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COST ACCOUNTING

The Cost Elements

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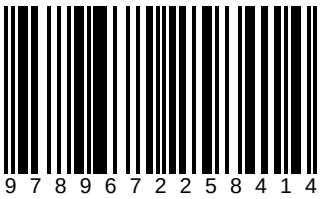

Cost Accounting:
The Elements Of Cost

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PERMISSION TO USE

Cost Accounting:
The Elements Of Cost

This book contains information submitted by the author based on his knowledge, experience and expertise in the field of teaching cost accounting. In addition, this book also contains some information obtained from other parties whose original source is stated through reference. However, since this book only covers topics related to element costs then readers are encouraged to refer to the contents of other related books to gain a detailed understanding in cost accounting.

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PREFACE

This ebook is filled with the notes to give students a ready reference and instructional material.

It is designed to enable the students to learn by himself and/or by the guidance of his instructor, to discover basic knowledge in cost accounting.

The e book consists of five different chapters: introduction to cost accounting, cost accounting terminology, material cost, labour cost and overhead cost with guidance example and practice questions in every chapters.

At the end of the ebooks, the students may practice the comprehensive question and they will check their answers for all question in this book.

The Authors

ACKNOWLEDGEMENTS

Syukur Alhamdulillah! This ebook has finally completed. We wish to express our utmost gratefulness to our loved one for their understanding and support throughout the completion of the ebook. We also express our appreciation and gratitude towards our management for enabling us to gain the relevant experience which is necessary to successfully complete this ebook. Special thanks to various authors, whose work we have referred to and noted as part of the references at the end of this ebook. Thank you to our colleagues who have helped us either directly or indirectly in coming up this ebook. May Allah bless us all.

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

CHAPTER 1

Introduction to Cost Accounting

Learning Objectives >>>

After studying this chapter, you should be able to:

- Understand costing in business
- Define cost accounting
- Difference between financial accounting with cost accounting
- Explain the difference between financial accounting with management accounting
- Compare Cost Accounting with Management Accounting
- Define the term of cost
- Describe the ascertainment of costs

1.1 Costing in business

Why we need costing in the field of business?

Costing helps in determination of costs through the process of classification, recording, and allocation[1] the expenditure of product (Anbarasu,2008). After ascertaining the total expenditure, the price of a product produced can be fix. Here it is important for us to understand the cost classification such material, labour and other direct and indirect expenses[2]. The point is to estimate the profit and to understand its relationship with costs and price. The three elements of a transaction i.e., cost, profit and price are necessary components of any business activity.

Example:

A kitchen appliances factory introduces a new appliance. The factory incurs RM 400 for material, RM 400 for labour and RM 200 for overhead on every

kitchen appliance produced and supplied in the market. The total cost comes around RM 1000. If the price of the device is RM 1500, the profit per device is RM 500 (1500-1000).

All information as seen in the example for each product produced requires by management of factory. They need it all for the purpose of planning, cost control and decision-making[3]. The financial accounting does not provide the necessary information to do similar estimation[4]. Such lack of financial accounting has given rise to the need of cost accounting.

From above statement the are a few important concept. [1] Cost Accounting process [2] Cost Accounting classification [3] Importance of cost accounting [4] there is a difference between cost accounting and financial accounting

1.2 Define cost accounting.

The term 'costing' refers to the method and process of determining costs (ICSI,2017). Our predecessors evolved specific rules and principles in the field of costing over many years. These rules and principles assist us in determining the cost of manufactured goods. 'Cost Accounting' also refers as process of recording all incomes and expenditures with the aim of preparation of periodic financial statements.

***Definitions of Cost Accounting*.**

According to the Terminology used by the Institute of Cost and Management Accountants, "Cost accounting is the part of management accounting which establishes budgets and standard costs and actual costs of operations, processes, departments or products and the analysis of variances, profitability or social use of funds."

Cost is the monetary value of one's efforts, the risk involved, and the resources used (e.g material, time, labour and opportunity costs in the production of good or services in an organization and their final delivery to customers.

1.3 Difference between financial accounting and cost accounting

What are the differences between financial accounting and cost accounting?

Both accounting systems are complementary to one another. The preparation of both accounts assists the organization in the smooth operation of the business. The differences between Cost Accounting and Financial Accounting are summarized in Table 1.1.

Table 1.1

Differences between Cost Accounting and Financial Accounting (Anbarasu, 2008)

Cost Accounting	***Financial Accounting***
1) It assists us in determining the cost of goods produced.	It assists us in understanding the operational results and financial position of the business.
2) It provides management with the necessary information.	It disseminates information to all parties involved in business, both internally and externally.
3) It is not required to be followed by an external auditing system.	Auditing is a legal requirement.
4) Its categories costs as material, labour, fixed overhead, and variable overhead.	Transactions are recorded in double entry system
5) The cost sheet is the most common cost accounting format.	Profit and Loss in Trading Two consolidated financial statements are the Account and Balance Sheet.

6) It does not serve as a basis for taxation.	It serves as the foundation for determining the business's tax liabilities.
7) The purpose of variance analysis is to identify the favorable and adverse result between standard cost and actual cost.	It only records actual transactions that occur during the course of business operations.
8) Cost accounting makes it easier to present cost information at regular intervals.	Annual financial statements are presented.
9) Profit or loss on a specific product, branch, department, or job is estimated.	It displays the overall business's operational results.
10) It is an effective control device	Financial accounting is not a tool for controlling. Accounting ratios, on the other hand, can be calculated using financial accounting.
11) May apply monetary or non-monetary units of measurement.	Monetary units are the only unit of measurement in financial accounting.

1.4 Difference between financial and management accounting

Bring out the difference between financial and management accounting.

There are two broad types of accounting information:

Financial Accounts: It is geared toward external users of accounting information

Management Accounts: It aims more at internal users of accounting information

Although there is a difference in the type of information presented in financial and management accounts, the underlying objective is the same - to satisfy the information needs of the user.

Table 1.2

Ng (2009), summarized the differences between Financial Accounting and Management Accounting in the table below

	Management Accounting	***Financial Accounting***
Users	Internal	External
Nature	Future	Historical
Details	More detailed	Summarized
Legality	Not legal	Legal
Format	Not Standard	Standard

1.5 Compare cost accounting with management accounting.

A lot of information is required for management to manage a company. Such data must be presented in an organized way. Management can use it as a tool if it is in accounting form. Management accounting is concerned with all information useful to management. Management accounting is defined by the Institute of Cost and Management Accountants of England as follows:

> ***"It is a presentation of accounting information in such a way as to assist management in the creation of policy and in the day-to-day operation of an undertaking"***

Management accounting cover the following essential activities:

1 Cost estimation is a fundamental management task. If it is estimated, management will use the estimate in the control process and decision-making.

2 Another management function is cost control. In this case, the cost incurred is compared to the task completed. When costs become excessive, corrective measures should be implemented.

3 Another aspect of management accounting is performance evaluation. Managers are frequently observed. Their performance should be in line with the organization's goals. This necessitates the use of a comprehensive reporting system.

4 It provides management with information for planning and decision-making.

The primary focus of cost accounting is cost control and cost determination. Management accounting, on the other hand, employs the principles and practices of financial accounting and costing accounting, as well as other managerial techniques, to ensure effective management. These techniques include standard costing, budgetary control, uniform costing and inter-firm costing, marginal costing, and flow costing.

1.6 Define the term of cost.

In the business world, the terms 'cost' and 'expenditure' are used interchangeably to refer to the same thing. The amount of money spent on or attributable to a specific item is referred to as its cost.

> ***According to the committee on Cost Concepts and Standards of the American Accounting Association, "Cost is foregoing, measured in monetary terms, incurred or potential to be incurred to achieve a specific objective"***

It could be an actual cost or an estimated expense. It also denotes a direct or indirect outlay. It is also associated with a job, a process, a product, or a service. Material, labour, factory overhead, administrative overheads, and selling and distribution overheads are all examples of costs.

1.7 Ascertainment Costs

What are ascertainment costs? How does it differ from cost estimation?

Cost Ascertainment:

Cost ascertainment is concerned with the calculation of actual costs incurred. It refers to the methods and procedures used to determine costs. In various organizations, different methods for determining cost are used. Among the methods are job costing, contract costing, batch costing, process costing, unit costing, and multiple costing. (Refer to the costing method.) Each method is chosen based on its suitability for the organization. The determination of actual cost has a minor impact due to the following possible reasons:

- Actual cost cannot be used for the purpose of price quotations and filing tenders.
- Actual cost is irrelevant in terms of control.
- Actual cost is ineffective as means of measuring performance efficiency.

Although there are limitations, as shown above, determining actual costs is critical. The determination of actual costs reveals unprofitable activities, losses, and inefficiencies in the form of idle time, excessive scrap, and so on.

Uses of Cost Estimation:

Cost estimation is the process of determining the predetermined costs of goods or services. The costs are planned ahead of time and come before the operations. Estimated costs are unquestionably future costs. They are based on an average of past actual costs adjusted for anticipated future changes. The following are the uses of cost estimation:

- Cost estimates are used in making price quotations and bidding for contracts
- they are used in the preparations of budgets
- it helps in evaluating performance
- Projected financial statements are prepared with the help of such estimations
- It serves as targets in controlling costs

Formative Question Chapter 1

Choose the **BEST** answer

1. Compared with financial accounting cost accounting is relatively _____ development.
   A. old
   B. recent
   C. earliest
   D. both A & C

2. Cost accounting started as a branch of

   A. financial accounting
   B. Management accounting
   C. corporate accounting
   D. Vedic accounting

3. The vital importance that cost accounting has acquired in the modern age is because of the growth of _____ in modern industry

   A. technologies
   B. creativity
   C. complexities
   D. simplicity

4. In brief, _____ is the activity of finding out the cost of products and services.

   A. Financial accounting
   B. Management accounting
   C. Corporate accounting
   D. Cost accounting

5. The term costing and cost accounting are many times used interchangeably but the scope of cost accounting is _____ .

   A. limited as compared to costing
   B. broader than that of costing
   C. equal to costing
   D. there is no relation between costing and cost accounting

CHAPTER 2

Cost Accounting Terminology

Learning Objectives >>>

After studying this chapter, you should be able to:

- Explain cost terms such as cost centre and cost unit
- Understand the component of total cost
- Classify costs according to their functions, variability, identifiability with cost units, association with product or period and controllability
- Prepare Cost Statement

Student's Tip

Students should prepare this chapter thoroughly from two viewpoints, one in every examination some marks are attributed to this chapter and two, unless students understand the concepts discussed here, they will not be able to grasp the following chapters easily.

2.1 Cost Centre

What is cost centre? How is it identified? List its uses.

Cost is generally ascertained by cost centres. Let us understand about cost centre.

> ***A cost centre is a location, person or item of equipment (or group of these) for which costs may be ascertained and used for the purposes of cost control. (I.C.M.A. London)***

The entire organization can be divided into cost centres that contribute to the total cost. A cost centre is identified primarily in two ways. They are

1. Personal cost centre: It consists of a person or a group of persons.

2. Impersonal cost centre: It consists of a location or an item of equipment or group of these.

The nature and type of industry influence the identification and establishment of cost centres. Cost centres may be of the following types.

i. Process cost centre (based on sequence of operation)
ii. Production cost centre(for regular production in a shop)
iii. Operation cost centre(where various operations are involved in the production process)
iv. Service cost centre(for activities supporting the main production)

Identification and establishment of cost centres help us in

i) ascertaining the centre-wise costs,
ii) comparing the centre-wise costs periodically,
iii) finding out the major trends of variance,
iv) Applying the techniques of control to check undue, undesirable or unexpected movements in costs.

Costing by cost centres is a concept that can be applied to almost any industry. The number of cost centres and their sizes differ from one project to the next. The primary goal of cost centre identification is to assign responsibilities to each cost centre. A large number of cost centres is costly but having too few cost centres defeats the purpose of control.

2.2 Cost Unit

Describe about cost unit.

The cost centres assist in determining costs by location, equipment, or person. Cost unit is an extension of cost centre identification. The cost unit assists in dividing the cost into smaller sub-divisions. It also makes determining the cost of a saleable product or service easier. According to I.C.M.A. London

A cost unit is a unit of product, service or time in relation to which cost may be ascertained or expressed

Cost units are the 'things' that the company is set up to provide and for which a price is determined. Cost units are typically the quantities of a product for which a price is quoted to customers.

