
UNIT 7 CLASSIFICATION AND DISTRIBUTION OF OVERHEADS

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7.0 OBJECTIVES

After studying this unit you should be able to :

- explain the concept of **overheads**
- classify overheads element-wise, function-wise and behaviour-wise
- describe the sources from which overheads under **different** standing order numbers are collected
- explain various bases of allocation and apportionment of factory overheads
- prepare distribution summary showing the allocation and apportionment of various factory overheads.

7.1 INTRODUCTION

You have learnt that all indirect costs are **collectively** termed as 'overheads' and that they, constitute an important component of total cost of a product, a job or a process. In this unit, you will learn about the meaning of overheads, the various categories into which they can be classified, and the procedure of **collecting** them under different standing order numbers, You will also learn about the various bases of allocation and apportionment of **factory** overheads to **different** production and service departments and the preparation of distribution summary.

7.2 CONCEPT OF OVERHEADS

A cost is composed of three elements — (a) material, (b) labour, and (c) expenses. Each of these costs can be further **classified** as (1) direct and (2) indirect. Direct costs are costs which can be easily identified directly with a particular product, process or department. **Indirect** costs, on the other hand, refer to costs which cannot be conveniently identified with a particular product, **process** or department. These are common **costs like** rent, **repairs**, salaries, lubricating oil, which are **incurred** for the benefit of a number of cost units or **cost**

Overheads

centres. **The total of all indirect costs i.e., indirect material, indirect labour and indirect expenses, is termed as 'overheads'.** Other terms in use for overheads are 'oncosts', 'overhead costs', 'supplementary costs', 'overhead expenses or charges', **etc.**

The National Association of Accountants (USA) defines overheads (overhead costs) as follows :

- (A) **Fundamental concept :** **Costs** that have to be incurred although they have no directly **measureable**, observable **relationship** to specific activity units, production or cost objectives.
- (B) **Application definition :** While related to the accomplishment of the **firm's** objectives, overhead **costs** are **costs** which cannot, as a practical matter, be assigned to those objectives in a **direct** fashion. A consistent **method of** cost allocation, which by some **measure** approximates the economic sacrifices **incurred**, must be adopted.

It is evident from the above that they cannot directly be identified to units of output and that they have to be suitably allocated or absorbed so as to determine the product cost, both total cost and unit cost.

7.3 CLASSIFICATION OF OVERHEADS

Overhead classification refers to the process of grouping the overheads according to their common characteristics so as to provide the managers with **information** that will **enable** them to manage the business effectively.

The overheads can be classified according to :

- 1 Elements
- 2 Functions and Departments
- 3 Behaviour.

7.3.1 Element-wise Classification

According to elements overhead is divided into :

- i) **Indirect materials**
 - ii) **Indirect labour**
 - iii) **Indirect expenses**
- i) **Indirect materials :** It is that material which does not form a part of the finished product or saleable service. Examples of indirect materials are : coal, lubricating oil, grease, sand paper used in polishing, etc. There are some items which may become a part of the **finished** product like nuts, screws, bolts, pins, etc., but these are still **considered** as indirect materials for costing purposes as their cost is comparatively small.
- ii) **Indirect labour :** Indirect labour is not directly engaged in the production operations. They only assist or help in production operations. Examples of indirect labour are supervisor, clerk, cleaner, inspector, peon, watchmen, etc. Remuneration paid to these employees is considered as indirect labour cost.
- iii) **Indirect expenses :** All indirect costs, other than indirect materials and indirect labour are **considered** to be indirect expenses like rent, **depreciation**, lighting and power, advertising, insurance etc.

