. briefly indicate, with reasons, weather you would accept the offer of Rs. 9,000.

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SUBJECT: COST ACCOUNTYING
(16BCO17)

Overheads UNIT – V

Operation Costing and process costing

3. From the following data relating to vehicle A compute the cost per running tonne – km:

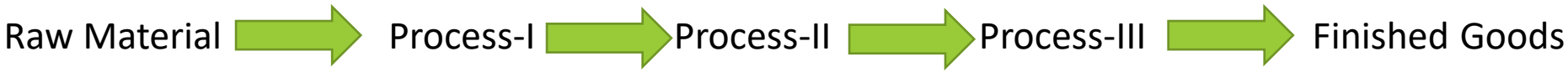
Kilometres run (annual) 15,000
Tonnes per km. average 6
Cost of vehicle Rs. 2,50,000
Road licences (annual) RS. 800
Insurance (annual) 700
Garage rent (annual) 1300
Supervision and salaries 2700
Drivers wages per hour 4
Cost of fuel per litre 6
Kms run per litre 20
Repairs and maintenance per km 2
Tyre allocation per km 1
Estimated life of the vehicle 1,00,000 kms
Charge interest at 5 % per annual on cost of vehicle. The vehicle runs 20 kms. Per hour on an average.

Statement of operating cost

Particulars	Vehicle A
A . **Standing Charges**	
Road licences	800
Insurance	700
Interest on cost of vehicle @ 5 % @ 250000	12500
Garage Rent	1300
Total A	**15,300**
B. **Maintenance Charges**	
Supervision and salaries	2700
Repairs and Maintenance(15000 x2)	30,000
Total B	**32,700**
C, **Running charges**	
Fuel (KMs. Run x cost per litre / Kms. Run litre i.e., 15000 x 6/20)	4,500
Driver wages (kms run x 4/20)	3,000
Tyres (1 x 15000 kms)	15,000
Depreciation (kms run x cost / Estimated life i.e., 15000 x 2,50,000 / 1,00,000	37,500
Total C	**60,000**
d. Grand total (A+B+C)	**1,08,000**
e. Total tonnes kms.run 108000 / 6 (tonnes per km.) = 18,000 (108000-18000)	**90,000**
f. Cost per running tonnes km. 1,08,000 / 90,000	**Rs. 1.20**

MEANING OF PROCESS COSTING

Process Costing is a method of costing used in industries where the material has to pass through two or more processes for being converted into a final product. It is defined as “a method of Cost Accounting whereby costs are charged to processes or operations and averaged over units produced”. A separate account for each process is opened and all expenditure pertaining to a process is charged to that process account. Such type of costing method is useful in the manufacturing of products like steel, paper, medicines, soaps, chemicals, rubber, vegetable oil, paints, varnish etc. where the production process is continuous and the output of one process becomes the input of the following process till completion



Basic features Industries, where process costing can be applied, have normally one or more of the following features:

1. Each plant or factory is divided into a number of processes, cost centers or departments, and each such division is a stage of production or a process.
2. Manufacturing activity is carried on continuously by means of one or more process run sequentially, selectively or simultaneously.
3. The output of one process becomes the input of another process.
4. The end product usually is of like units not distinguishable from one another.
5. It is not possible to trace the identity of any particular lot of output to any lot of input materials. For example, in the sugar industry, it is impossible to trace any lot of sugar bags to a particular lot of sugarcane fed or vice versa.
6. Production of a product may give rise to Joint and/or By-Products.

COSTING PROCEDURE IN PROCESS COSTING

The Cost of each process comprises the cost of:

(i) Materials

(ii) Employee Cost (Labour)

(iii) Direct expenses, and

(iv) Overheads of production.

Materials - Materials and supplies which are required for each process are drawn against Material Requisitions Notes from the stores. Each process for which the materials areused, are debited with the cost of materials consumed on the basis of the information received from the Cost Accounting department. The finished product of first process generally become the raw materials of second process; under such a situation the account of second process is debited with the cost of transfer from the first process and also with the cost of any additional material used in process.

Employee Cost (Labour)- Each process account should be debited with the labour cost or wages paid to labour for carrying out the processing activities. Sometimes the wages paid are apportioned over the different processes after selecting appropriate basis.

Direct expenses- Each process account should be debited with direct expenses like depreciation, repairs, maintenance, insurance etc. associated with it.