Cost units may be:

- unit of product (e.g., cost per book)
- unit of time (e.g., cost of generating electricity per hour)
- unit of weight (e.g., cost per kilogram of sugar)
- unit of measurement (e.g., cost per square foot of construction)
- operating unit of service (e.g., cost of running a car per kilometre)

Selection of a cost unit must be appropriate. The first criterion is convenience. Second, it should be simpler to link expenses to cost units. Third, it must be in accordance with the nature and practice of the business. A few more examples of cost units in various industries are given:

Table 2.1

Cost units used in various industries (Anbarasu, 2008)

Industry	***Cost Unit***
Cars	Per Car
Cement	Tonne
Chemicals	Tonne, kilogram, litre, gallon etc
Bricks	1,000 bricks
Shoes	Pair or dozen pairs
Pencils	Dozen or gross
Electricity	Kilowatt hour

Transport	Passenger Kilometre
Automobile	Number
Printing Press	Thousand copies
Cotton	Bale
Timber	Cubic foot
Mines	Tonne
Carpets	Square yard
Hotel	Room per day

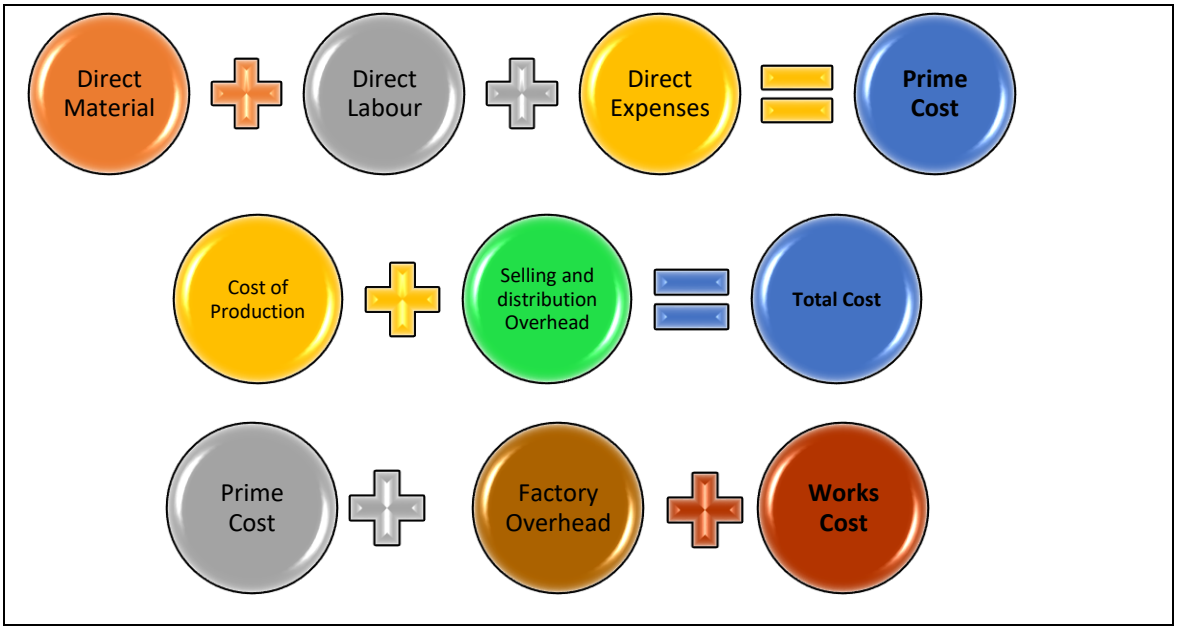
2.3 Total cost

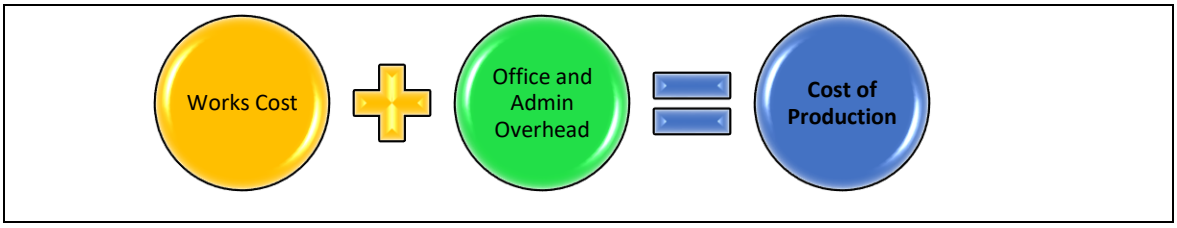
Explain the components of total cost?

The total cost comprises of direct costs (also known as prime cost) and indirect costs (known as overheads). Direct materials, direct labour, and other direct expenses comprise the prime cost. Factory overheads, office overheads, and selling and distribution overheads are all examples of overhead.

Figure 2.1

Mechanism of Cost Build Up





2.4 Elements of Cost

What are the various elements of cost?

There are three elements of Cost

1. Materials:

The term "Materials" refers to commodities that are used as raw materials, components, or consumables in the production of a product. Materials may be either direct or indirect.

Direct materials: are those materials easily traceable to the good or service being produced (Accounting Tool, 2021). Cotton for textiles, tyres for car are few examples of direct material. It also includes package material.

Indirect Materials: Indirect materials are materials that are used in the production process but that are not directly traceable to the product. For example, glue, oil, tape, cleaning supplies, etc. are classified as indirect materials.

2. Labour

The workers are involved in converting raw material into finished goods. Such involvement of workers forms the word 'labour'. The reward given to them for their involvement is called 'wages'. Wages can be direct or indirect.

Direct Labour: The workers who are directly involved in the production of goods are known as 'direct labour'. The reward paid to them is called direct wages.

Indirect Labour: The workers employed for supports the production process, but which is not directly involved in the active conversion of materials into finished products or those engaged for office work and selling and distribution activities are known as 'indirect labour'. The reward given to them is called indirect wages.

3. Expenses

All expenditures other than material and labour are termed as 'expenses'. Expenses can also be direct or indirect.

Direct Expenses: Other expenses, which are incurred specifically for a particular product, job or processes are termed as 'direct expenses'. Some examples are given below:

Direct Expenses

Carriage Inwards

Production royalty

Hire Charges of special equipment

Cost of special drawings

Indirect Expenses: All expenses other than indirect materials and labour which cannot be directly attributed to a particular product, job or service are termed as 'indirect expenses'. Some examples are given below:

Indirect Expenses:

Rent of building,

Repair of Machinery

Lighting and heating

Insurance

Concept of Overhead: All material, labour and expenses, which cannot be identified as direct costs, are termed as 'indirect costs'. The three elements of indirect costs namely indirect materials, indirect labour and indirect expenses are collectively known as 'Overheads' or 'On costs". It is refer as expenditure which cannot be conveniently traced to or identified with any particular revenue unit, unlike operating expenses such as raw material and labor. Overheads are grouped into three categories:

- factory (or manufacturing) overheads,
- office (or administrative) overheads, and

selling and distribution overheads

Conversion Cost: The cost of converting raw materials into finished goods is termed as 'conversion cost'. It includes direct wages, direct expenses and factory overheads.

2.5 Classification of Cost

How will you classify costs? Explain

Costs have been classified according to various bases.

2.5.1 Classification based on functions

This is a traditional classification. The cost may have to be ascertained according to the functions carried out by the organization. The functions generally are manufacturing, administration, selling, distribution and research.

Manufacturing Costs refer to all expenditure incurred in the course of production from purchasing of materials to packing of the finished goods.

Manufacturing Costs

Material

Labour

Factory Rent

Depreciation

Power & Lighting

Insurance

Store Keeping

Administration Costs are incurred for general administration of the organization and for the operational control.

Administration Costs

Accounts office expenses

Legal charges

Audit charges

Office Rent

Remuneration to Director

Postage Expenses

Selling Costs are incurred to create and stimulate the demand and to secure the demand

Selling Costs

Salaries

Commission to Salesmen

Advertising and promotion Expenses

Samples

Travelling Expenses

Distribution Costs are incurred on dispatch of the finished goods to customer including transportation.

Distribution Costs

Packaging costs

Warehousing Costs

Carriage outwards

Insurance

Upkeep of Vans

2.5.2 Classification based on Variability or behavior

Costs have a definite relationship with the volume of production. They behave differently when volume of production rises or falls. On this basis, costs are classified into fixed cost, variable costs and semi-variable (semi-fixed) costs.

Fixed Cost: Costs, which remain unaffected by changes in volume of production, are called as "fixed Costs". For example, the rent and manager's salary will not change when you increase the units of production from 1000 to 1200.

Fixed Costs

Rent lease

Salary to Managers

Building Insurance

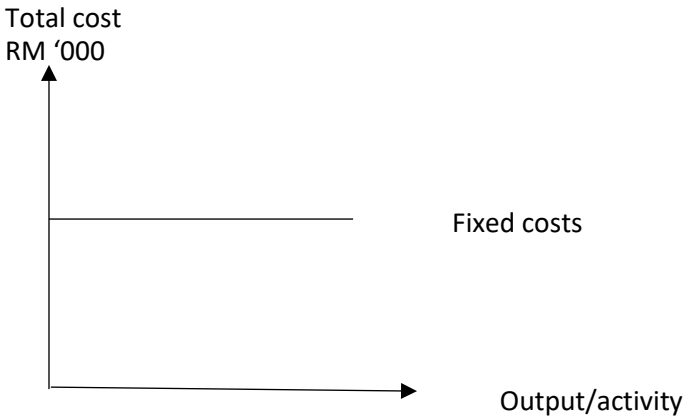
Salary and Wages

Taxes to local authority

The following is an overview of the fixed cost graph

Figure 2.2

Fixed Cost Graph



Variable Cost: The cost that tends to vary in direct proportion to the volume of production is called "variable cost". For example, for 1000 units of output, cost of raw materials consumed comes to RM 10,000. If the production is increased to 1200 units (20%) the cost of material will increase to RM 12,000 (increase of 20%).

Variable costs

Direct Material

Direct Labour

Power

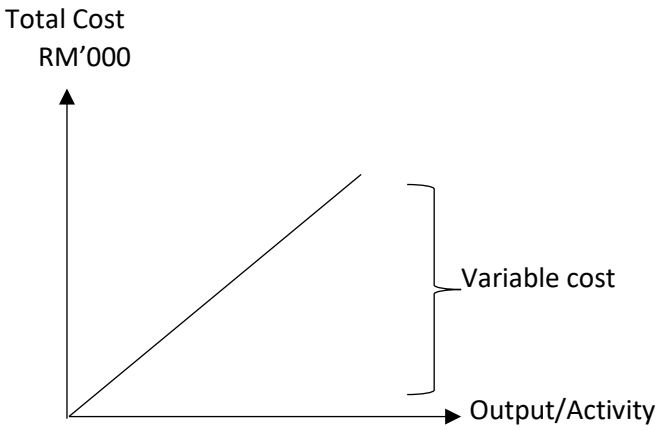
Commission of Salesmen

Royalties

Variable costs are illustrated as in the graph below

Figure 2.3

Variable Cost Graph

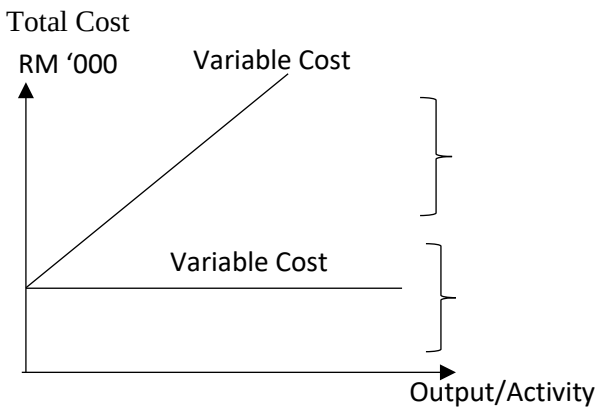


Semi-variable Costs: Costs, which increase or decrease with a change in volume of production but not in the same proportion as the change in the volume of production are called "semi-variable costs".

Semi-variable Costs
Supervision
Repairs
Maintenance
Telephone Charges
Light and Power
Depreciation

Figure 2.4

Semi Variable Cost Graph



2.5.3 Classification according to their identifiability with Cost units:

Costs are classified into direct and indirect based on their identifiability with cost units and jobs or processes:

Direct Cost: It refers to expenses, which can be directly identified with the product, job or process. For example, in case of materials used and labour employed we can easily ascertain as to which product or job or process they relate.

Indirect Cost: It refers to those expenses, which cannot be easily identified with a particular product, job or process. These are general, common or collective nature, which are to be allocated to various products manufactured in the factory. Few examples are wages paid to night watchman, salary to the production manager.

2.5.4 Classification based on their association with product or period.

Product Costs: These are those costs, which are necessary for production, and which will not be incurred if there is no production. Direct material, direct wages and some of the factory overheads are examples of this kind.

Period Costs: Costs, which are not necessary for production and are written off as expenses in the period in which these are incurred are called period costs. Rent, salaries of company executives, travelling expenses are some examples of period costs.

2.5.5 Classification based on their controllability

Controllable Costs: These are the costs, which may be directly regulated at a given level of authority. Variable costs are generally controllable by department heads.

Uncontrollable Costs: Costs, which cannot be influenced by the action of a specified member of an organization, are called uncontrollable costs. Factory rent is a good example.

2.5.6 Other Cost Terminologies

1. **Relevant Cost**

Relevant cost is which changes with a change in decision. These are future costs that effect the current management decision.

Examples

Variable cost

Fixed cost which changes with in an alternatives

Opportunity cost

2. **Irrelevant Cost**

Irrelevant costs are those costs that would not affect the current management decision.

Example

A building purchased in last year, its cost is irrelevant to affect management decisions.

3. Sunk Cost

Sunk cost is the cost expended in the past that cannot be retrieved on product or service.

Example

The entity purchase stationary in bulk last month. This expense has been incurred and hence will not be relevant to the management decisions to be taken subsequent to the purchase.

4. Opportunity Cost

Opportunity cost is the value of a benefit sacrificed in favor of an alternative.

Example

An investor invests in stock exchange he foregoes the opportunity to invest further in his hotel. The profit which the investor will be getting from the hotel is opportunity cost.

5. Historical Cost

It is the cost which is incurred at the time of entering into the transaction. This cost is verifiable through invoices/agreements. Historical cost is an actual cost that is borne at the time of purchase.

Example

A building purchased for RM 400,000, has market value of RM 1,000,000. Its historical cost is RM 400,000.

6. Standard Cost

Standard cost is a Predetermine cost of the units.

Example

Standard cost for a unit of product 'A' is set at RM 30. It is compared with actual cost incurred for control purposes.

7. Implicit Cost

Implicit cost imposed on a firm includes cost when it foregoes an alternative action but doesn't make a physical payment. Such costs are related to forgone benefits of any single transaction, and occur when a firm:

Example

Uses its own capital or uses its owner's time and/or financial resources

8. Explicit Cost

Explicit cost is the cost that is subject to actual payment or will be paid for in future.

Example

Wage

Rent

Materials

9. Differential Cost or Incremental cost

It is the difference of the costs of two or more alternatives.

Example

Difference between costs of raw material of two categories or quality.

2.6 Cost Statement Preparation

EXAMPLE 1

ABC Sdn. Bhd. is a manufacturing company making branded apparel. The following are information of this company for year ended 31st December 2020.

	RM
Machinery (net book value)	81 000
Stock as of 1st January 2020 :	
Direct Raw Material	12 000
Work in Progress	2 200
Direct wages	8 000
Purchase of raw material	20 000
Water & electricity	10 000
Import duties on purchase	500
Carriage inwards	1 000
Insurance	15 000
Rent	5 000

Factory maintenance expenses	1 000
Sales commission	1 000
Carriage outwards	2 000

Additional information:

1. Stock as of 31st December 2020 :

Direct raw material	RM 2 900
Work in progress	RM 1 400

2. Accrued direct wages is RM 2 000.
3. The depreciation rate for fixed asset is 10% per annum using reducing balance method.
4. Water & electricity and insurance were distributed based on floor area as follows :

   Factory: 3000 sq meter

   Office : 2000 sq meter
5. Rent distributed based on ratio 3:2 between factory and office.