7.3.2 Function-wise Classification

This method of classification is based on the major **functions/departments** of a business organisation. They are

- i) Production overheads
 - ii) Administration **overheads**
 - iii) Selling overheads
 - iv) **Distribution** overheads
- i) **Production** overheads : These include indirect **material** cost, indirect wages and indirect factory expenses **incurred** from the stage of **procurement** of materials **till** the completion of the finished product, They are the expenses incurred in maintaining and operating a manufacturing division of an organisation. Indirect materials like cotton **waste, coal, oil, grease; indirect wages** like **salaries** of store keeper, supervisor, and **indirect expenses** like factory rent, idle time, overtime, normal loss of material, **factory light, etc.** are the items of production overheads. These are also known as 'manufacturing overheads', 'works overheads', 'factory overheads'.
- ii) Administration overheads : These include all those expenses connected with the managerial functions of planning, directing, coordinating and controlling the operations of a business other than those related to production, selling, **distribution** and research and development. Examples are office rent and **rates**, office staff salaries, office lighting, depreciation, and repairs to office building and equipment, telephone charges, auditors' fees, legal expenses, etc.
- iii) Selling overheads : These include the costs incurred for creating demand for the product, for securing and servicing orders. Advertising, bad debts, salaries and **commission** to selling **agents**, travelling expenses, show room expenses are the **examples** of selling overheads.
- iv) Distribution overheads : These include the costs incurred in connection with the delivery of goods to customers. Some examples of distribution overheads are : packing cost, **carriage** outwards, maintenance, repairs and depreciation of delivery vans, warehouse expenses, wastage of finished goods, etc.

7.3.3 Behaviour-wise Classification

This classification is made on the basis of variability nature of overheads with production, Accordingly, they are classified **into** :

- i) Fixed overheads
 - ii) Variable overheads
 - iii) Semi-variable overheads
- i) **Fixed** overheads : These overheads remain fixed or unaffected by changes in the level of production. An increase or decrease in the output has no **effect** on the total **amount** of overheads. As a result, an increase in the volume of output will result in a decrease in the fixed cost per unit, owing to its spread over a large number of units and **vice-versa**. Some examples of fixed overheads are rent and rates, salaries, legal expenses, bank charges, etc.
- ii) **Variable** overheads : These overheads vary in **direct** proportion to changes in the volume of output. Variable overheads per unit remain fixed. Some examples of variable overheads are : indirect materials, fuel, power, **stationery**, salesmen commission, **etc.**
- iii) **Semi-variable** overheads : These are the expenses that stand midway between fixed and variable overheads. They are partly fixed and partly variable. They vary with change in the volume of output but not in the same proportion as the change in the volume of output. Examples of such overheads are : telephone charges, **depreciation**, repair and maintenance, cost of supervision, etc.

Check Your Progress A

- 1 What do you mean by overheads .
-
-

- 2 Based on functional classification, list various types of overheads.
- 3 Give two examples of semi-fixed overheads.
- 4 Fill in the blanks.
- i) According to elements of cost, the overheads are classified into indirect material
 - ii) The costs other than direct costs are known as.....
 - iii) Semi-variable overheads are.....fixed and variable.
 - iv) Symbols or code numbers of overheads are known as.....
 - v) Journal gives information relating to..... items like depreciation, notional rent, etc,

7.4 COLLECTION OF FACTORY OVERHEADS

As mentioned earlier, overheads are not directly attributable to a particular cost unit, process or department. Hence, there is a need for distribution of overheads to different products manufactured or to the different departments. There are four steps in overheads distribution. They are :

- i) Collection of overheads
- ii) Allocation and apportionment to production and service departments
- iii) Re-apportionment of service department costs
- iv) Absorption of overheads

The first step in overhead distribution is the collection of overheads. This means the ascertainment of the total amount spent on each item of overheads during a particular period.

7.4.1 Standing Order Numbers

After the classification of overheads, each group of expenses should be given a distinct symbol or number so that each such group is easily distinguished from that of the other. Such symbols or numbers are the codes for overheads and are known as 'standing order numbers.' Each standing order number represents a particular type of expenditure and as and when the expenditure is incurred, it is appropriately classified. The code numbers may be alphabetical (Mnemonic method), numerical or a combination of both.