Production Overheads- Expenses like rent, power expenses, lighting bills, gas and water bills etc. are known as production overheads. These expenses cannot be allocated to a process. The suitable wayout to recover them is to apportion them over different processes by using suitable basis. Usually, these expenses are estimated in advance and the processes debited with these expenses on a pre-determined basis.

1. From the following data, prepare process accounts indicating the cost of each process and the total cost. The total units that pass through each process were 240 for the period.

	Process I	Process II	Process III
Materials	1,50,000	50,000	20,000
Labour	80,000	2,00,000	60,000
Other expenses	26,000	72,000	25,000

Indirect expenses amounting to Rs. 85,000 may be apportioned on the basis of wages. There was no opening or closing stock.

SOLUTION

Dr. **Process-I Account** *Cr.*

Particulars	Per unit (₹)	Total (₹)	Particulars	Per unit (₹)	Total (₹)
To Material	625	1,50,000	By Process -II A/c	1,150	2,76,000
" Labour	334	80,000	(Transfer to		
" Other expenses	108	26,000	Process-II)		
" Indirect expenses*	83	20,000			
	1,150	2,76,000		1,150	2,76,000

- Apportionment of Indirect expenses among

Process-I, Process-II and Process-III

Total Wages to processes (I + II +III) = ` 80,000 + RS 2,00,000 + `Rs 60,000 = Rs 3,40,000

Apportionment to:

Process- I = 85,000/ 3,40,000 × 80,000 = 20,000

Process- II = 85,000 / 3,40,000 × 2,00,000 = 50,000

Process- III = 85,000/ 3,40,000 × 60,000 = 15,000

Dr. **Process-II Account** *Cr.*

Particulars	Per unit (₹)	Total (₹)	Particulars	Per unit (₹)	Total (₹)
To Process-I A/c	1,150	2,76,000	By Process-IIIA/c	2,700	6,48,000
" Material	208	50,000	(Transfer to		
" Labour	834	2,00,000	Process-III)		
" Other expenses	300	72,000			
" Indirect expenses*	208	50,000			
	2,700	6,48,000		2,700	6,48,000

Dr. **Process- III Account** *Cr.*

Particulars	Per unit (₹)	Total (₹)	Particulars	Per unit (₹)	Total (₹)
To Process-II A/c	2,700	6,48,000	By Finished Stock A/c	3,200	7,68,000
Material	83	20,000	(Transferred)		
" Labour	250	60,000			
" Other expenses	104	25,000			
" Indirect expenses*	63	15,000			
	3,200	7,68,000		3,200	7,68,000

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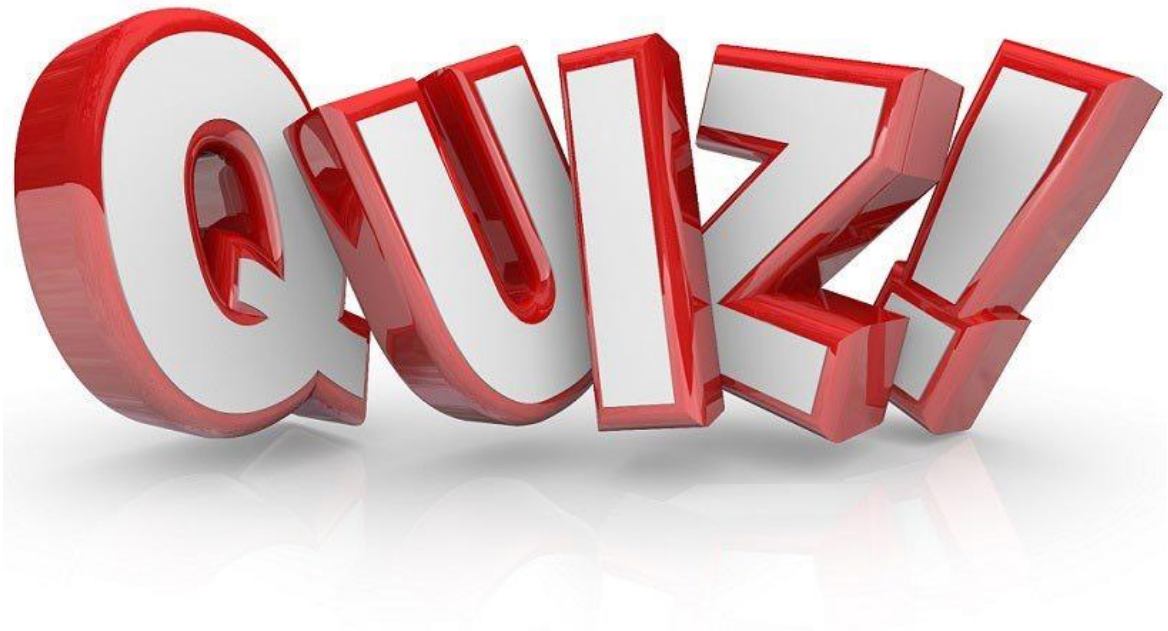

