

## KARPAGAM ACADEMY OF HIGHER EDUCATION

*(Deemed to be University Established Under Section 3 of UGC Act 1956)*

Coimbatore – 641 021.

### Semester IV

L	T	P	C
4	-	-	4

17CMP201

### APPLIED COST ACCOUNTING

#### COURSE OBJECTIVES:

- To familiarizes students with the various concepts and elements of cost
- To Create cost consciousness among the students
- To provide the students knowledge about use of costing data for Planning, Control and decision making

#### LEARNING OUTCOME:

- To acquaint the students with basic concepts used in cost accounting, various methods involved in cost ascertainment and cost accounting book keeping systems.
- To familiarize the students in Material Cost, Labour Cost, Overheads, Process Costing, Activity Based Costing and Target Costing.

#### UNIT-I

**Introduction :** Cost Accounting – Meaning and Objectives – Importance – Limitations – Limitations of Financial Accounting – Differences between Cost Accounting and Financial Accounting, Cost Accounting and Management Accounting – Methods of Costing – Elements of Cost – Preparation of Cost Sheet – Tender – Quotations – Reconciliation of Cost and Financial Accounting

#### UNIT- II

**Material Control** – Objectives – Levels of Inventory – EOQ – Methods of Inventory Control – Methods of Valuing Material Issues – Control over Wages – Scrap and Spoilage - Labour - Labour Cost Control – Importance – Systems of Wage Payment – Incentives – Idle Time – Control Over Idle Time –Labour Turnover.

**UNIT-III**

**Overheads** – Classification of Overheads – Allocation, Apportionment and Absorption of Overheads  
– Methods of Absorption of Overheads

**UNIT- IV**

**Process Costing** – Features – General Principles – Comparison between Job Costing and Process Costing – Process Losses – Normal Loss – Abnormal Loss – Abnormal Gains – Inter Process Profit – Equivalent Production – Procedure for Evaluation – Joint Product and by Product

**UNIT- V**

**Activity Based Costing:** Meaning and Methodology of Activity Based Costing (ABC Analysis)- Merits, Demerits and Suitability of Activity Based Costing-Implementation of Activity Based Costing- Draw Back of Conventional Costing - Target costing: Meaning-Characteristics-Principles- Implementation of Target Costing-Installation of Target Costing-Target Costing Vs. Traditional Costing- Life Cycle Costing-Meaning-Definition-Applications of LCC -Importance-Process of LCC

**Suggested Readings:****Text Books**

1. **S.P. Jain and KL. Narang.** (2012) *Cost Accounting* New Delhi, Kalyani Publishers.

**Reference Books**

1. Iyengar, S.P.(2013) *Cost Accounting*. [10<sup>th</sup> edition]. New Delhi, Sultan Chand & Sons
2. Pillai, R.S.N., and Bhagavathi (2010). *Cost Accounting*. New Delhi, Sultan Chand and Sons Private Limited.
3. Maheswari, S.N. (2013). *Cost Accounting*. New Delhi, Sultan Chand and Sons Private Limited.



## KARPAGAM ACADEMY OF HIGHER EDUCATION

*(Deemed to be University Established Under Section 3 of UGC Act 1956)*

Coimbatore – 641 021.

### LECTURE PLAN

#### DEPARTMENT OF COMMERCE

STAFF NAME: PATHMA PRIYA .D

SUBJECT NAME: APPLIED COST ACCOUNTING SUB.CODE:17CCP201

SEMESTER: II CLASS: I M.COM CA

#### UNIT 1

S. No	Lecture Duration (hour)	Topics to be Covered	Support Material/Page Nos
1	1	Introduction of Cost Accounting - Definition of Cost	T1: I-1 - 2
2	1	An Overview of Costing and Cost Accounting	T1:I-1 - 3
3	1	Objectives of Cost Accounting	T1: I-4 – 5 R1: I- 5
4	1	Importance of Cost Accounting.	T1: I-6
5	1	Limitations of Cost Accounting	T1:I- 6 – 7
6	1	Limitations of Financial Accounting	T1: I-1 - 2
7	1	Differences between Cost Accounting and Financial Accounting	T1: I-10
8	1	Differences between Cost Accounting and Management Accounting	T1: I-10
9	1	Methods of Costing	R1: 23 - 26
10	1	Elements of Cost	T1:I28 - 29
11	1	Preparation of Cost Sheet	T1: I-30-32
12	1	Calculation of Stock of Work in Progress	T1: I-32-38
13	1	Tender, Quotations - Problems	R1:398-399
14	1	Reconciliation of Cost and Financial Accounting	R1:334-337
15	1	Recapitulation and Important Question Discussion	
<b>Total No. of Hours planned for Unit – I</b>			<b>15 Hours</b>

**UNIT II**

<b>S.No</b>	<b>Lecture Duration (hour)</b>	<b>Topics to be Covered</b>	<b>Support Materials</b>
1	1	Meaning and Essentials of Material Control	T1: II 4 - 6
2	1	Objectives of Material Control	T1: II 4 - 6
3	1	Levels of Material Control	T1: II 4
4	1	Economic Ordering Quantity - Problems	T1: II 15-17
5	1	Methods of Inventory Control	T1: II 6
6	1	Methods of valuing material issues <ul style="list-style-type: none"> <li>➤ Cost Price Method</li> <li>➤ Market Price Method</li> <li>➤ Standard Price Method</li> </ul>	T1: II 62 - 74
7	1	Methods of pricing- Problems to be worked in FIFO	R1: 111 - 117
8	1	Problems to be worked for LIFO method	R1: 111 - 117
9	1	Simple and Weighted Average Method – Problems	R1: 163
10	1	Treatment of Material Losses – Waste, Scrap, Defectives and Spoilage	T1: II – 91-95
11	1	Introduction to Labour cost Types of Labour	T1: II -106
12	1	Control Over Labour Cost; <ul style="list-style-type: none"> <li>➤ Personnel Department</li> <li>➤ Engineering Department</li> <li>➤ Time and Motion Study Departments</li> </ul>	T1:II 107 - 118
13	1	Concept of Idle Time, Over Time, Labour Turnover	T1: II 127 - 139
14	1	Remuneration and Incentive Schemes - Problems	T1: II 154 - 156
15	1	Recapitulation and Important Question Discussion	
<b>Total No. of Hours planned for Unit – II</b>			<b>15 Hours</b>