Numerical method : Number from 01 to 10 may be for indirect materials; 11 to 20 for indirect labour and so on.

Mnemonic method :

S may be represent sales

SA for sales-advertising

SAS . Sales-Advertising-South India.

Combination of alphabets and numbers system : Alphabet represent the main group and numbers denote the **sub-group**.

- R — Repairs
- R₁ — Repairs to machinery
- R₂ — Repairs to building
- R₃ — Repairs to vehicles

Thus, the manufacturing overhead costs are **analysed** and classified by the code numbers on the documents. Now, for the collection of factory overheads, these various documents have to be processed from which the **necessary** data can be extracted.

7.4.2 Sources

The sources from which overhead costs are **collected** are as follows :

- a) Invoices : These are documents received for sundry purchases against purchase requisition made by a particular **department**. The name or code number of the **department** will be indicated in the invoice itself. At the end of the month the total amount of purchases will be debited to Factory Overhead Account and credited to Cost Ledger Control Account.
- b) Stores Requisitions : Materials would be issued from stores only on receiving stores requisition from the departments. On the stores requisition, the code number of the department making the requisition would be indicated. This helps in **charging** the indirect materials to the particular department using them.
- c) Wages Analysis Book : This **book** gives information **relating** to **indirect** wages, overtime, bonus etc. When wages are paid to indirect workers, they are entered against the standing order numbers on the basis of job cards, time cards etc.
- d) Cash Book : The overheads which are paid in cash but not recorded anywhere else can be collected from this book.
- e) Journal : It gives the **information** relating to non-cash items **like** depreciation, notional **rent, accruals** and payments in advance. Therefore, it is necessary to **scrutinise** the journal for the accumulation of manufacturing overheads,
- f) Subsidiary Records : It is necessary to **look** into the **reports regarding** scrap, waste, spoiled materials, idle time and idle facilities for **ascertaining** their costs to be adjusted in overheads.

7.5 ALLOCATION AND APPORTIONMENT OF FACTORY OVERHEADS

After the overheads are classified and collected under various standing order numbers, the second **step** in overhead distribution is allocation and apportionment of overheads to production and **service** departments.

7.5.1 Allocation

According to the ICMA Terminology, allocation is "the allotment of whole items of cost to cost centres or cost units". It refers to charging to the **cost** centre **those** overheads that have been **incurred** for that cost centre. It means that overheads have been incurred because of the existence of that cost centre. For example, if canteen is **treated** as a separate cost **centre**, salary paid to canteen manager can be **allocated** to canteen. If indirect wages and salaries are **paid** to the employees in each department, they can be wholly attributed to the concerned **departments** and charged accordingly. When separate meters are installed in **departments**, from **meter** reading, power charges for **each department** can be easily known and as such they are allocated to the concerned **departments**.

Thus, it can be said that, **an overhead** can be allocated to a cost centre if **the following two** conditions are **satisfied** :

- 1 **The** overhead must have been incurred because of the existence of that particular **cost** centre.
- 2 The exact **amount** of overhead incurred in a cost centre must be known.

7.5.2 Apportionment

Apportionment refers to the **distribution** of common items of cost to two or more cost **centres** on some appropriate basis. When the costs which are incurred for the factory as a whole and benefit two or more cost **centres**, then it is necessary to apportion them to different departments that receive benefit from such costs. For example, factory rent **benefits** all the departments. Hence, it should be apportioned to all the departments on the basis of the floor area occupied by **each department** in the **factory**.

The common factory overheads have to be **apportioned** to various production and service departments in the factory on some equitable basis.

A production department is one that engages in the actual manufacture of the product. Examples of production **departments** are **weaving**, spinning, crushing, mining, grinding, **etc.**

A service department is one which renders a service that contributes indirectly in the manufacture of a product. It renders service to the production as well as other service **departments**. Examples of **service** departments are purchasing, stores, time **keeping**, personnel inspection, etc.