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SUBJECT: COST ACCOUNTYING
(16BCO17)

UNIT - V

Operation Costing

1. The following was the expenditure on a contract for Rs. 6,00,000 commenced in January, 2001

Material Rs. 1,20,000
Wages 1,64,400
Plant 20,000
Business Charges 8,600

(15000 x 2/3 x Cash received / work certified)

Cash Received on account to 31st December,2001 amounted to Rs. 2,40,000 being 80 percent of Work certified : the value of materials in hand on 31-12-2001 was Rs. 10,000. Prepare the contract Account for 2001 showing the profit to be credited to the years profit and loss account .Plant is to be 10%. Depreciated.

Contract Accounting

Particulars	Rs.	Particulars		Rs
TO Material	1,20,000	BY Plant in hand	20,000	
TO Wages	1,64,000	Less: % Depreciation	2,000	18,000
To Plant	20,000	BY Material in Hand		10,000
To Business Charges	8,600	By Work in Progress		
To Notional Profit c/d	**15,000**	By Work Certified (240000 x 100/80)		3,00,000
	3,28,000			**3,28,000**
To Profit and Loss Account (15000 x 2/3 x 80/100)	8,000	By Notional Profit b/d		15,000
To Work in Progress A/C (Reserve)	7,000			
	15,000			**15,000**

2. The following expenses were incurred on a contract :
Materials purchased 6,00,000
Material drawn from stores 1,00,000
Wages 2,25,000
Plant issued 75,000
Chargeable expenses 75,000
Apportioned indirect expenses 25,000
The contract was for ` 20,00,000 and it commenced on January 1, 2011.
The value of the work completed and certified upto 30th November, 2011 was ` 13,00,000 of which ` 10,40,000 was received in cash, the balance being held back as retention money by the contractee.
The value of work completed subsequent to the architect's certificate but before 31st December, 2011 was ` 60,000. There were also lying on the site materials of the value of ` 40,000. It was estimated that the value of plant as at 31st December, 2011 was ` 30,000. You are required to compute value of work certified, cost of work not certified and notional profit on the contract till the year ended 31st December, 2011.

Contract Accounting

Particulars	Rs.	Particulars	Rs
TO Material	6,00,000	By Work Certified	13,00,000
TO Stores Issued	1,00,000	By Cost of work uncertified	60.000
To wages	1,00,000	By Material unused	40.000
To Plant	75,000	By Plant less depreciation	30,000
To Chargeable expenses	75,000		
To indirect Expenses	25,000		
To Notional Profit	3,30,000		

An alternative method of presentation can be to deduct the balance of profit to be carried down (` 1,54,000 in the above case) from the work certified before it is entered in the contract account. It will be ` 11,46,000 in the illustration given above. Of course, the reserve to be so deducted from the work certified will have to be first ascertained by considering the value of the work certified.

All the costs incurred during a period are collected and analyzed and then expressed in terms of a cost per unit of service.

One specific issue with service costing is the difficulty in defining a realistic cost unit that represents a suitable measure of the service provided.

For example, Hotels may use the 'Occupied Room Days' as an appropriate unit for cost ascertainment and control.

- Transport Services - Passenger- km., (In public transportation) Quintal- km., or Ton- km. (In goods carriage)
- Electricity Supply service Kilowatt- hour (kWh) Hospital Patient per day, room per day or per bed, per operation etc.
- Canteen Per item, per meal etc. Cinema Per ticket.
- Hotels Guest Days or Room Days Bank or Financial Institutions Per transaction, per services (e.g. per letter of credit, per application, per project etc.)
- Educational Institutes Per course, per student, per batch, per lecture etc.
- IT & ITES Cost per project, per module etc.
- Insurance Per policy, Per claim, Per TPA etc

2. A Lorry starts with a load of 20 MT of Goods from Station ‘A’. It unloads 8 MT in Station ‘B’ and balance goods in Station ‘C’.
On return trip, it reaches Station ‘A’ with a load of 16 MT, loaded at Station ‘C’. The distance between
A to B, B to C and C to A are 80 Kms, 120 Kms and 160 Kms, respectively. Compute “Absolute MT Kilometer” and “Commercial MT – Kilometer”.