You are required to prepare cost statement which shows the prime cost, production overhead cost, administration overhead, selling and distribution overhead and total cost.

SOLUTION

Cost Statement for the year ended 31st December 2020*

		RM	RM
Opening Stock			12 000*
Purchase of raw material		20 000*	
add	: Carriage inwards	1 000*	
	Import duties	500*	
			21 500
			33 500
less :	closing stock		(2 900)*
Value of raw material consumed			30 600
add :	Direct wages		10 000**
	Prime Cost		40 600*
add :	Production overhead		
	Depreciation of machinery	8 100**	
	water and Electricity	6 000**	

	Insurance	9 000**	
	Maintenance expenses	1 000*	
	Factory rent	3 000**	27 100
			67 700
add :	Opening work in progress		2 200*
			69 900
Less :	Closing work in progress		(1 400)*
Production Cost			68 500
Add:	Administration overhead		
	Water and electricity	4 000**	
	Insurance	6 000**	
	Office rent	2 000**	12 000
Add:	Selling and distribution overhead		
	Sales commission	1 000*	
	Carriage outward	2 000*	3 000
TOTAL COST			83 500**

EXAMPLE 2

a) The data given below are the information regarding Indah Cantek Sdn. Bhd. during the period ended 30 June 2019:

Direct wages	140,250
Indirect wages	28,000
Purchased of raw material	101,420
Import duty	2,900
Royalty (based on unit produced)	15,000
Power and supply for factory	17,800
Insurance coverage for labor	4,040
Rental for factory	16,300
Machine at cost	150,100
Lorry at cost	100,000
Salary for lorry driver	10,200

Additional information:

1) During the period ended 30 June 2019, Indah Cantek Sdn. Bhd. manage to sold 2,700 units of desk for RM155 each.
2) Depreciation for the machine and lorry is charged at 20% per year according to the straight line method.
3) Lorry is used for delivery purpose.
4) Administration expenses is RM9,540
5) Opening and closing stock for finished goods is RM20,700 and RM14,060 respectively.

a) You are required to prepare Statement of Cost together with the profit gain by Indah Cantek Sdn. Bhd. for the year ended 30 June 2019.

SOLUTION

Statement of Cost for the year ended 30 June 2019

	RM	RM
Raw Material		
Purchase	101,420	
(+) Import duty	2,900	104,320
Labour		
Direct Wages		140,250
Royalty		15,000
PRIME COST		**259,570**
Production Overhead		
Indirect wages	28,000	
Power and supply for factory	17,800	
Insurance coverage for labour	4,040	
Rental for factory	16,300	
Depreciation for machine (20%x150,100)	30,020	**96,160**
PRODUCTION COST		**355,730**
Administration overhead		9,540
Selling and distribution Overhead		
Salary for lorry driver	10,200	
Depreciation for lorry (20% x 100,000)	20,000	30,200

(+) Opening Finished Goods	20,700
(-) Closing Finished Goods	(14,060)
TOTAL COST	**402,110**
Sale (2,700 units x RM155)	418,500
Profit	16,390

Formative Question Chapter 2A

Choose the correct answer in each of the following Multi-Purpose Question

1. Fixed cost per unit increases when
a) Variable cost per unit increase
b) Variable cost per unit decreases
c) Production volume increases
d) Production volume decreases

2. Variable cost per unit
a) Varies when output varies
b) Remains constant
c) Increases when output increases
d) Decrease when output decreases

3. Which of the followings is the reason of increase in total variable cost:
a) Increase in fixed cost
b) Rise in interest on capital
c) Increase in direct material cost
d) Depreciation of machinery

4. Which of the followings is an example of fixed cost:
a) Direct material cost
b) Works manager's salary
c) Depreciation of machinery
d) Chargeable expenses

5. The total of all direct expense is known as …… cost
a) Prime cost
b) Factory cost
c) Selling cost
d) Cost of products

6. …… costs are partly fixed and partly variable in relation to output
a) Variable
b) Fixed
c) Semi – variable
d) Marginal

7. An opportunity cost is ……
a) The advantage foregone

b) Additional income
c) Cost incurred in post
d) Cost for replacement

Formative Question Chapter 2B

Question 1

In January, Diana Bhd purchased raw materials costing RM248,800 and incurred direct labour cost of RM340,000. Production overheads totaled RM92,200 for the month.

You are required to compute:

a. Prime Cost

Question 2

By using the information from question 1, you are provided with the following additional information.

Information on the inventories was as follow:

Opening:

Material	RM16,200
Work in process	RM2400
Finished goods	RM14,000

Closing:

Materials	RM 4,600
Work in process	RM18,000
Finished goods	RM13,000

Required

a. Compute the cost of materials used for January
b. Calculate the cost of goods manufactured for January

Question 3

Ahmad laksa produces and sells the very famous laksa recipe from Sarawak. The management had compiled the following data for the preparation of its cost statement ended 31 December 2015.

COST	RM
Fish	60,550
Rice Flours	88,000
Cucumbers	4,500
Chilies	8,400
Eggs	15,000
Indirect materials	2,700
Chef's wages	84,000
Cashiers salary	108,000
Supervisor salary	30,000
Cleaners salary	12,000
Utilities (factory to admin ratio is 8:2)	3,500
Depreciation of machine	6,000
Advertising	15,000
Packaging	22,400
Office rent	12,000

You are required to prepare a cost statement as on 31 December 2015, showing the prime cost, production overhead cost, administrative overhead, selling and distribution overhead and total cost.

Question 4

Maju Jaya Bhd is a furniture factory. It produces 1,000 sets of tables and chairs. Below is the information related to the production.

COST	RM
Advertising	10,000
Machine maintenance	3,000
Factory insurance	6,000
Direct material	135,000
Depreciation (factory equipment)	300,000
Depreciation (office equipment)	6,000
General office supplies	2,500
Factory utilities	15,000
Director's remuneration	60,000
Direct labour	240,000
Factory supervisor's salary	48,000
Office employees' salaries	20,000

You are required to:

a. Prepare a cost statement that shows prime cost, production cost and total cost

CHAPTER 3

Material Cost

Learning Objectives >>>

After studying this chapter, you should be able to:

- Understand material control
- Discuss purchasing material procedure
- Explain material storage and records
- Describe duties of storekeeper
- Identify store records
- Calculate EOQ and Stock level

3.1 Material Control

Objectives of material control

- Minimizing interruption in production process: Ensuring materials and stores always available to avoid interruption during the process of production.
- Cost of materials: Materials and stores should acquire at the lowest cost according to the product quality including for holding cost as well.
- Reduction of wastage: Avoid unnecessary loss or wastage due to long storage or from obsolescence.
- Adequate information: Maintenance of proper record of all items of materials and stores are available with reliable information to facilitates proper production planning.
- Completion of order in time: Proper material management is necessary to fulfil order of the firm.

Elements of material control:

- Purchasing of materials
- Receiving of materials
- Inspection of materials

- Storage of materials
- Issuing materials
- Maintenance of inventory records
- Stock audit

3.2 Purchasing material procedure

Material Requisition Note

- It also known as material requisition slip, it is the voucher of the authority regarding issue of materials for use in the factory or in any of its departments.
- It is prepared by the production department and materials are withdrawn on the basis of material requisition list or bill of materials.

Figure 3.1

Material Requisition

Materials Requisition Form

Materials requisition number 14873 Date March 2
Job number to be charged 2B47
Department Milling

Description	Quantity	Unit cost	Total cost
Material A	2	$ 124	$248
Material B	4	103	412

Authorized signature *Matt*

Purchase Requisition

- A purchase requisition is a form used for making a formal request to the purchasing department to purchase materials.
- This form is usually filled up by the storekeeper for regular materials and by the departmental head for special materials (not stocked as regular items).
- The requisition form is duly signed by either works manager or plant superintendent, in addition to the one originating it.

Figure 3.2

Purchase Requisition

Purchase Order Request Form

Req. No. _____ Purchase Order No. _____
Account No. _____ Account Name _____
Professor's Name _____ Signature _____
Your Name _____ Your Email _____ Your Phone Number _____
Date _____

Special Instructions:

Item No.	Description	Quantity	Unit (each, pkg, case)	Per-Unit Price	Line Item Total Price

☐ In Stock ☐ Lead Time _____ Total Price _____
Shipping Preference ☐ Ground ☐ Express

Complete Name of Vendor: _____ Name of Contact: _____
Address of Vendor: _____ Contact's phone number: _____
_____ Contact's fax number: _____

Please attach any web printout or email or faxed quotation received from vendor.

Inviting Tender

After receipt of purchase requisition form the store department or other competent departments, role of purchasing department comes into play.

- Materials purchase department in a business house is confronted with the following issues:
  i. What to purchase?
  ii. When to purchase?
  iii. How much to purchase?
  iv. From where to purchase.
  v. At what price to purchase.

Selection of Quotation/ Proposal

- After invitation of tender from the vendors, interested vendors who are fulfilling all the criteria mentioned in the tender notice send their price quotations/ proposals to the purchase department.

Preparation and execution of Purchase Orders

- Having decided on the best quotation that should be accepted, the purchase manager or concerned officer proceeds to issue the formal purchase order.
- It is a written request to the supplier to supply certain specified materials at specified rates and within a specific period.

Receipt and inspection of materials

- After execution of purchase order and advance payment, necessary arrangement is made to receive the delivery of materials.

Goods Received Note

- Generally it is prepared in quadruplicate, the copies being distributed to purchase department, store or order indenting department, receiving depart and accounting department.

Figure 3.3

Goods Received Note

Sample Goods Received Note GRN Number:

Goods Received Note

Supplier .....Date..... Advice note number .....

Order Number.....Delivery Location.....Cost-Centre.....

	Goods	Pack Size	Price	Order Quantity	Delivered Quantity	Comments
1						
2						
3						
4						
5						
6						
7						
8						
9						
10						

Received by..... Checked by.....

1. Accounts/Finance dept. copy
2. Supplier Copy
3. Stores/Goods Inwards copy

Material Returned Note

- Such returns may occur before or after the preparation of the receiving report.
- If the return takes place before the preparation of the receiving report, such material obviously would not be included in the report and hence not debited in the stores books ledgers.

Checking and passing of bills for payment

- The invoice receive from the supplier is sent to the stores accounting section to check authenticity and mathematical accuracy.
- The quantity and price are also checked with reference to goods received note and the purchase order respectively.

3.3 Material storage and records

- Proper storing of materials is of primary importance. It is not enough only to purchase material of the required quality.
- If the purchased material subsequently deteriorates in quality because of bad storage, the loss is even more than what might arise from purchase of bad quality material

3.4 Duties of store keeper:

(i) **General control over store:** Store keeper should keep control over all activity in Stores department. should check the quantities as mentioned in Goods received note and with the purchased materials forwarded by the receiving department and to arrange for the storage in appropriate places.

(ii) **Safe custody of materials:** Storekeeper should ensure that all the materials are stored in a safe condition and environment required to preserve the quality of the materials.

(iii) **Maintaining records:** Storekeeper should maintain proper record of quantity received, issued, balance in hand and transferred to/ from other stores.

(iv) **Initiate purchase requisition:** Storekeeper should initiate purchase requisitions for the replacement of stock of all regular store's items whenever the stock level of any item of store approaches the re-order level fixed.

(v) **Maintaining adequate level of stock:** Storekeeper should maintain adequate level of stock at all times. He/ she should take all necessary action so that production could not be interrupted due to lack of stock. Further he/ she should take immediate action for stoppage of further purchasing when the stock level approaches the maximum limit. To reserve a particular material for a specific job when so required.

(vi) **Issue of materials:** Storekeeper should issue materials only against the material requisition slip approved by the appropriate authority. He/ she should also refer to bill of materials while issuing materials to requisitioning department.

(vii) **Stock verification and reconciliation:** Store keeper should verify the book balances with the actual physical stock at frequent intervals by way of internal control and check the any irregular or abnormal issues, pilferage, etc.

3.5 Store Records: The record of stores may be maintained in three forms:

- Bin Cards
- Stock Control Cards
- Store Ledger

Bin Cards: Bin refers to a box/ container/ space where materials are kept. Card is placed with each of the bin (space) to record the details of material like receipt, issue, and return. The first two forms are records of quantities received, issued and those in balance, but in the third record i.e. store ledger, value of receipts, issues and closing balance is also maintained. Usually, records of quantities i.e. Bin cards and Store Control Cards are kept by the store keeper in store department while record of both quantity and value is maintained by cost accounting department.

Stock Control Cards: It is a record keeping document maintained by stores department for every item of material. Recording includes receipt, issue, return, in hand and order given.

Stores Ledger: A Stores Ledger is a collection of cards or loose leaves specially ruled for maintaining a record of both quantity and cost of stores received, issued and those in stock. It being a subsidiary ledger to the main cost ledger, it is maintained by the Cost Accounting Department. It is posted from Goods Received Notes and Materials requisition.

3.6 Economic Order Quantity (EOQ)

- The optimal quantity to order at one time.
- Minimizes the total order and carrying costs over a
- Period of time.

Ordering costs may include the salaries and wages of purchasing personnel, communication costs, and materials accounting and record keeping.

Carrying Costs are the costs that a company may incur in storing materials. These costs may include materials storage and handling costs, interest, insurance, and property taxes, loss due to theft, deterioration, or obsolescence, and records and supplies associated with carrying inventory.

EOQ $= \sqrt{\frac{2CoD}{Cs}}$

Where:
Co = Cost per order
D= Demand per annum
Q = Quantity of order size

3.7 Stock Level

Minimum stock level

The minimum level of stock is a certain predetermined minimum quantity of raw materials or merchandise inventory which should always be available in stock in the normal course of business.

Minimum stock level = Reorder level - (Normal consumption x normal reorder period)

Maximum stock level

The maximum stock level is a limit used for inventory planning. This stock level is determined by taking into account the cost of storage, standard order quantities, and the risk of inventory becoming obsolete or spoiling over time. Another issue could be a strict storage space limitation, as in the case of refrigerated or frozen goods.