Principles of Apportionment

As stated earlier, the common factory overheads (common costs) have to be apportioned to various production and service departments on some equitable basis. In determining the basis to be adopted, the following guiding principles can be followed :

- 1 **Actual benefit** : According to this principle, overheads are **distributed** over various **departments** on the basis of **the** actual benefit received. This can be adopted where it is possible to measure the actual benefit derived from a particular expense. For **example**, rent can be apportioned to different departments on the basis of area occupied. Similarly, machine shop expenses may be apportioned on the basis of actual time **devoted** to each job for which proper job cards are maintained.
- 2 **Potential benefit** : It would be ideal to distribute **common** costs on **the** basis of actual **benefit** received, but, in most cases, the measurement of actual benefit may not be possible or it may be **too cumbersome** to keep **the necessary** records. Hence, it is advocated **that the** apportionment may be done on the basis of **potential** benefit (**benefit** likely to be received). For example, if lighting costs were **to** be apportioned on **the basis of actual benefit** received, you will have, to keep record of the **number** of lighting points in each department, the wattage of bulbs used in each lighting point, **and** the amount of time for which each point was on. This is rather impractical. **Hence**, lighting costs can be apportioned simply on the basis of **lighting points** in each **department**. Similarly, cost of **transport** for workers can be **apportioned** on the basis of the number of employees in each department. This **method** is also called 'service or use' **method**.
- 3 **Specific criteria** : According to this principle, the overheads can be apportioned to **different departments** in a given ratio which may be determined after careful survey for different service functions. This method, therefore, is also known as 'survey method' and it is particularly useful where it is difficult to select a suitable **basis** for **apportionment**. For example, for the apportionment of **works** manager's salary, it may be difficult to identify a suitable basis. Hence a survey may be conducted to **ascertain** the time and attention given by him to different cost **centres** and a **reasonable** ratio fixed for the purpose.
- 4 **Ability to pay** : This **method** is based on **the** principle **that** more **the** **revenue** of a **department**, the **higher** should be the proportionate charge for the services, For

example, the **cost** of maintaining stores **may** be apportioned to different **production** departments on the basis of the value (not the volume) of materials consumed.

Basis of Apportionment : In the light of the **above principles**, the usual **basis** for apportioning common items of factory overhead **can** be as follows :

Expenses	Basis
1 Rent , Rates, and taxes, insurance, depreciation and repairs of buildings	Floor area occupied
2 Canteen , welfare expenses, time keeping, personnel office	No. of employees
3 Depreciation, repairs and insurance to plant and machinery	Capital cost of plant and machinery
4 Power/Steam consumption, lighting	Technical estimates (i.e. HP hours, number of light points)
5 Store keeping expenses	Weight/value of Materials
6 Internal transport,	Number of requisitions , weight/ Value of materials
7 Compensation to workers, ESI and PF contribution	Direct wages

7.6 PREPARATION OF OVERHEADS DISTRIBUTION SUMMARY

The allocation and apportionment of overheads to production and service departments is also known as '**departmentalisation** or primary distribution' of overheads'. It is done by preparing an overheads **distribution** summary.

For the preparation of overheads **distribution** summary, all those overheads which can be directly identified with a particular department, will be **taken/allocated** to the concerned department and those which **cannot** be identified with a particular **department** will be apportioned **i.e.**, distributed on equitable basis to different departments,

The **proforma** of overhead distribution summary is given in Figure 7.1.

Figure 7.1: Proforma of Overhead Distribution Summary
Departmental Overhead Distribution Summary

Expenses	Basis of Apportionment	Total	Production Departments			Service Departments	
			A	B	C	D	E
		Rs.	Rs.	Rs.	Rs.	Rs.	Rs.

Look at **Illustration 1** and study how departmental overheads distribution summary is prepared.