(MT = Metric Ton or Ton).

Weighted Average or Absolute basis :
MT-Kilometer : = (20 MT × 80 Kms) + (12 MT × 120 Kms) + (16 MT × 160 Kms)
= 1,600 + 1,440 + 2,560
= 5,600 MT-Kilometer

Simple Average or Commercialbasis :
MT-Kilometer : = [{(20+12+16) / 3} MT ×{(80+120+160) Kms]
= 16 MT × 360 Kms
= 5,760 MT–Kilometer

1. Suppose, No of buses 10 , Days operate in a month 25,
Round trips made by each bus 4, Distance of route 20 kms long (one side),
Capacity of bus 40 , Normal passengers travelling 90% of capacity

Then total km covered will be

= No of buses x no of days x no of trips x Distance per trip

= 10 x 25 x 8x 20 = **40,000 Km.**

(4 round trip = 2 x4 = 8 trips)

Total passenger kilometre covered

= No. of buses x no of days x no of trips x distance per trip x capacity x normal passenger kms.

10 x25 x4x2x20x40x90/100 = 14,40,000 passengers kms.

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SUBJECT: COST ACCOUNTYING
(16BCO17)

UNIT - V

Process Costing

COSTING PROCEDURE IN PROCESS COSTING

The Cost of each process comprises the cost of:

(i) Materials

(ii) Employee Cost (Labour)

(iii) Direct expenses, and

(iv) Overheads of production.

Materials - Materials and supplies which are required for each process are drawn against Material Requisitions Notes from the stores. Each process for which the materials areused, are debited with the cost of materials consumed on the basis of the information received from the Cost Accounting department. The finished product of first process generally become the raw materials of second process; under such a situation the account of second process is debited with the cost of transfer from the first process and also with the cost of any additional material used in process.

Employee Cost (Labour)

Each process account should be debited with the labour cost or wages paid to labour for carrying out the processing activities. Sometimes the wages paid are apportioned over the different processes after selecting appropriate basis.

Direct expenses

Each process account should be debited with direct expenses like depreciation, repairs, maintenance, insurance etc. associated with it.

Production Overheads

Expenses like rent, power expenses, lighting bills, gas and water bills etc. are known as production overheads. These expenses cannot be allocated to a process. The suitable way out to recover them is to apportion them over different processes by using suitable basis. Usually, these expenses are estimated in advance and the processes debited with these expenses on a pre-determined basis.

1. From the following data, prepare process accounts indicating the cost of each process and the total cost. The total units that pass through each process were 240 for the period.

	Process I	Process II	Process III
Materials	1,50,000	50,000	20,000
Labour	80,000	2,00,000	60,000
Other expenses	26,000	72,000	25,000

Indirect expenses amounting to Rs. 85,000 may be apportioned on the basis of wages. There was no opening or closing stock.

SOLUTION

Dr. **Process-I Account** Cr.

Particulars	Per unit (₹)	Total (₹)	Particulars	Per unit (₹)	Total (₹)
To Material	625	1,50,000	By Process -II A/c (Transfer to Process-II)	1,150	2,76,000
" Labour	334	80,000			
" Other expenses	108	26,000			
" Indirect expenses*	83	20,000			
	1,150	2,76,000		1,150	2,76,000

- Apportionment of Indirect expenses among

Process-I, Process-II and Process-III

Total Wages to processes (I + II +III) = ` 80,000 + RS 2,00,000 + `Rs 60,000 = Rs 3,40,000

Apportionment to:

Process- I = 85,000/ 3,40,000 × 80,000 = 20,000

Process- II = 85,000 / 3,40,000 × 2,00,000 = 50,000

Process- III = 85,000/ 3,40,000 × 60,000 = 15,000

Dr. **Process-II Account** Cr.

Particulars	Per unit (₹)	Total (₹)	Particulars	Per unit (₹)	Total (₹)
To Process-I A/c	1,150	2,76,000	By Process-IIIA/c	2,700	6,48,000
" Material	208	50,000	(Transfer to		
" Labour	834	2,00,000	Process-III)		
" Other expenses	300	72,000			
" Indirect expenses*	208	50,000			
	2,700	6,48,000		2,700	6,48,000

Dr. **Process- III Account** Cr.