Formula: Maximum stock level =Reorder level +reorder Quantity - (Minimum Consumption x minimum reorder period)

Re-order level

Reorder level (or reorder point) is the inventory level at which a company would place a new order or start a new manufacturing run.

Re - order level =maximum consumption X maximum re - order period

Average stock level

The average stock level refers to the average quantity of stock held by companies for a given period of time. It offers a balanced solution and therefore is calculated and maintained by many companies. The average stock level is a level that is above the minimum level and below the maximum level.

Average stock level = (maximum stock level +Minimum stock level)/2

Formative Question Chapter 3

1. What is Material?

2. List down all types of objectives of system of material control.

3. State any three (3) types of required.

4. Describe the elements of material control.

5. Iman Sdn Bhd involved in manufacturing of bathroom sink products. The details of the product are as follows: -

Estimated lead-time	Minimum of 3 months Maximum of 6 months
Average lead-time	4 months
Budgeted consumption	Minimum 60 units/ month Maximum 500 units/ month Annual 1.900 units
Holding cost	25% of price per annum
Ordering cost	RM3.00 per order
Price per unit of material	RM0.42

You are required to visualize the calculation of:

(i) Economic Order Quantity (EOQ)
(ii) Re-order level
(iii) Maximum stock level
(iv) Minimum stock level
(v) Average stock level

6. Juwita Bhd is producing school uniforms for the state of Johor. A material called M15 is required for the production of the school uniforms. The details of the product are as follows:

EOQ	5,000 units
Minimum usage	2,000 units per month
Maximum usage	4,000 units per month
Re-order period	4 to 6 months
Yearly consumption	56,000 units

Calculate the following using the information given:

(a) Re-order level
(b) Maximum stock level
(c) Minimum stock level
(d) Average stock level

7. The demand for material XYZ is 14 000 units per annum. The cost of storage is 26% of price per annum. The cost of ordering is RM3.00 per order. The price of XYZ is RM4 per unit. Calculate the economic order quantity (EOQ) for the company.

8. Megah Holding Sdn Bhd is producing school uniforms for the state of Perlis. A material called N18 is required for the production of the school uniforms. The details of the product are as follows:

EOQ	8 000 units
Minimum usage	5 000 units
Maximum usage	7 000 units
Re-order period	6 to 8 months
Yearly consumption	60 000 units

Calculate the following using the information given:

(a) Re-order level
(b) Maximum stock level
(c) Minimum stock level
(d) Average stock level

9. Damia and Amin is producing a product known as Damin. The product need to use a material called M4A. The following information is for material M4A.

EOQ	10,000 units per months
Minimum Usage	4,000 units per months
Maximum Usage	8,000 units per months
Yearly Consumption	112,000 units
Re-order period	8-10 months

Calculate the following using the information given above:

a) Re-order level
b) Maximum Stock level
c) Minimum stock level
d) Average stock level

10. A company uses three raw materials A, B and C for a particular product for which the following data apply:

Raw Material	Usage Per Unit Of Product (Kgs)	Re-order Quantity (Kgs)	Price Per (Kg)	Delivery period (in weeks)			Re-order level (Kgs)	Minimum level (Kgs)
				Minimum	Average	Maximum		
A	10	10 000	10	1	2	3	8 000	?
B	4	5 000	30	3	4	5	4 750	?
C	6	10 000	15	2	3	4	?	2 000

Weekly production varies from 175 to 225 units, averaging 200 units of the said product. What would be the following quantities?

(i) Minimum stock of A
(ii) Maximum stock of B
(iii) Re-order level of C
(iv) Average stock level of A

CHAPTER 4

Labour Cost

Learning Objectives >>>

After studying this chapter, you should be able to:

- Identify categories of labour
- Describe recruiting procedure
- Understand termination of employment
- Calculate labour turnover rate
- List labour turnover causes
- Explain labour turnover costs
- Understand recording labour time and its related records
- Explain idle time
- Calculate individual bonus, group bonus and overtime premium
- Understand content of salary statement
- Explain accounting for direct labour costs

4.1 Labour Categories

There are two categories of labour in a manufacturing organization:

- Direct labour
- Indirect labour

Direct Labour

The workers who actually make the product are said to be directly involved in production

Example:

- Carpenters (furniture factory)
- Production operator (manufacturing organization)

Indirect Labour

The workers who are involved indirectly in the production process. They play a different role in ensuring products are made, accounted for and delivered to customers.

Example:

- Factory supervisors
- Managers
- Cleaners (in factory)

4.2 Recruiting Procedure

The recruitment of labour is done by the human resources department. The personnel officer will commence the procedure after receiving an authorized request from the relevant department manager.

4.2.1 Termination Of Employment

When an employee leaves his employment for any reason, the personnel officer should seek to find out that reason. The employee should give a prior notice for resignation.

4.3 Labour Turnover Rate

Labour turnover rate is a measurement of the number of employees who have left the factory and are replaced in a period of time, normally one year, expressed as a ratio of the average workforce. That is the rate at which employees start and leave employment at a factory, office or other workplace. High labour turnover means many people come and leave, resulting in a high cost to the organization.

Formula:

$$\boldsymbol{labour\ turnover\ rate} = \frac{\boldsymbol{average(no\ of\ employees\ left+replaced\ for\ the\ year)}}{\boldsymbol{average\ number\ of\ employees\ for\ the\ year}} \times \mathbf{100\%}$$

Example:

Cici enterprise had a staff of 1000 at the beginning of 2012, and owing to a series of redundancies caused by recession, 880 remained at the end of the year. A total of 120 employees left at the end of May , and were replaced by 80 new joiners . Calculate labour turnover rate for the company:

Labour turnover rate : (120+80)/(1000+880)x100

=10.64%

4.3.1 Labour Turnover Causes

1. Avoidable Causes

The avoidable causes for high labour turnover rate include:

- Paying lower wages
- Unsatisfactory working conditions
- Poor relationship among workers and supervisors
- Unsuitable jobs
- Un safe working conditions
- Stressful working conditions
- Inadequate training
- Lack of opportunity for career advancement

2. Unavoidable Causes

- Misbehaviour or discipline
- Retrenchment or lay out due to shortage of resources
- Retirement, death, accident or illness
- Marriage, pregnancy or difficulties with childcare provision
- The family moves away from the locality

4.3.2 Labour Turnover Costs

The cost of labour turnover consist of two elements:

- Preventive costs
- Replacement costs

1. Preventive Costs

Include all those costs which are incurred to prevent workers from leaving the organization and keeping them satisfied

Example:

- A personnel department incurs costs on recruitment, selection, training, and other matters related to employment
- The costs incurred also include providing medical benefits to the worker
- Cost of welfare
- Administration cost in maintaining good relationship with employees
- Pension schemes providing security to employees

2. Replacement Costs

Cost involved in replacing the employees who have just left the organization. Replacement costs consider the following factors:

- The increase in cost of selection and training of new workers
- The loss of production times as the new workers need to be given training
- The inefficiency of new workers will affect production
- The cost which arises
- The cost of breakages of tools and equipment
- The possibility of more frequent accidents at works
-

4.4 Recording Labour Time

The timekeeping department is responsible for recording the attendance time and the job time of following:

- The time spent in the factory by each worker
- The time spend by each worker on each job

4.4.1 Attendance Records

The clock card is used by each worker, and a time recording clock is usually placed at the entrance to the building. The worker has to punch each time he comes in and leaves the factory. The simplest of employee records show days absent because of holiday, sickness or other reasons.

4.4.2 Output Records

This section describes the typical types of records which include:

1. Daily and weekly time sheets
2. Job cards
3. Operating cards

4.5 Idle Time

The time that is paid for no productive results as obtained. idle time occurs when employees cannot get on with their work, through no fault of their own. The causes of the idle time include:

- Inefficiency in maintaining machinery
- Waiting for work
- Machine breakdown
- Material shortages

4.6 Individual Bonus Scheme

1.ROWAN BONUS SCHEME

The Rowan Bonus scheme, the bonus for one job is earned where the time taken is less than the time allowed.

FORMULA :

$$The\ Bonus\ = \frac{\text{Time taken}}{\text{Time Allowed}}\ x\ Time\ Saved\ x\ Basic\ Day\ Rate$$

	Ali	Mia	Sue
Unit Produced	180	240	360
Damaged units	8	5	0
Time taken/week	62hrs	60hrs	52 hours
Time standard	12% more than time taken	25% more than time taken	5% more than time taken
Rate per hour	RM2.50	RM3.00	RM2.20
Rate per unit	RM 0.20	RM 0.50	RM 0.35

Additional Information:

i) Normal time starts from 8.00 am until 6.00 pm and the workers work 5 days a week.

ii) The company decided to pay for the damaged units because the raw materials used were not of high quality.

You are required to calculate the wages received by the workers using the Rowan bonus scheme.

	Ali	Mia	Sue
Time taken	62 hrs	60hrs	52 hrs
Time standard	12/100 x 62 = 7.44 + 62 =69.44 hrs	25/100 x 60= 15 + 60 =75 hrs	5/100 x 52 =2.6 + 52 =54.6hrs
Time saved	69.44h-62h =7.44 hrs	75h -60h =15 hrs	54.6h-52h =2.6 hrs
Basic Pay	62 x RM 2.50 = RM 155	60 x RM 3.00 = RM 180	52 x RM 2.20 = RM114.40
Bonus	62 / 69.44 x 7.44 x RM 2.50 = RM16.71	60/75 x 15 x RM 3.00 =RM36	52/54.6 X RM 2.6 X RM 2.20 = RM 5.45
Total wages = Basic pay + Bonus	RM171.71	RM216	RM119.85

2.HALSEY BONUS SCHEME

FORMULA :

$$The\ Bonus\ = 50\%\ x\ Time\ Saved\ x\ Basic\ Day\ Rate$$

	Ali	Mia	Sue
Time taken	62 hrs	60hrs	52 hrs
Time standard	12/100 x 62 = 7.44 + 62 =69.44 hrs	25/100 x 60= 15 + 60 =75 hrs	5/100 x 52 =2.6 + 52 =54.6hrs
Time saved	69.44h-62h =7.44 hrs	75h -60h =15 hrs	54.6h-52h =2.6 hrs
Basic Pay	62 x RM 2.50 = RM 155	60 x RM 3.00 = RM 180	52 x RM 2.20 = RM114.40
Bonus	50% x 7.44 x RM 2.50 = RM9.30	50% x 15 x RM 3.00 =RM22.50	50% X RM 2.6 X RM 2.20 = RM 2.86
Total wages = Basic pay + Bonus	RM164.30	RM202.50	RM117.26

3.HALSEY-WEIR BONUS SCHEME

FORMULA :

$$The\ Bonus\ = 1/3\ x\ Time\ Saved\ x\ Basic\ Day\ Rate$$

	Ali	Mia	Sue
Time taken	62 hrs	60hrs	52 hrs
Time standard	12/100 x 62 = 7.44 + 62 =69.44 hrs	25/100 x 60= 15 + 60 =75 hrs	5/100 x 52 =2.6 + 52 =54.6hrs
Time saved	69.44h-62h =7.44 hrs	75h -60h =15 hrs	54.6h-52h =2.6 hrs
Basic Pay	62 x RM 2.50 = RM 155	60 x RM 3.00 = RM 180	52 x RM 2.20 = RM114.40
Bonus	1/3 x 7.44 x RM 2.50 = RM6.20	1/3 x 15 x RM 3.00 =RM14.20	1/3 X RM 2.6 X RM 2.20 = RM 1.91
Total wages = Basic pay + Bonus	RM161.20	RM194.20	RM116.31

4.7 Group Bonus Scheme

There are many incentive plans in industry which are related to the output performance of an entire group of workers, a department, or even the whole factory. This scheme usually would be used when individual effort cannot be measured, and employees work as a team. The scheme is to encourage team spirit in their work.

Example:

The standard weekly production is 39 units of toys. Ten workers are involved in the assembly process. Every time production increases above 20%, a bonus of RM90 will be paid to the group to be divided equally. At the end of the week, 50 units of toys were produced. How much bonus will each worker receive?

Answer:

Percentage of increase

=11/39 x 100%

= 28.2%

The amount of bonus receivable = RM90 for every 20 % increase

Each worker will receive = bonus paid / no of worker involved

= RM90/10

=RM9

4.8 Overtime Premiums

Overtime Premiums Often, people must clock in extra hours to finish up work. Overtime is time worked over and above the normal working time or more hours than the basic daily requirement. Overtime premium is the extra amount paid to employees.

Formula:

Overtime pay = Basic pay overtime + Overtime premium

Example Question:

If the basic day rate of a machine operator is RM4.00 per hour and overtime is paid at time and half, and he works seven hours of overtime, calculate his basic wage and the premium. His normal working hours is ten hours.

Answer:

Basic wage

= **(Total overtime hours + normal working hours) x Basic rate**

= 17hours x rm 4.00

= RM68

Overtime premium

= **Total overtime hours x Basic rate x ½**

= 7hours x rm4.00 x ½

= 14

Total wage

= Basic wage + Overtime Premium

= 70+ 15

=RM 85

Guided Question Chapter 4

a. Star Marketing make three products: J, A and Y. Data for the year ended 31 August 201& related to the product and employees, were as follows:

Employee	Hours Worked	Product J	Product A	Product Y
Kay	2040 hours	1164 units	960 units	-
May	1750 hours	456 units	144 units	1440 units

The employee was paid on a time based at RM4.40 per hour. In an attempt to increase production, Star Marketing proposed changing the basis on which employee are paid based on output with rates given as follows.

Product	Price rate per unit (RM)
J	4.40
A	6.40
Y	3.00

Using the information given, you are required to calculate the earnings for each employee on the straight piecework scheme.