Illustration 1

The following **information** is supplied from the costing records of a company :

	Rs.
Rent	4,000
Maintenance	2,400
Depreciation	1,800
Lighting	400
Insurance	2,000
Employer's contribution to Provident Fund	600
Energy	3,600
Supervision	6,000

	<i>Departments</i>			
	<i>Spinning</i>	<i>Weaving</i>	<i>Stores</i>	<i>Time Keeping</i>
Floor space (sq. ft.)	300	220	180	100
Number of workers	48	32	24	16
Total direct wages (Rs.)	16,000	12,000	8,000	4,000
Cost of machinery (Rs.)	48,000	36,000	24,000	12,000
Stock of goods	30,000	18,000	12,000	—

Prepare a **statement** showing apportionment of costs to various departments.

Solution:**Departmental Overheads Distribution Summary**

Expenses	Basis of apportionment	Total Rs.	Departments			
			Spinning Rs.	Weaving Rs.	Stores Rs.	Time keeping Rs.
Rent	Floor space (300 : 220 : 180 : 100)	4,000	1,500	1,100	900	500
Maintenance	Cost of machine (48 : 36 : 24 : 12)	2,400	960	720	480	240
Depreciation	—do—	1,800	720	540	360	180
Lighting	Floor space (300 : 220 : 180 : 100)	400	150	110	90	50
Insurance	Stock of goods (30 : 18 : 12 : 00)	2,000	1,000	600	400	—
Employer's contribution	Direct wages (16 : 12 : 8 : 4)	600	240	180	120	60
Energy	Cost of machine (48 : 36 : 24 : 12)	3,600	1,440	1,080	720	360
Supervision	No. of workers (48 : 32 : 24 : 16)	6,000	2,400	1,600	1,200	800
Total overheads as per primary distribution		20,800	8,410	5,939	4,270	2,190

Re-Appportionment of Service Department Costs : Once the overheads have been allocated and apportioned to production and service departments, next step in overhead distribution is to re-apportion the service **department** total costs to production **departments**. As the ultimate object is to charge the **overhead** to cost **units**, and no cost units pass

through service departments, it becomes necessary to apportion the service departments costs also to production departments on some equitable basis. This is known as secondary distribution.

The common basis of secondary distribution are given below :

Service Department	Basis
1 Purchase department	Number of purchase orders or number of purchase requisitions or value of materials purchased
2 Stores department	Number of material requisitions or value of materials issued
3 Time-keeping department, Pay-roll department	Number of employees or total labour or machine hours
4 Personnel department, canteen, welfare, medical, recreation and security departments	Number of employees or total wages
5 Repairs and Maintenance	Number of hours worked in each department
6 Power House	Meter reading or H.P. Hour for powers Meter reading or floor space for lighting, heat consumed
7 Inspection	Inspection hours or value of items inspected
8 Drawing Office	Number of drawings made or man-hours worked
9 Accounts department	Number of workers in each department or time denoted
10 Tool Room	Direct labour or Machine hours or wages

Illustration 2

From the following information, prepare the departmental overhead distribution summary.

Item	Production Depts.			Service Depts.	
	A	B	C	X	Y
Direct wages (Rs.)	60,000	90,000	1,20,000	30,000	60,000
Direct Material (Rs.)	30,000	60,000	60,000	44,000	45,000
Staff Number,	3,000	4,500	4,500	1,600	1,400
Electricity KWh	12,000	9,000	6,000	3,000	3,000
Asset Value (Rs.)	1,20,000	80,000	60,000	20,000	20,000
Light points	20	32	8	12	8
Area (Sq. Yards)	300	500	100	100	100

The expenses for the period were

Power	Rs. 2,200	Depreciation	Rs. 60,000
Lighting	400	Repairs	12,000
Stores	1,600	General Overheads	24,000
Welfare to staff	6,000	Rent & taxes	1,100

Apportion the expenses of service department Y according to direct wages and those of service department X in the ratio of 5 : 3 : 2 to the production departments.