Particulars	Per unit (₹)	Total (₹)	Particulars	Per unit (₹)	Total (₹)
To Process-II A/c	2,700	6,48,000	By Finished Stock A/c	3,200	7,68,000
Material	83	20,000	(Transferred)		
" Labour	250	60,000			
" Other expenses	104	25,000			
" Indirect expenses*	63	15,000			
	3,200	7,68,000		3,200	7,68,000

TREATMENT OF NORMAL, ABNORMAL LOSS AND ABNORMAL GAIN

(i) Normal Process Loss: It is also known as normal wastage. It is defined as the loss of material which is inherent in the nature of work. Such a loss can be reasonably anticipated from the nature of the material, nature of operation, the experience and technical data. It is unavoidable because of nature of the material or the process. It also includes units withdrawn from the process for test or sampling.

2. A product passes from Process- I and Process- II.
Materials issued to Process- amounted to Rs. 40,000, Wages Rs. 30,000 and manufacturing overheads were Rs. 27,000.
Normal loss anticipated was 5% of input. 4,750 units of output were produced and transferred-out from Process-I.
There were no opening stocks. Input raw material issued to Process I were 5,000 units. Scrap has no realizable value. You are required to show Process- I account, value of normal loss and units transferred to Process-II.

Solution **Process I**

Particulars	Units	Rs.	Particulars	Units	Rs.
To Materials	5,000	40,000	By Normal Loss	250	0
To Wages		30,000	(5000 x 5/100)		
To Overheads		27,000	BY process II	4,750	97,000
	5,000	**97,000**		**5,000**	**97,000**

Value of Normal loss= Scrap realisable value less cost to sale Since, scraps do not realise any value, hence, value of normal loss is zero. Value of units transferred to Process-II:

3. A product Passes three distinct process to completion. These process are numbered respectively I, II and III. During the week ended 15th January 2010, 500 units are produced. Following information is obtained:

Particulars	Process I	Process II	Process III
To Materials	3,500	1,600	1,500
To Labour	2,500	2,000	2,500

The overhead expenses for the period were Rs. 1,400 apportioned to the process on the basis of wages.
Number of work in progress stocks existed at the beginning or at end of the week. Prepare process account.

Overheads on the basis of wages , 25:20:25 = 70

Units calculation : expenses / 500

Process I

Particulars	Units	Rs.	Particulars	Units	Rs.
To Materials	7	3,500			
To Wages	5	2,500			
To Overheads (25/70 of Rs. 1,400)= 500	1	500	BY process II	13	6,500
	13	**6,500**		**13**	**6,500**

Process II

Particulars	Units	Rs.	Particulars	Units	Rs.
To Process II A/C To Materials	13 3.20	6,500 1,600			
To Wages	4.00	2,000			
To Overheads 20/70 of Rs 1,400 = 400	0.80	400	BY process III	21.00	10,500
	21.00	**10,500**		**21.00**	**10,500**

Process III

Particulars	Units	Rs.	Particulars	Units	Rs.
To Process III A/C To Materials	21 3	10,500 1,500			
To Wages	5	2,500			
To Overheads 25/70 of Rs 1,400 = 500	1	500	BY Finished Stock A/c	30	10,500
	30	**15,000**		**30**	**15,000**

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SUBJECT: COST ACCOUNTYING
(16BCO17)

UNIT - V

Process Costing

TREATMENT OF NORMAL, ABNORMAL LOSS AND ABNORMAL GAIN

(i) Normal Process Loss: It is also known as normal wastage. It is defined as the loss of material which is inherent in the nature of work. Such a loss can be reasonably anticipated from the nature of the material, nature of operation, the experience and technical data. It is unavoidable because of nature of the material or the process. It also includes units withdrawn from the process for test or sampling.

2. A product passes from Process- I and Process- II.
Materials issued to Process- amounted to Rs. 40,000, Wages Rs. 30,000 and manufacturing overheads were Rs. 27,000.
Normal loss anticipated was 5% of input. 4,750 units of output were produced and transferred-out from Process-I.
There were no opening stocks. Input raw material issued to Process I were 5,000 units. Scrap has no realizable value. You are required to show Process- I account, value of normal loss and units transferred to Process-II.