**UNIT III**

<b>S No.</b>	<b>Lecture Duration (hour)</b>	<b>Topics to be Covered</b>	<b>Support Materials</b>
1	1	Introduction to Overheads and Classification of Overheads.	T1: II -209
2	1	Allocation and Apportionment of Overhead Expenses	T1: II -211
3	1	Difference between Allocation and Apportionment of Overhead Expenses	T1: II -212
4	1	Absorption: Meaning and Overhead Absorption Rate	T1: II -218
5	1	Methods of Absorption of Manufacture overheads	T1: II -222-230
6	1	Methods of Absorption –Prime Cost Method, Hour Rate Method	T1: II -222-230
7	1	Overhead Absorption Rate: Problems	T1: II -218 - 230
8	1	Under- Absorption –Problems	T1: II -231
9	1	Over – Absorption: Problems	T1: II -231
10	1	Over – Absorption: Problems	T1: II -231
11	1	Capital Levels & Costs	T1: II -232
12	1	Treatment of Interest on Capital and Packing Expenses in Costing	T1: II -233
13	1	Treatment of Bad debts and Research in Costing	T1: II -235
14	1	Development Expenses; Activity Based Cost Allocation.	T1: II -236
15	1	Recapitulation and Important Question Discussion	
<b>Total No. of Hours planned for Unit – III</b>			<b>15 Hours</b>

**UNIT IV**

<b>S.No</b>	<b>Lecture Duration (hour)</b>	<b>Topics to be Covered</b>	<b>Support Materials</b>
1	1	Introduction to Process Costing and its Features.	T1: IV 130
2	1	General Principles of Process Costing	T1: IV 63- 74
3	1	Unit Costing -Problems	T1: IV 63- 74
4	1	Difference Between Job and Process Costing	T1: IV 131-140
5	1	Process Costing Problems	T1: IV 133
6	1	Process Costing (Normal Process Loss) - Problems	T1: IV 134
7	1	Process Costing (Abnormal Process Loss) - Problems	T1: IV 135
8	1	Process Costing (Abnormal Process Gain) - Problems	T1: IV 137
9	1	Inter Process Profits - Problems	T1: IV 139
10	1	Meaning and Different Methods of Equivalent Production	T1: IV 144
11	1	Procedure for Evaluation	T1: IV 145
12	1	Statement of Equivalent Production - Problems	T1: IV 146
13	1	Statement of Cost - Problems	T1: IV 147
14	1	Statement of Evaluation	T1: IV 149
15	1	Recapitulation and Important Question Discussion	
<b>Total No. of Hours planned for Unit – IV</b>			<b>15 Hours</b>

### UNIT V

S.No	Lecture Duration (hour)	Topics to be Covered	Support Materials
1	1	Meaning and Methodology of Activity Based Costing (ABC Analysis)	R1: 375 - 376
2	1	Merits, Demerits and Suitability of Activity Based Costing	R1: 377
3	1	Implementation of Activity Based Costing	R1: 383 - 384
4	1	Draw Back of Conventional Costing	R1: 374 - 375
5	1	Target Costing: Meaning-Characteristics-Principles	R1: 395 - 396
6	1	Implementation of Target Costing	R1: 399
7	1	Installation of Target Costing	R1: 399 - 401
8	1	Target Costing Vs. Traditional Costing	W1
9	1	Meaning-Definition-Applications of Life Cycle Costing	R1: 401 - 402
10	1	Importance of Life Cycle Costing	R1: 402
11	1	Process of Life Cycle Costing	R1: 404-407
12	1	Recapitulation and Important Question Discussion	
13	1	<b>Revision:</b> Discussion of Previous Year ESE Question Papers	
14	1	Discussion of Previous Year ESE Question Papers	
15	1	Discussion of Previous Year ESE Question Papers	
<b>Total No. of Hours planned for Unit – V&amp; ESE Question paper discussion</b>			<b>15 Hrs.</b>

#### TEXT BOOK:

**T1 :** S. P. Jain and K.L. Narang (2016) Cost Accounting-Kalyani publishers. Ludhiana.

#### REFERNECES:

**R1 :** R. S. N. Pillai and V. Bagavathi (2010) Cost accounting New Delhi S.Chand and Co.

#### WEB ADDRESS

**W1:** [http:// accountlearning.com/differences-traditional-method-costing-target-costing](http://accountlearning.com/differences-traditional-method-costing-target-costing).

**W2:** [www.yourarticllibrary.com/cost.../labour-turnover-formula](http://www.yourarticllibrary.com/cost.../labour-turnover-formula)

**UNIT-I**

**SYLLABUS**

**Introduction :** Cost Accounting – Meaning and Objectives – Importance – Limitations – Limitations of Financial Accounting – Differences between Cost Accounting and Financial Accounting, Cost Accounting and Management Accounting – Methods of Costing – Elements of Cost – Preparation of Cost Sheet – Tender – Quotations – Reconciliation of Cost and Financial Accounting.