Departmental Overhead distribution Summary

Expenses	Basis	Total	Production Depts.			Service Depts.	
			A	B	C	X	Y
		Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
Power	KWh	2,200	800	600	400	200	200
Lighting	Light points	400	100	160	40	60	40
Stores Overhead	Direct Material	1,600	2M)	402	402	295	301
Welfare to the Staff	Staff Number	6,000	1,200	1,800	1,800	640	560
Depreciation	Asset value	60,000	24,000	16,000	12,000	4,000	4,000
Repairs	Asset value	12,000	4,800	3,200	2,400	800	800
General overhead	Direct wages	24,000	4,000	6,000	8,000	2,000	4,000
Rent & taxes	Area	1,100	3M)	500	100	100	100
Wages	Allocated	90,000	—	—	—	30,000	60,000
Material		89,000	—	—	—	44,000	45,000
Total as per primary distribution		2,86,300	35,400	28,662	25,142	82,095	1,15,001
Department Y Wages			25,556	38,334	51,111	—	(1,15,001)
Service Department X 5 : 3 : 2			41,048	24,628	16,419	(82,025)	—
Total as per secondary distribution			1,01,990	81,626	92,684	—	—

Note : Service departments' total cost (Direct cost + Overhead cost) has to be re-apportioned to production departments, direct wages and direct material cost of service departments is taken in overhead distribution summary.

Illustration 3

Calicut Soaps Limited supplied you the following information for the month ending January 1988. You are required to apportion the overheads to production departments.

Item	Production Departments			Service Departments	
	A	B	C	X	Y
Direct wages (Rs.)	14,000	12,000	10,000	2,000	2,000
Direct Material (Rs.)	6,000	5,000	4,000	3,000	2,000
Employee Numbers	400	300	300	100	100
Electricity KWh	16,000	12,000	12,000	4,000	6,000
Light points Numbers	20	30	30	10	10
Asset Value (Rs)	1,00,000	60,000	40,000	20,000	20,000
Area Occupied (Sq. yards)	1,600	1,200	1,200	400	400

The expenses for the month were :

	Rs.		Rs.
Stores overhead	800	Repairs and Maintenance	2,400
Motive power	3,000	General overheads	20,000
Lighting	4M)	Rent and taxes	1,200
Labour welfare	6,000		
Depreciation	12,000		

Apportion the expenses of Department X in the ratio of 4 : 3 : 3 and that of the Department Y in proportion to direct wages to Department A, B & C respectively.

Solution :

Department Overhead Distribution Summary

Expenses	Basis	Total	Production Depts.			Service Depts.	
			A	B	C	X	Y
		Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
Direct wages	Allocation	4,000	—	—	—	2,000	2,000
Direct Material	Allocation	5,000	—	—	—	3,000	2,000
Stores Overhead	Material	800	240	200	160	120	80
Power	KWh	3,000	960	720	720	240	360
Lighting	Light points	400	80	120	120	40	40
Labour Welfare	Employees	6,000	2,000	1,500	1,500	500	500
Depreciation	Asset value	12,000	5,000	3,000	2,000	1,000	1,000
Repairs & Maintenance	"	2,400	1,000	600	400	200	200
General overhead	D. Wages	20,000	7,000	6,000	5,000	1,000	1,000
Rent & Taxes	Area	1,200	400	300	300	100	100
Total as per primary distribution		54,800	16,680	12,440	10,200	8,203	7,280
Service Department X 4 : 3 : 3			3,280	2,460	2,460	(-8,200)	—
Service Department Y Direct Wages			2,831	2,427	2,022	—	(-7,280)
Total as per Secondary distribution			22,791	17,327	14,682	—	—

Check Your Progress B

1 What is allocation of overheads ?

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2 What do you mean by apportionment of overheads ?