Wages = Unit produced x Rate of pay per unit

K (J) = 1164 units x RM4.40

= 5121.6 units

K (A) = 960 units x RM4.40

= 6144 units

M (J) = 456 units x Rm4.40

= 2006.4 units

M (A) = 144 units x RM6.40

= 921.6 units

M (Y) = 1440 units x RM3.00

= 4320 units

b. The following table contains related information of 3 Waterily Industries workers for the month of December:

	ALI	AUNI	ANIS
UNIT PRODUCE	300	215	210
DAMAGE UNIT	0	6	8
TIME TAKEN / WEEK	50 HOURS	55 HOURS	60 HOURS
TIME STANDARD / WEEK	4% more than time taken	15% more than time taken	20% more than time taken
RATE PER HOUR	RM30	RM20	RM25
RATE PER UNIT	RM21.50	RM20	RM23

Additional Information:

i) Normal time start from 9:00 am to 7:00 pm and the workers works 5 days a week.

ii) The factory decided to pay the damage units because the raw materials used were not high quality.

iii) No overtime paid for extra time taken.

Based on the information above, you are required to calculate bonus pay for each workers using Halsey Bonus Scheme.

	ALI	AUNI	ANIS
Time taken	50 hours	55 hours	60 hours
Time standard	50 x 4% = 52 hours	55 x 15% = 63.25 hour	60 x 20% = 72 hours
Time saved	2 hours	8.25 hours	12 hours
Basic pay	50 x RM30 = RM1500	50 x RM20 = RM1000	50 x RM25 =RM1250
Bonus	½ x 2h x RM30 = RM30	½ x 8.25h x RM20 = RM82.5	½ x 12 h x RM25 = RM150

Total wages	RM1500 + 30 = RM1530	RM1000 + 82.5 = 1082.5	RM1250 + 150 = 1400

Basic pay = time taken x rate per hour

c. Dfarda Sdn. Bhd. has a staff of **3000** at the beginning of 2024 and owing to a series of redundancies caused by recession, **3088** remained at the end of the year. A total of **420** employee left at the end of June and were replaced by **380** new joiners. Calculate the labour turnover rate for the company.

$$\text{Labour turnover rate} = \frac{\text{Average (no. employee left + replaced of the year)}}{\text{Average number of employee for the year}} \times 100$$

Answer:

$$\text{Labour turnover rate} = \frac{(420 + 380) / 2}{(3000 + 3088) / 2} \times 100$$

$$= \frac{400}{6088} \times 100$$

$$= 6.57\%$$

d. Muthu works a 9-hour day at a basic wage rate of RM7.00 per hour. Calculate his basic wage

Wages = Hours worked x Rate of pay per hour

Answer:

Basic wage = 9 hours x RM7

= RM63

Piecework with Guaranteed Minimum Wage

e. Faris will be paid RM1.50 for each towel she weaves, but she is guaranteed a minimum wage of RM45.00 daily if her output falls below 20 unit per day. What will be his wage if he produces 28, 37 unit and 60 unit per days?

Answer:

Output unit	**Gross wages**
28	28 x RM1.50 = RM42 (minimum RM45)
37	37 x RM1.50 = RM55.5
60	60 x RM1.50 = RM90

f. Saidah works an 5-hour day at a basic wage rate of RM6.00 per hour. Calculate his basic wage

Wages = Hours worked x Rate of pay per hour

Answer:

Basic wage = 5 hours x RM6

= RM30

Differential Piecework Scheme

g. Umair produced 250 unit of output. The rates paid will be as follows:

- Up to 100 units per week is RM0.30 per unit
- 101 - 150 unit per week is RM0.50 per unit
- 151 - 200 unit per week is RM0.70 per unit
- 201 and above per week is RM1.40 per unit

What will be her gross wage?

Answer:

Gross

Gross wage:	100 unit x RM0.30 = RM30
	50 unit x RM0.50 = RM25
	50 unit x RM0.70 = RM35
	50 unit x RM1.40 = RM70
	250 unit =RM160.00

4.9 Content of Salary Statement

The wages department will prepare the salary statement or pay slip showing the employee name, number, income tax number, Employees Provident Fund (EPF) number, gross pay, deductions and net pay. The gross pay is calculated with reference to clock card, job card, time sheet and employee's card.

Figure 4.1

Salary Statement

		WAGE SHEET				
Name:						
Clock no:			Income tax no:			
Deparment:			EPF no:			
Period:			SOCSO no:			

HOURS		RATE	WAGES			
Normal	Overtime		Basic	Overtime	Bonus	Gross

4.10 Accounting for Direct Labour Costs

The account department will be responsible for the accumulation and classification of all cost date, prepare cost data report for management and analyse labour information on timecards and payroll. The direct wages will be charged directly or attributable to production to the appropriate job or operation. Direct labour cast relate to all cost that can be easily identified with a product.

The control account acts as a sort of collecting place for net wages paid and deductions made from gross pay. The gross pay is then analysed between direct and indirect wages. Direct labour cost is credited from the wages control account and debited into the work in progress account. Gross pay or gross wages are total wages paid out to all employees, which are debited into the wages control account.

Formative Question Chapter 4

1. Compuland Sdn Bhd had a staff of 1500 at the beginning of 2019, and owing to a series of redundancies caused by recession, , 1150 remained at the end of the year.

   A total of 120 employees left at the end of June and we replace by 280 new joiners. You are required to calculate the labour turnover rate for Compuland Sdn Bhd.

2. Hazim works a 9 hour a day at a basic wage rate of RM6.00 per hour. Calculate his basic wages.

3. THM Sdn Bhd pays a piecework scheme rate of RM4 for each unit produced.
   Khalish produced 23 unit per day, Amir completed 30 unit per day and Dinie completed 42 units per day.
   You are required to calculate the total wages for three of them for a month with 26 working day.

4. Irfan will be paid RM1.50 for each towel he weaves, but he is guaranteed a minimum wage of RM40 daily if his output falls below 30 units per day. What will be his wage if he produces 24, 34, and 62 units per day ?

5. Fariz produced 240 units of output. The rates paid will be as follow :

Up to 100 unit	RM.0.30 per unit
101-150 units	RM0.50 per unit
151-200 units	RM0.70 per unit
201 and above	RM1.10 per unit

   What will be his gross wage?

6. The following is the information related to three workers of DIN Sdn. Bhd. For the month of November.

	Zaitun	Maimunah	Zafar
Units produced	170	230	350
Damaged units	7	4	0
Time taken/week	61 hours	59 hours	51 hours
Time standard/week	14% more than time taken	30% more than time taken	10% more than time taken

Rate per hour	RM 3.00	RM 3.50	RM 2.40
Rate per unit	RM 0.40	RM 0.70	RM 0.40

Additional Information:

i) Normal time starts from 8.00 am until 6.00 pm and the workers work 5 days a week.

ii) The company decided to pay for the damaged units because the raw materials used were not of high quality.

You are required to calculate the total wages received by the workers using the Halsey bonus scheme.

7. Based on Question 6, you are required to calculate the wages received by the workers using the Halsey-Weir bonus scheme.

8. The standard weekly production is 40 units cd games. 15 workers are involved in the assembly process. Every time production increase above 30%, a bonus of RM 120 will be paid to the group to be divided equally. At the end of the week, 50 units of cd games were produced.
How much bonus will each worker receive?

9. If the basic day rate of a machine operator is RM6.00 per hour and overtime is paid at time and half, and he works eight hours of overtime, calculate his basic wage and the overtime premium. His normal working hours is 10 hours.

10. In a payment by result scheme, employees are paid a bonus on hours saved, at the basic wage rate. The bonus hours gained are calculate on the hours saved multiplied by the ratio of time saved to time allowed. Jobs are carried forward from one week to another and no overtime is required. Payment is made in full for total units produced. Details are as follows:

	Employees		
	Daniel	Fariz	Hazim
Units produced by worker (dozens)	40	65	35
Time allowed (hours)	80	90	75
Basic wage rate per hour	RM8.40	RM7.00	RM7.50
Time taken (hours)	60	73	80
Rejects (units)	32	25	20

You are required to calculate for each employee:

(a) Bonus hours and bonus earned
(b) Total wages earned
(c) Wage cost per good unit produced

CHAPTER 5

Overhead Cost

Learning Objectives >>>

After studying this chapter, you should be able to:

- Explain classification of overhead
- Understand analysis of overhead
- Identify a primary and secondary distribution overhead costs using overhead analysis sheet
- Calculate over and under absorption overhead

5.1 Classification of Overhead

An overhead is an indirect expense which cannot be easily traced to particular product. Overhead cost also known as indirect cost. Example, *indirect materials*, *indirect labour* and *indirect expenses*.

Indirect materials

materials that are used in production process but that are not directly traceable to the product.

Indirect labour

The labour of those who are not directly involved in the production of the product.

Indirect expenses

Cost that are not directly accountable to a cost object.

Type of overheads

- Production overheads/ manufacturing overheads / factory overheads

Its refer to all of the indirect costs required to operate the factory

- Administrative overheads

Costs not involved in the development or production of goods or services

- Selling and distribution overheads

Selling overheads constitute the cost incurred in promoting sales and retaining customer

Distribution overheads constitute the cost of the process which begins with making the reconditioned returned empty packages available for re-use

5.2 Analysis overheads

1. Allocation

The process to identifying, accumulating, and assigning costs to cost object such as department, product, programs or a branch of a company.

2. Apportionment

Costs refer to the distribution of various overhead items, in proportion, to the department on a *logical basic*.

Table 5.1

Basis for overhead apportionment

Service department	Basic of apportionment
Rent	Floor area
Depreciation of machine	Book value
Repairs and maintenance	No. of hour work
Power	Hours/kwh
Canteen / personnel	No. of employees
General overhead	Direct labour labour

3. Re-apportionment

The re-apportionment of overheads of service departments on some equitable basis.

Example:

Bunga Raya has two production departments S and K and two service department G and Y. The following data are extracted from the records of the company for a particular given period.

	Total	S (RM)	K (RM)	G (RM)	Y (RM)
Indirect material	75 000	30 000	20 000	15 000	10 000
Rent	25 000				
Machine insurance	10 000				

Further details:

	S	K	G	Y
Floor area	3200	1800	600	400
Direct labour hours	20000	10000		
Machine value (RM)	30000	20000		

Overhead costs in the service department are re-apportionment using the following percentages:

	S	K
G	40%	60%
Y	60%	40%

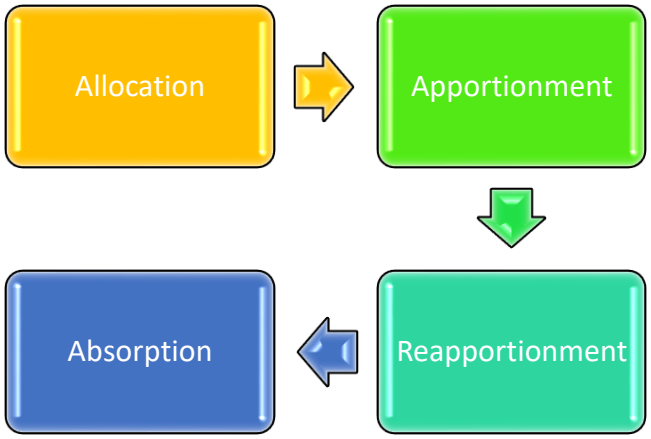
Prepare an overhead analysis sheet showing allocation, apportionment, and re-apportionment of overhead costs to each department.

Solution

	Basic	S (RM)	K (RM)	G (RM)	Y (RM)
Indirect material/ Total allocation		30000	20000	15000	10000
Apportionment: Rent	Floor area	30000/50000 x 10000 =6000	20000/50000 x 10000 =4000		
Machine insurance	Machine value	3200/6000 x 25000 = 13333	1800/6000 x 25000 =7500	600/6000 x 25000 =2500	400/6000 x 25000 = 1667
Total apportionment		19333	11500	2500	1667
Total overhead		49333	31500	17500	11667
Re-apportionment: G		40% x 17500 = 7000	60% x 17500 = 10500	(17500)	-
Y		60% x 11667 = 7000	40% x 11667 = 4667	-	(11667)
Total re-apportionment		14000	15167	-	-
Total overhead		63333	46667	-	-

Figure 5.1

Four Stages in Analysis Overhead



4. Absorption

The process to assign overheads accumulated against production cost centres or the cost units.

Overhead absorption rate (OAR)

OAR = production overhead/ amount of allocation base

Predetermined overhead absorption rate (POR)

POR= Budgeted production overheads / budgeted amount of allocation base

Over and under absorption of overheads

How to calculate over and under absorbed overhead

1. Calculate Absorbed overhead using this formula
   = POR x amount of allocation base incurred
2. Compare actual overhead and absorbed overhead
3. Identify over absorbed or over absorbed by referring below table

Over absorption of overhead
Absorbed overheads > actual overheads
Under absorption of overheads
Absorbed overheads < actual overheads

Example:

The following is the budgeted data for Beast Sdn bhd for December 2018.

Factory overheads	RM50000
Machine hours	17000 hours
Direct Labour hours	12000 hours

The actual results for August 2020 are as follower:

Factory overheads	RM 60000
Machine hours	15000 hours
Direct labour hours	18000 hours

You are required to calculate the over or under absorption for Beast Sdn Bhd by using the machine hours and direct labour hours as a basis.

Solution:

Machine hours
Calculate POR
POR= RM50000/17000 = RM2.94 per machine hour
Calculate absorbed overhead
RM2.94 X RM 15000= RM 44100

Compare actual and absorbed overhead
Actual RM60000
Absorbed RM 44100
= under absorbed RM 15900

Direct labour hours
Calculate POR
POR= RM50000/12000 = RM4.17 per machine hour
Calculate absorbed overhead
RM4.17 X RM 18000= RM 75060

Compare actual and absorbed overhead
Actual RM60000
Absorbed RM 75060
= over absorbed RM 15060

Guided Question Chapter 5

1. Dora company is preparing its budget for the year ended 31 December 2020. The company has two production department, F and Q and service department, which are the maintenance and canteen.

   The estimated overhead costs for the year ending 31 December 2020 are:

	RM
Factory rent	62000
Heating and lighting	9800
Machinery depreciation	7800
Machinery insurance	2400
Supervisors salaries	44000

The following information is also relevant :

	Dept F	Dept Q	Maintenance	Canteen
Floor area	12500	7500	3500	2500
Indirect material	10000	4750		
Machinery value (RM)	30000	22500	10000	4500
Number of supervisors	2	3	-	-

You are required to identify a primary distribution overhead costs using overhead analysis sheet for Bunga raya for the year ended 31 December 2020. All figures should be rounded to the nearest RM.