**UNIT I**

**INTRODUCTION TO COST ACCOUNTING**

**Cost:**

The word cost is used very often in our day –to –day affairs. The committee on terminology, American institute of certified public accountants defined as:

“Cost is the amount, measured in money, of cash expended or other property transferred, capital stock issued, services performed, or liability incurred, in consideration of goods or services received or to be received”.

**Costing:**

It is referred to as classifying, recording and appropriate allocation of expenditure for the determination of the costs of products or services”.

**Cost Accounting:**

The institute of cost and works accountants, India defines” cost accounting is the technique and process of ascertainment of costs. Cost accounting is the process of accounting for costs, which begins with recording of expenses or the bases on which they are calculated and ends with preparation of statistical data”.

**Uses of Cost, financial and management accounting:**

Cost Accounting is a branch of accounting, which has been developed because of the limitations of Financial Accounting from the point of view of management control and internal reporting.

Financial accounting performs admirably, the function of portraying a true and fair overall picture of the results or activities carried on by an enterprise during a period and its financial position at the end of the year.

Also, on the basis of financial accounting, effective control can be exercised on the property and assets of the enterprise to ensure that they are not misused or misappropriated.



To that extent financial accounting helps to assess the overall progress of a concern, its strength and weaknesses by providing the figures relating to several previous years.

Data provided by Cost and Financial Accounting is further used for the management of all processes associated with the efficient acquisition and deployment of short, medium and long term financial resources.

Such a process of management is known as Financial Management. The objective of Financial Management is to maximize the wealth of shareholders by taking effective Investment, Financing and Dividend decisions. Investment decisions relate to the effective deployment of scarce resources in terms of funds while the Financing decisions are concerned with acquiring optimum finance for attaining financial objectives.

The last and very important 'Dividend decision' relates to the determination of the amount and frequency of cash which can be paid out of profits to shareholders.

On the other hand, Management Accounting refers to managerial processes and technologies that are focused on adding value to organizations by attaining the effective use of resources, in dynamic and competitive contexts.

Hence, Management Accounting is a distinctive form of resource management which facilitates management's 'decision making' by producing information for managers within an organization.

### **SCOPE OF COST ACCOUNTING**

The terms 'costing' and 'cost accounting' are many times used interchangeably. However, the scope of cost accounting is broader than that of costing. Following functional activities are included in the scope of cost accounting:

- 1. Cost book-keeping:** It involves maintaining complete record of all costs incurred from their incurrence to their charge to departments, products and services. Such recording is preferably done on the basis of double entry system.
- 2. Cost system:** Systems and procedures are devised for proper accounting for costs.
- 3. Cost ascertainment:** Ascertaining cost of products, processes, jobs, services, etc., is the important function of cost accounting. Cost ascertainment becomes the basis of managerial decision making such as pricing, planning and control.
- 4. Cost Analysis:** It involves the process of finding out the causal factors of actual costs varying from the budgeted costs and fixation of responsibility for cost increases.
- 5. Cost comparisons:** Cost accounting also includes comparisons between cost from alternative courses of action such as use of technology for production, cost of making different products and activities, and cost of same product/ service over a period of time.

**6. Cost Control:** Cost accounting is the utilization of cost information for exercising control. It involves a detailed examination of each cost in the light of benefit derived from the incurrence of the cost. Thus, we can state that cost is analyzed to know whether the current level of costs is satisfactory in the light of standards set in advance.

**7. Cost Reports:** Presentation of cost is the ultimate function of cost accounting. These reports are primarily for use by the management at different levels. Cost Reports form the basis for planning and control, performance appraisal and managerial decision making.

### **OBJECTIVES OF COST ACCOUNTING**

There is a relationship among information needs of management, cost accounting objectives, and techniques and tools used for analysis in cost accounting. Cost accounting has the following main objectives to serve:

#### **1. Determining selling price**

The objective of determining the cost of products is of main importance in cost accounting. The total product cost and cost per unit of product are important in deciding selling price of product. Cost accounting provides information regarding the cost to make and sell product or services. Other factors such as the quality of product, the condition of the market, the area of distribution, the quantity which can be supplied etc., are also to be given consideration by the management before deciding the selling price, but the cost of product plays a major role.

#### **2. Controlling cost**

Cost accounting helps in attaining aim of controlling cost by using various techniques such as Budgetary Control, Standard costing, and inventory control. Each item of cost [viz. material, labour, and expense] is budgeted at the beginning of the period and actual expenses incurred are compared with the budget. This increases the efficiency of the enterprise.

#### **3. Providing information for decision-making**

Cost accounting helps the management in providing information for managerial decisions for formulating operative policies. These policies relate to the following matters:

- (i) Determination of cost-volume-profit relationship.
- (ii) Make or buy a component
- (iii) Shut down or continue operation at a loss
- (iv) Continuing with the existing machinery or replacing them by improved and economical machines.

#### **4. Ascertaining costing profit**

Cost accounting helps in ascertaining the costing profit or loss of any activity on an objective basis by matching cost with the revenue of the activity.

**5. Facilitating preparation of financial and other statements**

Cost accounting helps to produce statements at short intervals as the management may require. The financial statements are prepared generally once a year or half year to meet the needs of the management. In order to operate the business at high efficiency, it is essential for management to have a review of production, sales and operating results. Cost accounting provides daily, weekly or monthly statements of units produced, accumulated cost with analysis. Cost accounting system provides immediate information regarding stock of raw material, semi-finished and finished goods. This helps in preparation of financial statements.