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3 What is re-apportionment ?

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- 4 State whether each of the following statements is True or False,
- i) Rent is apportioned on the basis of direct wages.
 - ii) Power house is a production department.
 - iii) The basis for apportionment of canteen and welfare expenses is the number of employees.
 - iv) The basis for re-apportionment of repairs and maintenance department is the number of machine in each department.
 - v) The most practical method of apportionment is the potential benefit,

7.7 SUMMARY

Overheads refer to all indirect costs including indirect materials, indirect labour and indirect expenses. **These** can be classified according to the functions to which they relate and according to their variability in relation to the volume of output.

Overheads are also taken into consideration while calculating the total cost per unit. But, they cannot be directly **identified** with particular products. Hence, they are **distributed among** different products in an indirect manner.

The first step in overhead distribution is the collection of overheads (**ascertainment** of the total amount) under various standing order numbers. The next step is to allocate and apportion them to various **production** and service departments on some suitable basis. The guiding principles of apportionment are : (i) actual benefit (ii) **potential benefit** (iii) specific benefit (iv) ability to pay. **The** third step is **to re-apportion** the cost of service departments to production departments to facilitate the distribution of overheads among different **products** manufactured in the factory.

The last and final stage in overhead distribution is the absorption of overheads. This will **be** discussed in Unit 8.

7.8 KEY WORDS

Allocation : Allotment of whole **amount** of overhead **cost** to a particular cost centre.

Apportionment : **Distribution** of common **costs** to various cost centres on some equitable basis.

Common Costs : Overheads incurred jointly for various cost **centres**.

Departmentalisation (Primary Distribution) : Allocation and **apportionment** of overheads to production and service departments.

Overheads Distribution Summary : A **statement** showing allocation and apportionment of various items of **overheads**.

Re-apportionment (Secondary Distribution) : Apportionment of service department's cost to production department.

7.9 ANSWERS TO CHECK YOUR PROGRESS

- A 2 factory overheads, administrative overheads, selling overheads and distribution overheads.
- 4 i) indirect labour ii) overheads iii) partly, partly iv) standing order numbers
v) non-cash
- B 4 i) False ii) False iii) **True** iv) False v) **True**

7.10 TERMINAL QUESTIONS/EXERCISES

Questions

- 1 Define overheads. What are the various methods of classifying overheads. Discuss functional classification.
- 2 Name various steps involved in the distribution of overheads and explain them briefly.
- 3 How and why the service departments costs are apportioned to production departments?
- 4 What are standing order numbers? Explain various sources used for collection of overheads.
- 5 Discuss various principles of apportionment of overheads. Give a few examples of the bases used for apportionment and re-apportionment.

Exercises

- 1 Following figures have been extracted from the accounts of a manufacturing concern for the month of December 1989.

Indirect Materials :

		Rs.
Production Departments	X	1,000
	Y	1,800
	Z	500
Maintenance Dept.	P	3,000
Stores Dept.	Q	800

Indirect Wages :

Production Dept.	X	1,400
	Y	1,900
	Z	400
Maintenance Dept.	P	2,000
Stores Dept.	Q	1,300
Power and Light		12,000
Rent		5,600
Insurance on assets		2,000
Med charges		6,000

Depreciation @ 6% on capital value of assets. From the following additional information, calculate, the share of overheads of each department.

Item	Production			Service	
	X	Y	Z	P	Q
Area (sq. ft.)	4,000	4,000	3,000	2,000	1,000
Capital value of asset (Rs.)	2,00,000	2,40,000	1,60,000	1,20,000	80,000
K.W. hours	4,000	4,400	1,600	1,500	500
No. of employees	180	240	60	80	40

(Answer: X : Rs. 11,300; Y : Rs. 13,900; Z : Rs. 5,500; P : Rs. 9,000; Q : Rs. 4,000.)