Solution **Process I**

Particulars	Units	Rs.	Particulars	Units	Rs.
To Materials	5,000	40,000	By Normal Loss	250	0
To Wages		30,000	(5000 x 5/100)		
To Overheads		27,000	BY process II	4,750	97,000
	5,000	**97,000**		**5,000**	**97,000**

Value of Normal loss= Scrap realisable value less cost to sale Since, scraps do not realise any value, hence, value of normal loss is zero. Value of units transferred to Process-II:

3. A product Passes three distinct process to completion. These process are numbered respectively I, II and III. During the week ended 15th January 2010, 500 units are produced. Following information is obtained:

Particulars	Process I	Process II	Process III
To Materials	3,500	1,600	1,500
To Labour	2,500	2,000	2,500

The overhead expenses for the period were Rs. 1,400 apportioned to the process on the basis of wages.
Number of work in progress stocks existed at the beginning or at end of the week. Prepare process account.

Overheads on the basis of wages , 25:20:25 = 75

Units calculation : expenses / 500

Process I

Particulars	Units	Rs.	Particulars	Units	Rs.
To Materials	7	3,500			
To Wages	5	2,500			
To Overheads (25/70 of Rs. 1,400)= 500	1	500	BY process II	13	6,500
	13	**6,500**		**13**	**6,500**

Process II

Particulars	Units	Rs.	Particulars	Units	Rs.
To Process II A/C To Materials	13 3.20	6,500 1,600			
To Wages	4.00	2,000			
To Overheads 20/70 of Rs 1,400 = 400	0.80	400	BY process III	21.00	10,500
	21.00	**10,500**		**21.00**	**10,500**

Process III

Particulars	Units	Rs.	Particulars	Units	Rs.
To Process III A/C To Materials	21 3	10,500 1,500			
To Wages	5	2,500			
To Overheads 25/70 of Rs 1,400 = 500	1	500	BY Finished Stock A/c	30	10,500
	30	**15,000**		**30**	**15,000**

4. Information given below is extracted from the cost account of a factory producing a commodity in the Manufacturing of which three process are involved. Prepare process accounting show the cost of the output and the cost per unit at each stage of manufacturing.

a. The operations in each separate process are completed daily.

b. The value of at which unit are to be charged to process B and C is the cost per unit of process A, and A plus B respectively

Particulars	Process A	Process B	Process C
Direct wages	640	1200	2925
Machine Expenses	360	300	360
Factory Overheads	200	225	240
Raw material consumed	2400	-----	-----
	Unit	Unit	Unit
Production (Gross)	37000	----	-----
Wastage	1000	1500	500
Opening stock of raw material		4000	16500
Closing stock of raw material		1000	5500

Process A

Particulars	Units	Rs.	Particulars	Units	Rs.
To Raw Materials	37000	2,400	By Normal Wastage	1,000	----
To Wages		640			
To Machine Expenses To Factory Overheads		360 200	BY process B	36000	3,600
	37,000	**3,600**		**37,000**	**3,600**

Process B

Particulars	Units	Rs.	Particulars	Units	Rs.
To Opening stock 10p per unit **4000 x 0.10** To process A To Raw Materials	4,000 36,000	400 3,600 ------	By Normal Wastage By closing stock 10p Per unit 1000 x 0.10	1,500 1,000	---- 100
To Wages		1,200			
To Machine Expenses To Factory Overheads		300 225	BY process C	37,500	5,625
	40,000	**5,725**		**40,000**	**5,725**

Process C

Particulars	Units	Rs.	Particulars	Units	Rs.
To Opening stock 10p per unit 16500 x 0.10 To process B To Raw Materials	16,500 37,500	2,475 5,625 ------	By Normal Wastage By closing stock 10p Per unit	500 5,500	---- 825
To Wages		2,925			
To Machine Expenses To Factory Overheads		360 240	BY Finished stock	48,000	10,800
	54,000	**11,625**		**54,000**	**11,625**

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SUBJECT: COST ACCOUNTYING
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UNIT - V

Process Costing

TREATMENT OF NORMAL, ABNORMAL LOSS AND ABNORMAL GAIN

Abnormal Process Gain/ Yield Sometimes, loss under a process is less than the anticipated normal figure. In other words, the actual production exceeds the expected figures. Under such a situation the difference between actual and expected loss or actual and expected production is known as abnormal gain or yield. So abnormal gain may be defined as an unexpected gain in production under the normal conditions. This arises due to over- estimation of process loss, improvements in work efficiency of workers, use od better technology in production etc.