**Some other Objectives of Cost accounting are as follows:**

- To ascertain the cost per unit of the different products manufactured by the business concern.
- To provide a correct analysis of cost both by process or operations and by different elements of cost.
- To disclose sources of wastage whether of material, time or expense or in the use of machinery equipment & tools.
- To provide requisite data & serve as a guide to price fixing of products manufactured or services rendered.
- To ascertain the profitability for advising the management.
- To exercise effective control of stock, raw materials, working progress & finished products.
- To reveal the sources of economy.
- To help in supervising.
- To organize the internal systems, Cost reduction programs.
- To provide specialized services of cost audit.
- To find out costing Profit or Loss.

**Merits of Cost Accounting****1. Helpful in Planning and Decision Making:**

- Cost information brings to light the profitable activities of the organisation.
- It provided the sound and rational basis for planning, the changes in products, plants, processes and techniques of production.
- The information provided by cost accounting is also useful in evaluating the various

alternatives involved in a situation before taking any final decision.

**2. Inventory Control:**

- As an efficient stores accounting system is essential to an adequate system of cost accounts, in effective check is provided on all materials and stores.

**3. Ascertainment of Costs:**

- Cost accounting is very helpful in calculating the cost of an article being produced by the enterprise.
- It helps in fixing the selling price of the product.

**4. Standard Costs:**

- It helps the production manager not only to find what various jobs and processes have cost but also what they should have cost.
- The pre-planned standard costs are used for comparison of the cost of the products.

**5. Assistance in Manufacturing:**

- Cost accounting pinpoints lapses in purchases of raw materials and other articles, their utilization.
- It indicates where wastages are occurring long before the production is finished. It helps to take immediate steps to avoid such losses and wastes.

**6. Promotion of Sales:**

- Cost accounting is also very helpful in the promotion of sales by adopting an appropriate price policy.
- The technique of break even analysis serves as constant reminders to increase the sales to the break even point.
- It also seeks to control the selling and distribution costs.

**7. Evaluation of Profitability:**

- It helps in elimination unprofitable activities and operations.

**8. Profit can be maximized:**

- Cost accounting helps the management in maximizing profits by eliminating all wastes and uneconomical processes. This cost accounts help in increasing points and minimizing losses.

## KARPAGAM ACADEMY OF HIGHER EDUCATION

CLASS: I MCOM CA

COURSE NAME: APPLIED COST ACCOUNTING

COURSE CODE: 17CCP201

UNIT: I

BATCH-2017-2019

### Limitations of cost accounting:

- It lacks a uniform procedure.
- Many formalities are to be observed.
- Handling future situations has not been much.
- It is very expensive.
- It is failure in many cases.

### Relationship of cost and financial accounting

S. No.	Basis	Financial accounting	Cost accounting
1	Distinction period/amount	Transaction is recorded for a definite period.	Transaction is identified with cost units.
2	Purpose	Prepared to show the final results during a particular period to owners, outsiders etc.	It aims to guide the management for proper planning, control and decision making.
3	Analysis of expenditure	It analyses the expenditure under different types of expenses, e.g. wages, salaries, depreciation etc.	It analyses the expenditure under different types of performance as distinct from types of expenses e.g. direct labor, indirect labor, direct materials, etc.
4	Material control	It does not tell us the inefficiencies of material handling, as the figures are available in aggregate.	It provides the system of good inventory control through a prescribed procedure for purchases, storage, issue etc.
5	Nature	It is positive science	It is positive as well as normative science
6	Wastages	There are no such categories	Wastages, shortages, losses etc are categorized into normal and abnormal and aim to eliminate losses.
7	Dealings	It deals with actual facts and figures	It deals partly with actual facts and figures and partly with estimates.
8	Transactions	It deals with external transactions	It deals with internal transactions
9	Classifications	It makes no distinction between controllable and	It makes clear distinction between controllable and

**KARPAGAM ACADEMY OF HIGHER EDUCATION**

CLASS: I MCOM CA

COURSE NAME: APPLIED COST ACCOUNTING

COURSE CODE: 17CCP201

UNIT: I

BATCH-2017-2019

		uncontrollable or fixed and variable costs.	uncontrollable or fixed and variable costs.
10	Legal requirements	They are kept as required by companied act, income tax act.	These accounts are kept generally to meet the requirement of the management. Now it, is obligatory to keep such records.

The difference between management and cost accounting are as follows:

S.No.	Cost Accounting	Management Accounting
1	The main objective of cost accounting is to assist the management in cost control and decision-making.	The primary objective of management accounting is to provide necessary information to the management in the process of its planning, controlling, and performance evaluation, and decision-making.
2	Cost accounting system uses quantitative cost data that can be measured in monitory terms.	Management accounting uses both quantitative and qualitative data. It also uses those data that cannot be measured in terms of money.
3	Determination of cost and cost control are the primary roles of cost accounting.	Efficient and effective performance of a concern is the primary role of management accounting.
4	Success of cost accounting does not depend upon management accounting system.	Success of management accounting depends on sound financial accounting system and cost accounting systems of a concern.
5	Cost-related data as obtained from financial accounting is the base of cost accounting.	Management accounting is based on the data as received from financial accounting and cost accounting.
6	Provides future cost-related decisions based on the historical	Provides historical and predictive information for future decision-making.

	cost information.	
7	Cost accounting reports are useful to the management as well as the shareholders and creditors of a concern.	Management accounting prepares reports exclusively meant for the management.
8	Only cost accounting principles are used in it.	Principals of cost accounting and financial accounting are used in management accounting.
9	Statutory audit of cost accounting reports are necessary in some cases, especially big business houses.	No statutory requirement of audit for reports.
10	Cost accounting is restricted to cost-related data.	Management accounting uses financial accounting data as well as cost accounting data.