Solution:

	BASIC	DEPT F	DEPT Q	MAINTENANCE	CANTEEN
Allocation:		10000	4750		
Apportionment: Factory rent	Floor area	12500/26000 x 62000 =29808	7500/26000 x 62000 =17885	3500/26000 x 62000 =8346	2500/26000 x 62000 =5962
Heating and lighting	Floor area	12500/26000 x 9800 =4712	7500/26000 x 9800 =2827	3500/26000 x 9800 = 1319	2500/26000 x 9800 = 942
Machinery depreciation	Machinery value	30000/67000 x 7800	22500/67000 x7800	10000/67000 x 7800	45006700 x 7800

		= 3493	=2619	=1164	=524
Machinery insurance	Machinery value	30000/67000 x 2400 =1075	22500/67000 x 2400 =806	10000/67000 x 2400 =358	4500/67000 x 2400 =161
Supervisor salaries	No. of employees	2/5 x 44000 =17600	3/5 x 44000 =26400	-	-
Total apportionment		56688	50537	11187	7589
Total overhead		66688	55287	11187	7589

2. Excellent Limited has two production departments, A and B, and two service departments, X and Y. The following data are extracted from the records of the company for a particular given period:

	Total	**A (RM)**	**B (RM)**	**X (RM)**	**Y (RM)**
Indirect Wages	75000	20000	30000	15000	10000
Indirect Material	17500	5000	5500	3000	4000
Machine Insurance	8000				
Rents And Rates	21000				
Canteen	14000				

You are required to allocate the overhead costs for each department.

SOLUTION

Solution	**A (RM)**	**B (RM)**	**X (RM)**	**Y (RM)**
Allocation of overheads: Indirect wages	20000	30000	15000	10000
Indirect material	5000	5500	3000	4000
Total allocation	25000	35500	18000	14000

3. S. will Ltd. has two production departments A, B and one service department S. The actual costs for a period are as follows

	RM
Power	1750
Lighting	1600
Rent and rates	6000
Indirect wages	4000
Sundries	1600
Depreciation on machinery	6000

Further details are given as follows:

	Production A	Department B	Service Department
Working hours	4000	3000	2000
Direct wages (RM)	3000	2000	3000
Cost of machinery	75000	50000	25000
H.P. of machinery	60	30	10
Light points	18	12	10
Floor Area (sq.ft.)	1000	1200	800

Apportions the costs of the various departments on most equitable basis.

SOLUTION

Primary Distribution Summary

Items	Basis of Apportionment	Total RM	A RM	B RM	S RM
Power	Horse power x hours 24:9:2	1750	1200	450	100
Lighting	Light points 9:6:5	1600	720	480	400
Rent and rates	Area occupied 5:6:4	6000	2000	2400	1600
Indirect wages	Direct wages 3:2:3	4000	1500	1000	1500
Sundries	Direct wages 3:2:3	1600	600	400	600
Depreciation	Cost of machinery 3:2:1	6000	3000	2000	1000
		20950	**9020**	**6730**	**5200**

4. Finolex Co. Ltd. Has three production departments and four-hour service departments. The expenses of these departments as per primary distribution summary were as follow:

Production Departments

	RM	RM
X	90000	
Y	117000	
Z	72000	
		279000

Service Departments

Stores	9000	
Time keeping and accounts	13500	
Power	5400	
Canteen	6000	33900
		312900

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

	X	Y	Z
H.P of machines	1200	900	600
No of workers	120	80	40
Value of store requisitioned (RM)	7500	6000	4500

Apportion the cost of various service departments to the production departments:

SOLUTION

Secondary Distribution Summary

Item	**Basic of apportionment**	**Total**	**Production Departments**		
			X	Y	Z
		RM	RM	RM	RM
Cost as per primary distribution	_	279000	90000	117000	72000
Stores	Value of stores 5:4:3	9000	3750	3000	2250
Time keeping	No. of workers 3:2:1	13500	6750	4500	2250
Power	H.P. of machines 4:3:2	5400	2400	1800	1200
Canteen	No. of workers 3:2:1	6000	3000	2000	1000
		312900	**105900**	**128300**	**78700**

5.MEGAH BERHAD has 3 product department, A,B,C and three service department X,Y,Z. the following data extracted from the record of the company for a particular given period

	Total	A	B	C	X	Y	Z
Indirect wages	175,000	30,000	40,000	50,000	15,000	20,000	20,000
Indirect material	117,500	15,000	15,500	17,000	20,000	20,000	30,000
Machine insurance	18,000						
Rent and rates	121,000						
Cafeteria	114,000						

Further details are given as follows:

	A	B	C	X	Y	Z
Floor area occupied (sq.ft.)	3000	1500	3200	600	400	500Y
Direct labour hours	20000	10200	15000			
Machines hours	40000	30500	40500			
Direct labour rate (RM)	4	3	5			
Machine value (RM)	30000	20000	40000			
No. of employees	60	40	65			

You are required to allocate the overhead cost of each department.

SOLUTION:

Solution	**A (RM)**	**B (RM)**	**C (RM)**	**D (RM)**	**X (RM)**	**Y (RM)**
Allocation of overhead: indirect wages	30,000	40,000	50,000	15,000	20,000	20,000
Indirect material	15,000	15,500	17,000	20,000	20,000	30,000
Total allocation	45,000	55,500	67,000	35,000	40,000	50,000

6.The following information is extracted from BERJAYA BERHAD .

	A (RM)	B (RM)	X (RM)	Y (RM)
Total overhead	55,662	33,665	38,967	43,997

Overhead cost in the service department are re-apportionment using the following percentage:

	A	B	X	Y
X	20%	20%	-	60%
Y	40%	20%	40%-	-

You required tp re-apportion the overhead cost for each department using the repeated distributing method.

Solution :

	A (RM)	**B (RM)**	**X (RM)**	**Y (RM)**
Total overhead	55,662	33,665	38,967	43,997
Re-apportionment: X	20% X 38,967 =7793.4	20% X 38,967 =7793.4	(38,967)	60% X 38,967 =23,380.2

Y	40% X 20,616.8 =8,246.72	20% X 20,616.8 =4,123.36	40% X 20,616.8 =8,246.72	(20,616.8)
X	20% X 8,246.72 =1649.344	20% X 8,246.72 =1649.344	(8,246.72)	60% X 8,246.72 =4948.032
Y	40% X 4948.032 =1979.2128	20% X 4948.032 =989.6064	40% X 4948.032 =1979.2128	(4948.032)
X	20% X 1979.2128 =395.84256	20% X 1979.2128 =395.84256	(1979.2128)	60% X 1979.2128 =1187.52768
Y	40% X 1187.52768 =475.011072	20% X 1187.52768 =237.505536	40% X 1187.52768 =475.011072	(1187.52768)
X	20% X 47.011072 =9.4022144	20% X 47.011072 =9.4022144	(47.011072) 19.19556092	60% X 47.011072 =28.2066432
Y	40% X 28.2066432 =11.28265728	20% X 28.2066432 =5.64132864	40% X 28.2066432 =11.28265728	(28.2066432)
X	20% X 11.28265728 =2.256531456	20% X 11.28265728 =2.256531456	(11.28265728)	60%X 11.28265728 =6.769594368
Y	40% X 6.769594368 =2.707837747	20% X 6.769594368 =1.353918874	40% X 6.769594368 =2.707837747	(6.769594368)
X	20% X 2.707837747 =0.541567549	20% X 2.707837747 =0.541567549	(2.707837747)	60% X 2.707837747 =1.624702648
TOTAL re-apportionment	27,918.02	18,339.28	-	-
TOTAL OVERHEAD	83,580.02	52004.28	-	-

7. Using the information, apply the simultaneous equation of overhead:

SOLUTION:

Step 1:

Let X = total overhead cost of department Y

Let Y = total overhead cost of department Y

X = RM38,967 + 0.10Y - 1

Y = RM43,997 + 0.10X – 2

Step 2:

X = RN38, 965 + 0.10(RM RM43, 997 + 0.10X)

X = RM38,965 + RM 4,399.7 + 0.01X

X-0.01 = RM82,962.7

0.99X = RM 43,364.7

X = RM43,364.7/0.99

X = RM43,802.7

Step 3:

Y = RM43,997 + 0.10(RM38,967)

Y = RM43, 997 + RM3,896.7

Y = RM47,893.7

Step 4:

	A (RM)	B (RM)	X (RM)	Y (RM)
Total overhead	55,662	33,665	38,967	43,997
Re-apportionment: X	20% x 43,802.7 8,760.54	20% x 43,802.7 =8,760.54	(43,802.7)	60% x43,802.7 =26,281.63636
y	40% x 47,893.7 =19,157.48	20% x 47,893.7 =9,578.74	40% x 47,893.7 =19,157.48	(47,893.7)
Total re-apportionment	27918.02	18,339.28		
Total overhead	83,580.02	52,004.28		

8. The following is the budgeted data for ABF Sdn Bhd for December 2017.

Factory Overhead	RM70,000
Machine Hours	17,500 Hours
Direct labour Hours	12,000 Hours

The actual results for December 2017 are as follows :

Factory Overhead	RM100,000
Machine Hours	15,500 Hours
Direct labour Hours	17,000 Hours

You are required to calculate the over or under absorption for ABF Sdn Bhd by using the machine hours and direct labour hours as a basis.

Solution :

1. Machine Hours

Calculate POR

POR = RM70,000/17,500

= RM4 per machine hour

Calculate absorbed overhead

RM4 X 17,500 = RM70,000

Compare actual overhead and absorbed overhead

Actual overhead	RM100,000
Absorbed overhead	RM70,000
Under absorbed	RM30,000

2. Direct labour Hours

Calculate POR

POR = RM70,000/12,000

= RM5.8 per direct labour hours

Calculate absorbed overhead

RM5.8 X 17,000

= RM98,600

Compare actual overhead and absorbed overhead

Actual overhead RM100,000

Absorbed overhead RM98,600

Over absorbed RM1,400

9. LEE & TAN Sdn Bhd produces organic-based fertilizers in its Inanam factory which consists of two (2) production departments, Departments P and Q. The data below relates to both departments.

Overhead items	Total Cost (RM)	Production Department P (RM)	Production Department Q (RM)
Salary	-	7,200	4,800
Rent	4,400		
Supervision	5,000		
Electricity	7,000		
Factory Insurance	4,500		
Depreciation of Machine	12,000		
Maintenance of Machine	6,900		

Additional Information:	Department P	Department Q
Factory area (m3)	3000	2000
Machine Working Hours	25 Hours	15 Hours
Factory value (RM)	RM500,000	RM100,000
Number of worker	50	100
Direct labour hours	1,500 Hours	3,500 Hours
Machine cost (RM)	RM50,000	RM10,000

You are required to:

Prepare the Overhead Statement Analysis showing the allocation and apportionment of overheads for each department.

	Basis	Department P	Departement Q
Allocation:		7,200	4,800
Apportionment			
Rent	Floor area	4,000/5,000 x 4,400 = RM3,530	1,000/5,000 x 4,400 = RM880
Supervision	Number of workers	50/150 x 5,000 = RM1,666.70	100/150 x 5,000 = RM3,333.40
Electricity	Floor area	3,000/5,000 x 7,000 = RM4,200	2,000/5,000 x 7,000 = RM2,800
Factory insurance	Factory value	500,000/600,000 x 4,500 =RM3,750	100,000/600,000 x 4,500 = RM750
Depreciation of machine	Machine cost	50,000/60,000 x 12,000 = RM10,000	10,000/60,000 x 12,000 = RM2000
Maintenance of machine	Machine working hours	25,000/40,000 x 6,900 =RM4,312.50	15,000/40,000 x 6,900 = RM2,587.50
Total apportionment:		RM27,459.20	RM12,350.90
Total overhead:		RM34,659.20	RM17,150.90

10. JCZ Sdn Bhd has two production department, D and E, and two service departments which is Y and Z. The following data are extracted from the record of the company for a particular given period.

	Total	D (RM)	E (RM)	Y (RM)	Z (RM)
Indirect wages	95,000	50,000	35,000	15,000	20,000
Indirect material	17,500	5,000	5,500	4,000	3,000
Machine insurance	9,000				
Rent and Rate	21,000				

Canteen	15,000				

Futher details are given as follows:

	D	E	Y	Z
Floor area occupied (sq.ft)	5,000	2,500	800	350
Direct labour hours	15,000	10,800		
Machine hours	45,000	30,500		
Direct labour rate (RM)	5	2.5		
Machine Value (RM)	30,000	20,000		
No. of Employee	60	40		

You are required to allocate the overhead costs for each department :

Solution:

	D (RM)	**E (RM)**	**Y (RM)**	**Z (RM)**
Allocation of overhead: Indirect wages	50,000	35,000	15,000	20,000
Indirect Material	5,000	5,000	4,000	3,000
Total allocation	55,000	40,000	19,000	23,000

Formative Question Chapter 5

Question 1

Formula OAR : $\frac{Production\ overhead}{Amount\ of\ allocation\ base}$

The following are the figures relating to Cost Centre:

Total overhead for the period	RM 24,000
Total Direct Labour hour	RM 3,200
Total Machine hours	RM 4,800

Using the above data the following absorption rates could be calculated using the above formula:

Question 2

The following information is available for Moonlight Sdn.bhd:

Budgeted labour hours	16,000 hours
Budgeted overheads	RM 300,000
Actual labour hour	12,000 hours
Actual overhead	RM 240,000

You are required to:

Calculate the over or under absorber overhead using the direct labour hours rate.

Question 3

The following is the budgeted data for kenanga Sdn. Bhd for January 2021

Factory overhead	RM 55,500
Machine hours	18,000 hours
Direct labour hours	12,500 hours

The actual result for January 2021 are as follow.

Factory overhead	RM 75,000
Machine hours	16,000 hours
Direct labour hours	19,500 hours

You are required to calculate the over or under absorption for kenanga Sdn.Bhd using the machine hours and direct labour hours.