1. A product passes from Process- I and Process- II. Materials issued to Process- I amounted to ` 40,000, Wages ` 30,000 and manufacturing overheads were ` 27,000. Normal loss anticipated was 5% of input. 4,850 units of output were produced and transferred-out from Process-I. There were no opening stocks. Input raw material issued to Process I were 5,000 units. Scrap has realisable value of `2 per unit. You are required to show Process- I account, value of normal loss, abnormal loss/ gain and units transferred to Process-II.

Solution

Process I

Particulars	Units	Rs.	Particulars	Units	Rs.
To Materials	5,000	40,000	By Normal Loss 250 x 2	250	500
To Wages		30,000	(5000 x 5/100)		
To Overheads	100	27,000	BY process II	4,850	98,532
To Abnormal Gain		2032			
	5,100	99,032		5,100	99,032

Value of Normal loss = Scrap realisable value less cost to sale

= 250 units × Rs. 2 = Rs. 500

(even though the actual loss is less than the expected loss (Normal loss), value of the normal loss is calculated on the estimated figure)

Value of Abnormal Gain:

= Total Cost-Realisable value of normal loss × Abnormal Gain units

Total input units–Normal loss units

= 97,000 – 500 / 5,000 units–250 units x × 100 units

= 2,032

5. A product passes through three processes. The output of each process is treated as the raw material of the next process to which it is transferred and output of the third process is transferred to finished stock.

	Process-I(₹)	Process-II(₹)	Process-III(₹)
Materials issued	40,000	20,000	10,000
Labour	6,000	4,000	1,000
Manufacturing overhead	10,000	10,000	15,000

10,000 units have been issued to the Process-I and after proc¬essing, the output of each process is as under:

Process	Output	Normal Loss
Process-I	9,750 units	2%
Process-II	9,400 units	5%
Process-III	8,000 units	10%

No stock of materials or of work-in-process was left at the end. Calculate the cost of the finished articles.

Dr. **Process-I Account** Cr.

Particulars	Units	Total (₹)	Particulars	Units	Total (₹)
To Material	10,000	40,000	By Normal Loss A/c (2% of 10,000 units)	200	--
" Labour	--	6,000	" Abnormal Loss A/c	50	286
" Manufacturing OH	--	10,000	" Process-II A/c (₹ 5.7142 × 9,750 units)	9,750	55,714
	10,000	56,000		10,000	56,000

Cost per unit of completed units and abnormal loss:

$$\frac{\text{Total Cost}}{\text{Inputs–Normal loss}} = \frac{₹\ 56,000}{10,000\ \text{units}–200\ \text{units}} = ₹\ 5.7142$$

Dr. **Process-II Account** Cr.

	Particulars	Units	Total (₹)		Particulars	Units	Total (₹)
To	Process-I A/c	9,750	55,714	By	Normal Loss A/c (5% of 9,750 units)	488	--
"	Material	--	20,000	"	Process-III A/c (₹ 9.6862 × 9,400 units)	9,400	91,051
"	Labour	--	4,000				
"	Manufacturing OH	--	10,000				
"	Abnormal Gain A/c (₹9.6862 × 138 units)	138	1,337				
		9,888	91,051			9,888	91,051

Cost per unit of completed units and abnormal gain:

$$\frac{\text{Total Cost}}{\text{Inputs–Normal loss}} = \frac{₹\ 89,714}{9{,}750\ \text{units}–488\ \text{units}} = ₹\ 9.6862$$

Dr. **Process-III Account** *Cr.*

Particulars	Units	Total (₹)	Particulars	Units	Total (₹)
To Process-II A/c	9,400	91,051	By Normal Loss A/c (10% of 9,400 units)	940	--
" Material	--	10,000	" Abnormal Loss A/c (₹13.8358 × 460 units)	460	6,364
" Labour	--	1,000	" Finished Stock A/c (₹13.8358 × 8,000 units)	8,000	1,10,687
" Manufacturing OH	--	15,000			
	9,400	1,17,051		9,400	1,17,051

Cost per unit of completed units and abnormal loss:

$$\frac{\text{Total Cost}}{\text{Inputs–Normal loss}} = \frac{₹\ 1,17,051}{9,400\ \text{units}–940\ \text{units}} = ₹13.8358$$

➢ Kindly type the link to attend the Questionnaires (MCQ).

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