## **TECHNICAL METHODS OF COSTING**

### **1. Historical Costing:**

- The ascertainment of costs after they have been incurred Historical costs are, therefore, 'postmortem' costs as under this method all the expenses incurred on the production are first incurred and then the costs are ascertained.

### **2. Standard Costing:**

- The preparation and use of standard costs, their comparison with actual costs and the analysis of variance to their causes and points of incidence'.
- Here the standards are first set and then they are compared with actual performances. The difference between the standard and the actual is known as the variance. The variances are analyzed to find out their causes and also the points or locations at which they occur.

### **3. Marginal Costing:**

- The ascertainment of marginal costs and of the effects on profit of changes in volumes or type of output by differentiating between fixed costs and variable costs'.



- The fixed costs are those which do not change but remain the same, with the increase or decrease in the quantum of production. The variable costs are those which do change proportionately with the change in quantum of production.
- The marginal costing takes into account only the variable costs to find out 'marginal costs'. The difference between Sales and Marginal costs is known as 'Contribution' and contribution is an aggregate of fixed costs and Profit/Loss. So the fixed costs are deducted from the contribution to find out the profits.
- Marginal costing is a technique to ascertain the effect on profits. Marginal costing is a technique to ascertain the effect on profit by the change in the volume of output or by the change in the type of output.

#### **4. Direct Costing:**

The practice of charging all direct cost to operations, process or products, leaving all the indirect costs to be written off against profits in the period in which they arise

#### **5. Absorption Costing**

The practice of charging all costs, both variables and fixed, to operations, processes or products.

This is the traditional technique as opposed to Marginal or Direct costing techniques. Here both the fixed and variables cost are charged in the same manner.

### **METHODS OF COSTING**

#### **1. Job Costing**

It is defined by ICMA, London as that form of specific order costing, which applies where work is undertaken to customer's special requirements.

#### **2. Contract Costing**

It is applied where the job is big and of no longer duration. For each individual contract, separate accounts have to be kept.

#### **3. Batch Costing**

A batch may represent a number of small orders in batches through the factory. ICMA defines as "that form of specific order costing, which applies where similar articles are manufactured in batches either for sale or for use within the undertaking.

#### **4. Multiple costing**



It means a combination of two or more of the above methods. The system of costing is adopted in manufacturing concerns where a variety of parts are produced separately and later assembled into a final product.

#### **5. Process Costing**

It applies to industries where production is carried on through different stages before becoming a finished product.

#### **6. Single output or Unit Costing**

Under this method production is continuous and units are identical. Producing a single article or a few articles, choosing the cost unit depends upon the nature of the product.

#### **7. Operation Costing**

This method is used where there is a mass production and processes are repetitive in nature, and there is a detailed application of processes costing.

#### **8. Operating Costing**

It is suitable to those industries which render services instead of producing goods e.g. transport companies, electricity companies, railways, hospitals etc.

#### **9. Departmental Costing**

It is a method of cost finding adopted to ascertain the cost of operating a department or a cost centre separately.

### **CLASSIFICATIONS OF COSTS**

Costs are classified into following categories:

#### **1. Classification according to nature or element**

The Term is defined as “the primary classification of costs according to the factors upon which expenditure is incurred i.e. material cost, labor cost and expenses”.

#### **2. Classification according to function of companies**

Under this method costs are classified as production cost, administrative cost, selling cost and distribution cost.

#### **3. Classification according to variability**

##### **(a) Fixed Cost**

It means the cost tends to unaffected with the volume of output.

##### **(b) Variable cost**

It means the cost tends to vary directly with the volume of output.

(c) Semi-variable cost

Semi variable costs are those which are partly fixed and partly variable.

**4. Classification according to controllability**

- a) controllable or
- b) uncontrollable costs

- Controllable costs

A cost which can be influenced by the action of a specified number of an undertaking is known as controllable cost.

E.g. direct material, direct labor etc.

- Uncontrollable costs

A cost which cannot be influenced by the action of a specified number of an undertaking is known as uncontrollable cost

E.g. rent, rates, taxes, insurance, salary etc.

**5. Classification into direct and indirect costs**

- (a) Direct and
- (b) Indirect costs

a) Direct costs are those which can be identified with the cost centre or cost unit and can conveniently be connected with any cost unit.

b) Indirect costs cannot be identified with but can be apportioned or absorbed by cost centre's or cost unit.

**6. Classification according to capital and revenue**

- a) Capital costs
- b) Revenue costs

a) Capital costs are those incurred in the acquisition of assets, either to earn income or increase the earning capacity of the business.

E.g. cost of plant, machinery.

b) Revenue costs are those incurred to maintain earning capacity of the firm.

**7. Classification according to normality costs**

- a) Normal costs
- b) Abnormal costs

- a) Normal costs is a cost which is normally incurred at a given level of output.
- b) Abnormal costs are not normally incurred at a given level of output in the conditions in which that level of output is normal.

**Cost concepts:**

**Cost unit**

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

**Cost centre**

A cost centre is a location, person or item of equipment for which cost may be ascertained and used for the purpose of cost control.

The sub divisions of cost centre are:

1. The personal cost centre
2. Impersonal cost centre
3. Operation cost centre
4. Process cost centre

**Profit centre**

Profit centre is a segment of a business that is responsible for all activities involved in the production and sales of products, systems and services.

**Cost control**

Cost control is defined as “the guidance and regulation by executive action of costs of operating an undertaking”.

**Cost reduction**

Cost reduction is concerned with reducing costs. It is concerned with reduction programme which is a continuous process, it strives to achieve permanent reduction, starts where cost control ends. Cost can be reduced on account of savings in cost.