Question 4

The following information is extracted from excellent limited

	A(RM)	B(RM)	X(RM)	Y(RM)
Total overhead	47,766	48,024	19,104	14.417

Overhead cost in the service department are re-apportioned using the following percentages:

	A	B	X	Y
X	40%	60%	-	-
Y	60%	40%	-	-

You are required to re-apportion the overhead costs for each department.

Question 5

The following is the budgeted data for Megah Holding for July 2015

Factory overheads	RM 53,000
Machine hours	16,500 hours
Direct labour hours	11,000 hours

The actual results for July 2015 are as follows:

Factory overheads	RM 63,000
Machine hours	14,500 hours
Direct labour hours	17,000 hours

You are required to calculate the over or under absorption for Megah Holding by using the machine hours and direct labour hours as a basic.

Question 6

Sanz Itd is a manufacturing company having two production department, A and B and services department, X and Y. The following data are extracted from the records of the company for a particular given period.

	Total	A (RM)	B (RM)	X (RM)	Y (RM)
Indirect material	75,000	20,000	30,000	15,000	10,000
Indirect wages	73,000	30,000	25,000	10,000	8,000
Factory rent	5,000				
Power	25,000				
depreciation	25,000				
General overhead	15,000				

Further details are given as follows

	A	B	X	Y
Floor area (sq. ft)	3,000	1,500	600	400
Capital values of asset	10,000	8,000	4,000	3,000

Machine hours	30000	20000		
Kilowatt hours	30000	20000		

A technical assessment of the apportionment of expenses of services department is as under:

	A	B	X	Y
X	30%	60%	-	10%
Y	60%	40%	-	-

Required:

I. Prepare a statement showing apportionment overheads to each department.
II. Prepare a statement showing re-apportionment the overhead costs for each department.

Question 7

On 31 December 2016 the following budgeted data to ABC Ltd for the year ending 30 April 2021.

Budgeted factory overhead	RM 550000
Budgeted direct labor hours	18000 hours
Budgeted machine hours	15000 hours

The actual results for 30 April 2021 are given below:

Budgeted factory overhead	RM 70000
Budgeted labor hours	20000 hours
Budgeted machine hours	25000 hours

Required:
Calculate the over or under adsorption for ABC Ltd by using the machine hours and direct labour hours as a basis**.**

Question 8

The following information is extracted from excellent limited:

	A (RM)	B (RM)	C (RM)	D (RM)
Total Overhead	49,655	50,027	20,291	15,527

Overhead cost in the service department are re-apportioned using the following percentages:

	A	B	C	D
C	40%	60%		
D	60%	40%		

You are required to re-apportionment the overhead cost for each department

Question 9

Let us assume the same data is available as given in Question 1 with additional information as follows:

Overhead costs in the service departments are re-apportioned using the following percentages:

	A	B	C	D
C	30%	60%	-	10%
D	60%	40%	-	-

You are required to re-apportioned the overhead costs for each department

Question 10

Gemini Enterprises undertakes three different jobs A, B and C. All of them require the use of a special machine and also the use of a computer. The computer is hired and the hire charges work out to RM 4,20,000 per annum. The expenses regarding the machine are estimated as follows:

	(RM)
Rent for the quarter	17,500
Depreciation per annum	2,00,000
Indirect charges per annum	1,50,000

Number of hours the machine was used:	Job		
	A	B	C
Without the use of the computer	600	900	___
With the use of the computer	400	600	1000

You are required to COMPUTE the machine hour rate:

(a) For the firm as a whole for the month when the computer was used and when the computer was not used.

(b) For the individual jobs A, B and C.

Summative Test

Q.1. Which of these is not an objective of Cost Accounting?
(a) Ascertainment of Cost
(b) Determination of Selling Price
(c) Cost Control and Cost reduction
(d) Assisting Shareholders in decision making

Q.2. Cost Unit is defined as:
(a) Unit of quantity of product, service or time in relation to which costs may be ascertained
(b) A location, person or an item of equipment or a group of these for which costs are ascertained and used for cost control.
(c) Centres having the responsibility of generating and maximising profits
(d) Centres concerned with earning an adequate return on investment

Q.3. Fixed cost is a cost:
(a) Which changes in total in proportion to changes in output
(b) which is partly fixed and partly variable in relation to output
(c) Which do not change in total during a given period despise changes in output
(d) which remains same for each unit of output

Q.4. Uncontrollable costs are the costs which be influenced by the action of a specified member of an
undertaking.
(a) can not
(b) can
(c) may or may not
(d) must

Q.5. Element/s of Cost of a product are:
(a) Material only
(b) Labour only
(c) Expenses only
(d) Material, Labour and expenses

Q.6. Conversion cost includes cost of converting…….into……..
(a) Raw material, WIP
(b) Raw material, Finished goods
(c) WIP, Finished goods
(d) Finished goods, Saleable goods

Q.7. Sunk costs are:
(a) relevant for decision making
(b) Not relevant for decision making
(c) cost to be incurred in future
(d) future costs

Q.8. Calculate the prime cost from the following information:
Direct material purchased: RM 1,00,000
Direct material consumed: RM 90,000
Direct labour: RM 60,000
Direct expenses: RM 20,000
Manufacturing overheads: RM 30,000
(a) RM 1,80,000
(b) RM 2,00,000
(c) RM 1,70,000
(d) RM 2,10,000

Q. 9. Total cost of a product: RM 10,000
Profit: 25% on Selling Price
Profit is:
(a) RM 2,500
(b) RM 3,000
(c) RM 3,333
(d) RM 2,000

Q.10. Calculate cost of sales from the following:
Net Works cost: RM 2,00,000
Office & Administration Overheads: RM 1,00,000
Opening stock of WIP: RM 10,000
Closing Stock of WIP: RM 20,000
Closing stock of finished goods: RM 30,000
There was no opening stock of finished goods.
Selling overheads: RM 10,000

(a) RM 2,70,000
(b) RM 2,80,000
(c) RM 3,00,000
(d) RM 3,20,000

Q.11. Calculate value of closing stock from the following:
Opening stock of finished goods (500 units) : RM 2,000
Cost of production (10000 units) : RM. 50,000
Closing stock (1000 units):?
(a) RM 4,000
(b) RM 4,500

(c) RM 5,000
(d) RM 6,000

Q. 12. Which of these is not a Material control technique:
(a) ABC Analysis
(b) Fixation of raw material levels
(c) Maintaining stores ledger
(d) Control over slow moving and non moving items

Q.13. Out of the following, what is not the work of purchase department:
(a) Receiving purchase requisition
(b) Exploring the sources of material supply
(c) Preparation and execution of purchase orders
(d) Accounting for material received

Q.14. Bin Card is a
(a) Quantitative as well as value wise records of material received, issued and balance;
(b) Quantitative record of material received, issued and balance
(c) Value wise records of material received, issued and balance
(d) a record of labour attendance

Q.15. Stores Ledger is a:
(a) Quantitative as well as value wise records of material received, issued and balance;
(b) Quantitative record of material received, issued and balance
(c) Value wise records of material received, issued and balance
(d) a record of labour attendance

Q.16. Re-order level is calculated as:
(a) Maximum consumption x Maximum re-order period
(b) Minimum consumption x Minimum re-order period
(c) 1/2 of (Minimum + Maximum consumption)
(d) Maximum level - Minimum level

Q.17. Economic order quantity is that quantity at which cost of holding and carrying inventory is:
(a) Maximum and equal
(b) Minimum and equal
(c) It can be maximum or minimum depending upon case to case.
(d) Minimum and unequal

Q.18. Calculate the value of closing stock from the following according to FIFO method:
1st January, 2014: Opening balance: 50 units @ RM 4
Receipts:
5th January, 2019: 100 units @ RM 5
12th January, 2019: 200 units @ RM 4.50
Issues:
2nd January, 2019: 30 units
18th January, 2019: 150 units
(a) RM 765
(b) RM 805
(c) RM 786
(d) RM 700

Q.19. Calculate the value of closing stock from the following according to Weighted Average method:
1st January, 2019: Opening balance: 50 units @ RM 4
Receipts:
5th January, 2019: 100 units @ RM 5
12th January, 2019: 200 units @ RM 4.50
Issues:
2nd January, 2019: 30 units
18th January, 2019: 150 units
(a) RM 765
(b) RM 805
(c) RM 786
(d) RM 700

Q.20. Labour turnover means:
(a) Turnover generated by labour
(b) Rate of change in composition of labour force during a specified period
(c) Either of the above
(d) Both of the above

Q.21. Which of the following is not an avoidable cause of labour turnover:
(a) Dissatisfaction with Job
(b) Lack of training facilities
(c) Low wages and allowances
(d) Disability, making a worker unfit for work

Q.22. Costs associated with the labour turnover can be categorised into:
(a) Preventive Costs only
(b) Replacement costs only
(c) Both of the above
(d) Machine costs

Q.23. Calculate the labour turnover rate according to replacement method from the following:
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 workers were discharged and 75 workers were recruited. Of these, 10 workers were recruited in the vacancies of those leaving and while the rest were engaged for an expansion scheme.
(a) 4.55%
(b) 1.82%
(c) 6%
(d) 3%

Q.24. A worker is allowed 60 hours to complete the job on a guaranteed wage of RM 10 per hour. Under the Rowan Plan, he gets an hourly wage of RM 12 per hour. For the same saving in time, how much he will get under the Halsey Plan?
(a) RM 720
(b) RM 540
(c) RM 600
(d) RM 900

Q.25. Overhead refers to:
(a) Direct or Prime Cost
(b) All Indirect costs
(c) only Factory indirect costs
(d) Only indirect expenses

Q.26. Allotment of whole item of cost to a cost centre or cost unit is known as:
(a) Cost Apportionment
(b) Cost Allocation
(c) Cost Absorption
(d) Machine hour rate

Q. 27. Which of the following is not a method of cost absorption?
(a) Percentage of direct material cost
(b) Machine hour rate
(c) Labour hour rate
(d) Repeated distribution method

Q.28. Service departments costs should be allocated to:
(a) Only Service departments
(b) Only Production departments
(c) Both Production and service departments
(d) None of the production and service departments

Q.29. Most suitable basis for apportioning insurance of machine would be:
(a) Floor Area
(b) Value of Machines
(c) No. of Workers
(d) No. of Machines

Q.30. The wages paid to the maintenance department workers who perform repair work (mainly for the production departments but also on the vehicles in the distribution department) should be charged as:

(a) Service costs
(b) Distribution costs
(c) General costs
(d) Production costs

SUGGESTION ANSWER

Formative Answer Chapter 1

1.B 2. A 3.C 4. D 5. B

Formative Answer Chapter 2A

1.D 2. B 3.C 4.C 5. A 6. C 7. A

Formative Answer Chapter 2B

Question 1

Prime Cost = Raw Material + Direct Labour

RM 248,800 + RM 340,000

Prime Cost = 588,800 #

Question 2

	RM	RM
DIIRECT MATERIAL		
Opening Stock	16,200	
Raw Material	248,800	265,000
(-) Closing Stock		(4600)
Cost Of Material Consumed		**260,400**
Direct labour		340,000
PRIME COST		**600,400**
Production overhead		92,200
Production Cost		
+ Work In Process (opening)	2400	
-Work In Process (closing)	(18,000)	(15,600)
Cost Of Good Manufactured		76,600

Question 3

Ahmad Laksa

Cost Statement for the year ended

	RM	RM
DIRECT MATERIAL :		
Fish	60,550	
Rice flours	88,000	
Cost of raw materials consumed :		**148,550**
Chef's wages		84,000
PRIME COST		**232,550**
PRODUCTION OVERHEAD :		
Cucumber	4,500	
Chilies	8,400	
Eggs	15,000	
Indirect material	2,700	
Depreciation of machine	6,000	
Utilities factory	2,800	39,400
PRODUCTION OVERHEAD COST		**271,950**
ADMINISTRATIVE OVERHEAD		
Office rent	12,000	
Cashiers salary	108,000	
Supervisor salary	30,000	
Cleaners salary	12,000	
Utilities admin	700	162,700
SELLING AND DISTRIBUTION OVERHEAD		
Packaging	22,400	
Advertising	15,000	37,400
TOTAL COST		**472,050**

Question 4

Maju Jaya Bhd

Cost Statement of Furniture Factory

	RM	RM
DIRECT MATERIAL :		
Direct material	135,000	
Cost of raw materials consumed :		**135,000**
Direct labour		240,000
PRIME COST		**375,000**
PRODUCTION OVERHEAD :		
Depreciation (factory equipment)	300,000	
Factory utilities	15,000	
Factory supervisor salary	48,000	
Factory insurance	6,000	
Machine maintenance	3,000	372,000
PRODUCTION OVERHEAD COST		**747,000**
ADMINISTRATIVE OVERHEAD		
Depreciation (office equipment)	6,000	
General office supplies	2,500	
Director remuneration	60,000	
Office employees salaries	20,000	88,500
SELLING AND DISTRIBUTION OVERHEAD		
Advertising	10,000	10,000
TOTAL COST		**845,500**

Formative Answer Chapter 3

1. Material is one essential elements of production.

2. **Minimizing interruption in production process:** Ensuring materials and stores always available to avoid interruption during the process of production.
   Cost of materials: Materials and stores should acquire at the lowest cost according the product quality including for holding cost as well.

Reduction of wastage: Avoid unnecessary loss or wastage due to long storage or from obsolescence.
Adequate information: Maintenance of proper record of all items of materials and stores are available with reliable information in order to facilitates proper production planning.
Completion of order in time: Proper material management is necessary to fulfill order of the firm.

3. Proper co-ordination of all departments involving financing, purchasing, receiving, inspection, storage, accounting and payment.

Determining purchase procedure to see purchase are made after making suitable inquires.

Use standard form for placing the order noting the receipt and etc.
(any 10 answers)

4. Purchasing of materials
Receiving of materials
Inspection of materials
Storage of materials
Issuing materials
Maintenance of inventory records
Stock audit

5.

(a) EOQ = $\frac{\sqrt{2X2X1900}}{0.11}$
= 263 units

(b) Re-order level = 500 x 6
= 3000 units

(c) Maximum stock level = 3083 units
(d) Minimum stock level = 1740 units
(e) Average stock level = 2412 units

6.