Overheads

- 2 M. Co. Ltd., has three: production departments A, B, and C and two service Departments D and E. The following figures are extracted from the records of the company :

	Rs.
Rent and rates	10,000
Indirect Wages	3,000
Deprccialion	20,000
Lighting	1,200
Power	3,000
Sundries	20,000

The following further details are available :

	Total	A	E	C	D	E
Floor space (sq. ft.)	20,000	4,000	5,000	6,000	4,000	1,000
Light points	120	20	30	40	20	10
Direct wages (Rs.)	20,000	6,000	4,000	6,000	3,000	1,000
H.P. of machines	300	120	60	100	20	—
Value of machines (Rs.)	5,00,000	1,20,000	1,60,000	2,00,000	10,000	10,000

Apportion the costs to various departments on the most equitable basis.

(Answer: A: Rs. 15,100; B: Rs. 14,400; C: Rs. 19,300; D: Rs. 9,250; E: Rs. 3,150)

- 3 A factory has two production departments A and B and two service departments- Purchasing Department C and Time keeping department D.

	A	B	C	D
Wages (Rs.)	16,000	12,000	6,000	6,000
Area sq. meter .	1,500	1,100	900	500
Number of employees	80	60	40	20
Value of Plant and Machinery (Rs.)	32,000	24,000	16,000	8,000
Value of direct materials purchased (Rs.)	10,000	20,000	—	—
Lighting units	5,000	3,000	1,500	500

The following costs have been incurred :

	Rs.		Rs.
Supervision	6,000	Rent	1,600
Repairs to Plant and Machinery	2,400	Depreciation to Plant and Machinery	4,000
Light	2,000	Power	2,000
Employer's contribution to ESI	400	Canteen expenses	200

- * From the above information apportion the service departments costs to production departments, ignoring inter-service. department transfer.

(Answer : A : Rs. 15,220,; B : Rs. 15,280)

- 4 Calculate the overheads applicable to production departments A & B. There are also two Service Departments X & Y. X renders service worth Rs. 24,000 to Y and the balance to A & B as 3 : 2. Y renders service to A and B as 9 : 1.

	A	B	X	Y
Floor space (Sq. ft.)	10,000	8,000	2,000	4,000
Assets (Rs. in lakhs)	20	10	6	2
H.P. of machines	2,000	1,000	800	200
Number of workers	200	100	100	50
Light points	100	60	40	40

Expenses are :

	Rs.
Depreciation	3,80,000
Rent, Rates etc.	72,000
Insurance	30,400
Power	40,000
Canteen expenses	20,000
Electricity	9,600

(Answer : A : Rs. 3,73,560 ; B : Rs. 1,79,940)

- 5 The R.T. Engineering Industries produced products P and Q during January 1980. Direct Department Expenses of the 3 services sections and 2 production sections through which the products pass and other relevant information are furnished below :

<i>Section/ Departments</i>	<i>Expenses</i>	<i>Number of workers</i>	<i>Labour Hour</i>	<i>Labour cost</i>	<i>Installed capacity</i>
	Rs.			Rs.	
Service Section X (Personnel and amenities)	30,000	12	—	—	—
Service Section Y (Electrical)	40,000	10	—	—	—
Service Section Z (Mill weight)	10,000	10	600	—	—
Production Section A	70,000	50	6,000	26,000	40 HP.
Production Section B	80,000	50	12,000	36,000	60 HP.

Expenses under Service Section Y represent Departmental Expenses directly apportioned on electric power used on installed capacity of electric motors in Departments A and B.

Of the 600 effective hours of Mill weight in Section Z, 240 hours relate to Section A and 360 to Section B.

Show the apportionment of Service Sections to Production Sections.

(Answer : A : Rs. 1,04,500 ; B : Rs. 1,25,500)

Note : These questions will help you to understand the unit better. Try to write answers for them. But do not submit your answers to the University. These are for your practice only.