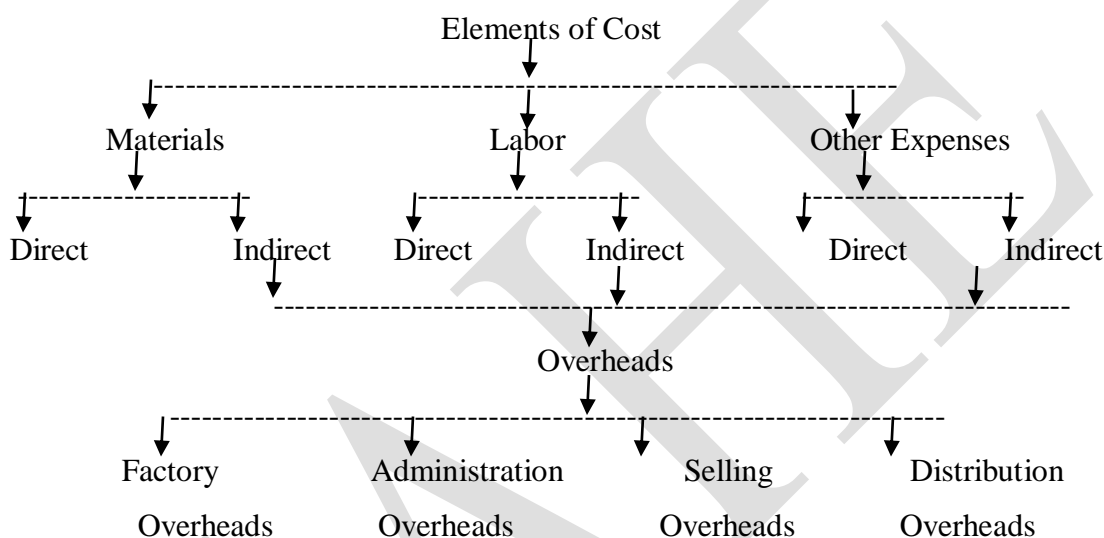
The advantages are:

1. Reasonable price for the customers
2. Continued employment for the workers
3. Increase in productivity
4. Expected return on capital

5. Prosperity of the industry
6. Economic use of resources
7. Increased credit worthiness

**Cost audit**

“Cost audit is the verification of cost accounts and a check on the adherence to the cost accounting plan”.

**ELEMENTS OF COST**

Cost of production/manufacturing consists of various expenses incurred on Production/ manufacturing of goods or services. These are the elements of cost which can be divided into three groups: Material, Labor and Expenses.

**I Material**

To produce or manufacture material is required; all material which becomes an integral part of finished product and which can be conveniently assigned to specific physical unit is termed as “Direct Material”. It is also described as raw material, process material, prime material, production material, stores material, etc. The substance from which the product is made is known as material. It may be in a raw or manufactured state. Material is classified into two categories:

➤ **Direct material**

Direct Material is that material which can be easily identified and related with specific product, job, and process. Timber is a raw material for making furniture, cloth for making garments, sugarcane for making sugar, and Gold/ silver for making jewellery, etc are some examples of direct material.

➤ **Indirect material**

Indirect Material is that material which cannot be easily and conveniently identified and related with a particular product, job, process, and activity. Consumable stores, oil and waste, printing and stationery etc, are some examples of indirect material. Indirect materials are used in the factory, the office, or the selling and distribution department.

**II Labor Expenses**

Labor is the main factor of production. For conversion of raw material into finished goods, human resource is needed, and such human resource is termed as labor. Labor cost is the main element of cost in a product or service. Labor can be classified into two categories:

➤ **Direct labor**

Labor which takes active and direct part in the production of a commodity. Direct labor is that labor which can be easily identified and related with specific product, job, process, and activity. Direct labor cost is easily traceable to specific products. Direct labor costs are specially and conveniently traceable to specific products. Direct labor varies directly with the volume of output. Direct labor is also known as process labor, productive labor, operating labor, direct wages, manufacturing wages, etc. Cost of wages paid to carpenter for making furniture, cost of a tailor in producing readymade garments, cost of washer in dry cleaning unit are some examples of direct labor.

➤ **Indirect labor**

Indirect labor is that labor which can not be easily identified and related with specific product, job, process, and activity. It includes all labor not directly engaged in converting raw material into finished product. It may or may not vary directly with the volume of output. Labor employed for the purpose of carrying out tasks incidental to goods or services provided is indirect labor. Indirect labor is used in the factory, the office, or the selling and distribution department. Wages of store-keepers, time-keepers, salary of works manager, salary of salesmen, etc, are all examples of indirect labor cost.

**III Other Expenses**

All cost incurred in the production of finished goods other than material cost and labour cost are termed as expenses.

➤ **Direct expenses**

These are expenses which are directly, easily, and wholly allocated to specific cost center or cost units. All direct cost other than direct material and direct labor are termed as direct expenses. Direct expenses are also termed as chargeable expenses. Some examples of the direct expenses are hire of special machinery, cost of special designs, moulds or patterns, feed paid to architects, surveyors and other consultants, inward carriage and freight charges on special material, Cost of patents and royalties.

1. Cost center means a location, person, or item of equipment or group of these for which costs may be ascertained and used for the purpose of cost control.

2. Cost object is anything for which a separate measurement of cost is desired. It may be a product, service, project, or a customer.