(a) EOQ = 24000 units
(b) Maximum stock level = 21000 units
(c) Minimum stock level = 9000 units
(d) Average stock level = 15000 units

7. Demand: 14 000 units
Cost of storage/holding cost (C_s) = 26% price per annum (26% x RM4 = RM1.04)
Cost of Ordering (C_o) = RM3 per order
Price of product = RM4 per unit

EOQ = $\sqrt{\frac{2CoD}{Cs}}$

= $\sqrt{\frac{2(2)\ x\ 14\ 000}{1.04}}$

= $\sqrt{\frac{56\ 000}{1.04}}$

= 232 units

8. a) Re-order level = Maximum usage x Maximum Re-order period
= 7 000 x 8 months
= 56 000 units

b) Maximum stock level = Re-order level + EOQ – (Minimum usage x Minimum re-order period)
= 56 000 + 8 000 – (5 000 x 6)
= 64 000 – 30 000
= 34 000 units

c) Minimum stock level = Re-order level – (Average usage x Average re-order period)
= 56 000 – (7 000 + 5 000)/2 x (6+8)/2
= 56 000 – (6 000 x 7)
= 14 000 units

d) Average stock level = $\frac{Maximum\ stock\ level + Minimum\ stock\ level}{2}$

= $\frac{34\ 000+14\ 000}{2}$

= 24 000 units

9. a) Reorder level = 80,000 units
b) Maximum stock level = 58,000 units
c) Minimum stock level = 26,000 units
d) Average stock level = 42,000 units or 31,000 units

10. (i) Minimum stock of A

Re- order level – (Average rate of consumption × Average time required to obtain fresh delivery)
= 8 000 – (200 × 10 × 2) = 4 000 kgs

(ii) Maximum stock of B
Re-order level + Re-order quantity – (Minimum consumption × Minimum delivery period)
= 4 750 + 5 000 – (175 × 4 × 3)
= 9 750 – 2 100 = 7 650 kgs

(iii) Re-order level of C
Maximum delivery period × Maximum usage
= 4 × 225 × 6 = 5 400 kgs

(v) Average stock level of A
Minimum stock level of A + ½ Re-order quantity of A
= 4 000 + ½ × 10 000 = 4 000 + 5000 = 9 000 kgs

Formative Answer Chapter 4

1. Answer :

Labour turnover rate : $\frac{(120+\ 350)\div 2}{(1500+1150)\div 2}\ x\ 100$

$= \frac{235}{1325}\ x\ 100$

= 17.74%

2. Answer:

=Basic wage = 9 x RM6.00 = RM54.00

3. Answer:

Khalish	23 x RM4 x 26 days	RM2392
Amir	30 x RM4 x 26 days	RM3120
Dinie	42 x RM4 x 26 days	RM4368

4. Answer:

24 units	24 units x RM1.50 = RM36	RM40
34 units	34 units x RM1.50 = RM51	RM51.00
62 units	62 units x RM1.50 = RM93	RM93.00

5. Answer:

100 units x RM0.30	RM30.00
50 units X RM0.50	RM25.00
50 units X RM0.70	RM35.00
40 units X RM1.10	RM44.00
Total wages	RM134.00

6. Answer:

	Sue	Ros	Sarah
Time taken	61 hours	59 hours	51 hours
Time standard	69.54 hours	76.7 hours	56.1 hours
Time saved	8.54 hours	17.7 hours	5.1 hours
Basic pay	61 x RM 3.00 = RM183	60 x RM 3.50 = RM 210	52 x RM 2.40 = RM 124.80
Bonus	½ x 8.54 x RM 3.00 = RM 12.81	½ x 17.7 x RM 3.50 = RM 31.00	½ x 5.1 x RM 2.40 = RM 6.12
Total wages	RM 195.81	RM 241	RM 130.92

7. Answer:

	Sue	Ros	Sarah
Time taken	61 hours	59 hours	51 hours
Time standard	69.54 hours	76.7 hours	56.1 hours
Time saved	8.54 hours	17.7 hours	5.1 hours
Basic pay	61 x RM 3.00 = RM183	60 x RM 3.50 = RM 210	52 x RM 2.40 = RM 124.80
Bonus	1/3 x 8.54 x RM 3 = RM 8.54	1/3 x 17.7 x RM 3.50 = RM 20.65	1/3x 5.1 x RM 2.40 = RM 4.08
Total wages	RM 191.54	RM 230.65	RM 128.88

8. Answer:

Percentage of increase = 11/40 x 100%
=27.5%

The amount of bonus receivable = RM 120 for every 30% increase

Each worker will receive = RM 120/15

= RM 8

9. Answer:

Basic wage = 14 hours × RM6.00 = RM84

Overtime Premium = 8 hours × RM6.00 × $\frac{1}{2}$ = 24

Total wage **= RM 108**

OR

Ordinary wage = 10 hours x RM6.00 = RM40

Overtime wage = 8 hours × RM6.00 × $1\frac{1}{2}$ = 68

Total wage **= RM 108**

10. Answer

	Employees		
	Daniel	Fariz	Hazim
Units produced by worker (dozens)	40	65	35
Time allowed (hours)	80	90	75
Basic wage rate per hour	RM8.40	RM7.00	RM7.50
Time taken (hours)	60	73	80
Rejects (units)	32	25	20
Answer :			
Hours saves	80-60 = 20	90-73= 17	None
Bonus hours	20 x $\frac{20}{80}$ = 5 hours	17 x $\frac{17}{90}$ = 3.2 hours	None
Bonus earned	5h x RM8.40 = RM42.00	3.2h x RM7.00 = RM22.40	None
Total wages	(60h + 5h) x RM8.40 = RM546	(73h + 3.2h) x RM7.00 = RM533.40	(80h x 7.5) = RM600
Wages cost per unit produced	(40 x 12) – 32 = 448unit = RM 546 / 448 =RM 1.22 per unit	(65 x 12) – 25 = 755unit = RM 533.40 / 755 = RM 0.71	(35 x 12) – 20 = 400 unit =RM 600 / 400 = RM 1.50

Formative Answer Chapter 5

Answer Question 1

Formula OAR : $\frac{Production\ overhead}{Amount\ of\ allocation\ base}$

Direct Labour hour = $\frac{RM\ 24{,}000}{3{,}200}$

= RM 7.50 per labour hour

Direct machine hour = $\frac{RM\ 24{,}000}{4{,}800}$

=RM 5.00 per machine hour

Answer Question 2

Absorbed overhead

Formula OAR : $\frac{Production\ overhead}{Amount\ of\ allocation\ base}$

$\frac{300000}{16000}$ = RM 18.75 per direct labour hour

Under absorbed overhead

Absorbed overhead < actual overhead

Answer Question 3

1. Machine hour

POR= $\frac{\text{RM } 55{,}500}{18{,}000}$ =RM 3.08 per machine hours

Calculate absorbed overhead

RM 3.08 × 16,000 = 49,280

Compare actual overhead and absorbed overhead

Actual overhead	RM 75,000
Absorbed overhead	RM 49,280
Under absorbed	RM 25,720

2. Direct labour

POR=$\frac{\text{RM } 55{,}500}{12{,}500}$ =RM 4.44 per labour hours

Calculate absorbed overhead

RM 4.44 × 19,500 = 86,580

Compare actual overhead and absorbed overhead

Actual overhead RM 65,000

Absorbed overhead RM 86,580

over absorbed RM 21,580

Answer Question 4

	A(RM)	B(RM)	X(RM)	Y(RM)
Total overhead	47,766	48,024	19,104	14,417
Re-apportionment x	40%×19,104 =7,641.6	60%×19,104 =11,462.4	(19,104)	-
Y	60%×14,417 =8,650.2	40%×14,417 =5,766.8	-	(14,417)
Total re-apportionment	16,291.8	17,229.2	-	-
TOTAL OVERHEAD	64,057.8	65,253.2	-	-

Answer Question 5

1. MACHINE HOURS

Calculate POR

=RM 53,000 ÷ 16,500 = RM 3.12 per machine hours

Calculate absorbed overhead

=RM 3.12 × 14,500 = RM 45,240

Compare actual overhead and absorbed overhead

Actual overhead	RM 63,000
Absorbed overhead	RM 45,240
Under absorbed	RM 17,760

2. DIRECT LABOUR HOURS

Calculate POR

= RM 53,000 ÷ 11,000 = RM 4.81 per direct labour hours

Calculate absorbed overhead

= RM 4.81 × 17,000 = RM 81,770

Compare actual overhead and absorbed overhead

Actual overhead	RM 63,000
Absorbed overhead	RM 81,770
Over absorbed	RM 18,440

Answer Question 6

i.

	Basic	A (RM)	B (RM)	X (RM)	Y (RM)
Apportionment of overhead: Factory wages	Floor area (sq. ft)	$\frac{3,000}{5,500} x\ 5,000$ = RM 2,727	$\frac{1500}{5500} x\ 5000$ = RM 1,364	$\frac{600}{5,500} x\ 5,000$ = RM 545	$\frac{400}{5,500} x\ 5,000$ = RM 364
Power	Kilowatt hours	$\frac{30,000}{50,000} x\ 25,000$ = RM 15000	$\frac{20,000}{50,000} x\ 25,000$ = RM 10,000		
Depreciation	Capital value of asset	$\frac{10,000}{25,000} x\ 25,000$ = RM 10,000	$\frac{8,000}{25,000} x\ 25,000$ = RM 8,000	$\frac{4,000}{25,000} x\ 25,000$ = RM 4,000	$\frac{3,000}{25,000} x\ 25,000$ = RM ,000
General overhead	Machine hours	$\frac{30,000}{50,000} x\ 15000$ = RM 9,000	$\frac{20,000}{50,000} x\ 15,000$ = RM 6,000		
Total apportionment		RM 36,727	RM 25,364	RM 4,545	RM 3,364

ii.

	A	B	X	Y
Total overhead	RM 36,727	RM 25,364	RM 4,545	RM 3,364
Re-apportionment: X	30% x RM 4,545 = RM 1363.5	60% x RM 4,545 = RM 2727	(4545)	10% x RM 4,545 =RM 454.5
Y	60% x RM 3,364 = RM 2999.7	40% x RM 4,545 = RM 1999.8		(4999.5)
Total Re-apportionment	RM 4363.2	RM 4726.8		
Total Overhead	RM 41090.2	RM 30090.8		

Answer Question 7

1. Direct Labor Hours Basis:

Overhead absorption rate = $\frac{\text{Budgeted production overhead}}{\text{Budgeted amount of allocation base}}$

= $\frac{RM\ 55{,}000}{18{,}000\ hours}$

= RM 3 per labour hour

Absorption of overhead based on direct labor hours :

Absorbed overhead : POR x Amount of allocation base incurred

20000 hours × RM 3 = RM 60,000

Compare actual overhead and absorbed overhead

Actual overhead	RM 70,000
Absorbed overhead	RM 60,000
Under adsorbed	RM 10,000

2. Machine Hour Basis:

Overhead absorption rate = $\frac{\text{Budgeted production overhead}}{\text{Budgeted amount of allocation base}}$

=$\frac{RM\ 55{,}000}{15{,}000\ \text{hours}}$ = RM 3.67 per machine hours

Absorption of overhead based on direct machine hours :

Absorbed overhead : POR x Amount of allocation base incurred

25000 hours × RM 3.67 = RM 91,750

Compare actual overhead and absorbed overhead

Actual overhead	RM 70,000
Absorbed overhead	RM 91,750
Over adsorbed	RM 21,750

Answer Question 8

	A (RM)	B (RM)	C (RM)	D (RM)
Total Overhead	49,655	50,027	20,291	15,527
Re-apportionment (C)	40% x 20,291 =8,116.4	60% x 20,291 =12,174.6	(20,291)	-
Re-apportionment (D)	60% x 15,527 =9,316.2	40% x 15,527 =6,210.8	-	(15,527)
Total re-apportionment	17,432.6	18,385.4	-	-
TOTAL OVERHEADS	67,087.6	68,412.4	-	-

Answer Question 9

	A(RM)	B(RM)	C(RM)	D(RM)
Total Overhead	49,655	50,027	20,291	15,527
Re-apportionment (C)	30% x 20,291 = 6,087.3	60% x 20,291 =12,174.6	(20,291)	10% x 20,291 =2,029.1
Re-apportionment (D)	60% x 17,556.1 =10,533.66	40% x 17,556.1 =7,022.44	-	(17,556.1)
Total re-apportionment	16,620.96	19.197.04	-	-
TOTAL OVERHEADS	66,275.96	69,224.04	-	-

Answer Question 10

I. Total machine hours used RM 3,500

(600 + 900 + 400 + 600 + 1000)

II. Total machine hours without the use of computers RM 1,500

(600 + 900)

III. Total machine hours with the use of computers RM 2,000

(400 + 600 + 1000)

IV. Computer hire charges for a month RM 35,000

(420,000 ÷ 12 month)

V. Overhead's for using machines without computer RM 15,000

$(RM\ 35{,}000)/(3{,}500\ Hours)\ \ x\ 1{,}500$

VI. Overhead's for using machines with computer RM 55,000

$(RM\ 35{,}000)/(3{,}500\ Hours)\ \ x\ 2{,}000 + RM\ 35{,}000$

a) Machine hours rates of Gemini Enterprises for firm as a whole for a month.

1) When the Computer was used: $\frac{RM\ 55{,}000}{2{,}000\ hours}$ = RM 27.50 per hours

2) When the Computer was not used: $\frac{RM\ 15{,}000}{1{,}500\ hours}$ = RM 10 per hours

b) Machine hour rate for individual job

		A		B		C	
	RM	RM	HOURS	RM	HOURS	RM	HOURS
Overheads Without computer	10.00	600	6,000	900	9,000	-	-
With computer	27.50	400	11,000	600	25,500	1,000	27,500
		1,000	17,000	1,500	25,500	1,000	27,500
Machine hours rate		RM 17		RM17		RM27.50	

Answer Summative Test

1. D	**2.A**	**3. C**	**4. A**	**5. D**
6. B	7.B	8. C	9. C	10.B
11.C	12.C	13.D	14.B	15.A
16.A	17.B	18.A	19.C	20.B
21.D	22.C	23.B	24.B	25.B
26.B	27.D	28.C	29.B	30.A

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