➤ **Indirect expenses**

These expenses cannot be directly, easily, and wholly allocated to specific cost center or cost units. All indirect costs other than indirect material and indirect labor are termed as indirect expenses. Thus, Indirect Expenses = Indirect cost – Indirect material – Indirect labor. Indirect expenses are treated as part of overheads. Rent, rates and taxes of building, repair, insurance and depreciation on fixed assets, etc, are some examples of indirect expenses.

**COST SHEET**

Cost Sheets are statements setting out the costs of a product giving details of all the costs. Presentation of costing information depends upon the method of costing. A cost sheet can be prepared weekly, monthly, quarterly or annually.

In a cost sheet besides total expenditure incurred, cost per unit of output in case of each element of cost can be shown in a separate column. The cost sheet should give cost per unit in the previous period for the purposes of comparison

**PREPARATION OF COST SHEET**

1. Prime Cost = Direct Materials + Direct Labor + Direct Expenses
2. Works or Factory Cost = Prime Cost + Works or Factory Overheads
3. Cost of Production = Factory or Works Cost + Administration Overheads
4. Total Cost or Cost of Sales = Cost of Production + Selling and Distribution Overheads

**SPECIMEN OF COST SHEET**

Particulars	Cost per unit (Rs.)	Total Cost (Rs.)
Direct materials consumed:		
Opening stock		
Add: purchases		
Less: closing stock		
Cost of drawings		
Direct expenses		
Primary packing materials		
PRIME COST	-----	-----
Add: works/factory overheads:		
Indirect materials		

**KARPAGAM ACADEMY OF HIGHER EDUCATION****CLASS: I MCOM CA****COURSE NAME: APPLIED COST ACCOUNTING****COURSE CODE: 17CCP201****UNIT: I****BATCH-2017-2019**

Indirect wages		
Factory rent and rates		
Factory lighting and heating		
Power and fuel		
Repairs and maintenance		
Drawing office expenses		
Research and experiment cost		
Depreciation of factory plant		
Works stationery		
Insurance of factory		
Works managers salary		
WORKSCOST/FACTORY	-----	-----
COST/MANUFACTURING COST		
Add: office and administrative		
overheads:		
Office salaries		
Office rent and rates		
Lighting and heating		
Cleaning		
Telephone and postages		
Printing and stationery		
Depreciation of office furniture		
Depreciation of office equipment		
Insurance		
Legal expenses		
COST OF PRODUCTION		
Add: selling and distribution		
overheads:		
Advertising		
Salesman salaries		
Samples and free gifts		
Sales office rent		
Sales promotion expenses		
Packing and demonstration		
Showroom rent and rates	-----	-----
Repair of delivery vans		
Carriage freight outwards etc.		
COST OF SALES		

**Advantages of Cost Sheet**

1. It is a simple and useful medium of communication which gives information about costs to all levels of management in a simple and lucid form.
2. It helps in comparative study of the various elements of costs with the past results and standard cost. Thus it helps the management in control process.
3. It helps the management in fixing up the selling price more accurately.
4. It acts as a guide to the manufacturer and helps him in formulating a definite and profitable production policy.
5. It enables a producer keep a close watch and control over the cost of production.
6. It shows the total cost and the per unit of the units produced during the given period.

**Tender or quotation:**

It is a kind of contract mostly followed by public companies especially when govt want to construct bridge, road, railways, airways and these kind of activities then govt call the top player in that field and ask them to give their quotation which means the minimum amount that is required to completed that project and the one who quotes the least price get that contract which is called tender.

It is a request to interested parties to send in their quotation for supplying goods or services. Tender system is usually followed in Government purchases, normally when the purchases are of large value, like building an airport etc. the specifications of the goods and services are available in Tender Documents, which the bidder (or the party quoting) can obtain from the tenderer. The documents may or may not be priced.

Tenders also carry the last date or deadline for submission of bids or quotes and also a date when all the quotations received will be opened. The parties quoting are then invited to participated in the opening. Prior to the opening of the bids, the prices are secret, since the bids are sealed and kept securely.

Usually, the party complying with all or most of the technical requirements and with the lowest price quoted is awarded the contract.

Tender in business means a type of quotation offering lowest prices for supply of some goods or service or job works. Normally, in tender you have to deposit some amount (refundable or non-refundable), whereas it is not compulsory in quotation.

It's a bid for a contract. We tender (give) our estimate, usually in competition with other potential contractors.

**Problem:1**

The following particulars have been extracted from the costing records of a manufacturing co., for the year ended 30<sup>th</sup> June, 1991.



**KARPAGAM ACADEMY OF HIGHER EDUCATION**

CLASS: I MCOM CA

COURSE NAME: APPLIED COST ACCOUNTING

COURSE CODE: 17CCP201

UNIT: I

BATCH-2017-2019

	<b>Rs.</b>
Raw material purchase	1,00,000
<b>Wages :</b>	
Direct	60,000
Indirect	10,000
Office Salaries	22,000
Finished Goods stock	10,000
Advertising	6,000
Agent's Commission	10,000
Rent, rates & taxes etc (9/10 for works , 1/10 for office)	2,000
Works	4,000
Building-repairs	2,000
Salaries-plant	4,000
<b>Depreciation</b>	<b>Rs.</b>
Plant Machinery	4,000
Building	2,000
Carriage inward	2,000
Carriage Outward	6,000
<b>Sales</b>	4,00,000
<b>Opening Stock-</b>	
Raw material	40,000
Travelling expenses	2,000
Power	2,000
Plant Maintenance	8,000
<b>Miscellaneous expenses</b>	
Plant	2,000
Office	2,000
<b>Closing Stock</b>	
Raw Materials	40,000
Finished goods	6,000

Building is occupied 9/10 by factory and 1/10 by office. Production 20,000 (Units)

You are required to prepare a detailed cost statement showing

- i) Materials consumed
- ii) Prime cost
- iii) Works on cost.
- iv) Cost of production

**KARPAGAM ACADEMY OF HIGHER EDUCATION****CLASS: I MCOM CA**  
**COURSE CODE: 17CCP201****COURSE NAME: APPLIED COST ACCOUNTING**  
**UNIT: I**  
**BATCH-2017-2019**

- v) Cost of sales and  
vi) Profit earned

**Solution:**

Particular		Total Cost		Cost per unit
Opening Stock of raw material	40,000			
Add Purchases	1,00,000			
Add Carriage inward	2,000			
	1,42,000			
Less Closing stock or raw materials	40,000			
<b>i) Materials consumed</b>		1,02,000		5.10
Direct labour		60,000		3.00
<b>ii) Prime Cost</b>		1,62,000		8.10
Add: <b>Factory overheads</b>				
Indirect Wages	10,000		0.50	
Power	2,000		0.10	
Plant Maintenance	8,000		0.40	
Rent, rates and taxes (9/10)	1,800		0.09	
Misc. Expenses	2,000		0.10	
Repairs – Building (9/10)0.20	1,800		0.20	
Salaries – Plant	4000		0.20	
Depreciation – Plant	4,000		0.09	
-Building (9/10)	1,800	34,000		1.77
<b>iii) Works cost</b>		1,97,400		9.87
Add: Office Overheads				
Office Salaries	22,000		1.10	
Rents, Rates and Taxes (1/10)	200		0.01	
Misc. expenses	4,000		0.20	
Repairs – Building (1/10)	200		0.01	

**KARPAGAM ACADEMY OF HIGHER EDUCATION**

CLASS: I MCOM CA

COURSE NAME: APPLIED COST ACCOUNTING

COURSE CODE: 17CCP201

UNIT: I

BATCH-2017-2019

Depreciation- Building (1/10)	200	26,600	0.01	1.33
<b>iv) Cost of Production</b>		2,24,000		11.20
Add: Opening Stock of finished product		10,000		
		2,34,000		
Less: Closing stock of finished goods		6,000		
<b>Cost of goods sold</b>		2,28,000		
Add: Selling and distribution overheads				
Carriage outwards	6,000			
Travelling expenses	2,000			
Advertising	6,000			
Agent's Commission	10,000	24,000		
<b>Cost of Sales</b>		<b>2,52,000</b>		
<b>Add Profit margin</b>		1,48,000		
<b>v) Sales value</b>		4,00,000		

**KARPAGAM ACADEMY OF HIGHER EDUCATION**

CLASS: I MCOM CA

COURSE NAME: APPLIED COST ACCOUNTING

COURSE CODE: 17CCP201

UNIT: I

BATCH-2017-2019

**Problem 2**

The cost of Sale of Product A is made up as follows:

Materials used in Manufacturing	55000	Direct Expenses	5000
Materials used in Primary packing	10000	Indirect Expenses (factory)	1000
Materials used in selling product	1500	Administration expenses	1250
Materials used in Factory	750	Depreciation of office building & equipments	750
Materials used in office	1250	Dep. On factory buildings	1750
Labour required in Producting	10000	Selling expenses	3500
Labour required for factory supervision	2000	Freight on material purchased	5000
		Advertising	1250

Assuming that all products are manufactured are sold, what should be the selling price to be obtained as a profit of 20% on selling price?

**Solution**

**COST SHEET**  
**STATEMENT OF COST AND PROFIT**

<b>Direct material</b>	<b>Rs.</b>	<b>Rs.</b>
Materials used in manufacturing	55000	100000
Materials used in primary packing	10000	
Freight on material purchased	5000	70000
Direct labour		10000
Direct expenses-factory		5000
Direct expenses-factory		85000
<b>PRIME COST</b>		
Factory overheads	750	
Labour required for factory supervision	2000	
Indirect expenses – factory	1000	
Dept. on factory building	1750	5500
<b>WORKS COST</b>		90500
Administration Overhead		
Materials used in Overhead	1250	

**KARPAGAM ACADEMY OF HIGHER EDUCATION****CLASS: I MCOM CA****COURSE NAME: APPLIED COST ACCOUNTING****COURSE CODE: 17CCP201****UNIT: I****BATCH-2017-2019**

Administration expenses	1250	
Dept. on office building equipment	750	3250
<b>COST OF PRODUCTION</b>		<b>93750</b>
Selling Distribution Overhead		
Materials used in selling the product	1500	
Selling expenses	3500	
Advertising	1250	6250
<b>COST OF SALES</b>		<b>100000</b>
Profit (20% on selling price or 25% on cost)		25000
<b>SELLING PRICE</b>		<b>125000</b>

**KARPAGAM ACADEMY OF HIGHER EDUCATION****CLASS: I MCOM CA****COURSE NAME: APPLIED COST ACCOUNTING****COURSE CODE: 17CCP201****UNIT: I****BATCH-2017-2019****Problem 3**

From the following data prepare a cost & profit statement of Vijay stoves manufacturing company for the year 1990.

Stock of materials as on 1.1.1990	35000	Establishment expense	10000
Stock of materials as on 31.12.1990	49000	Completed stock in hand 1.1.90	-
Purchase of materials	52500	Completed stock in hand 31.12.90	35000
Direct wages	95000		
Factory expenses	17500	Sales	189000

The number of stoves manufacturing during the year 1990 was 1000. The company wants to quote for the contract for the stoves to be quoted are of uniform quality and make similar to those manufacturing in the previous year. But cost of materials has increased 15% and cost of factory labour by 10%. Prepare a statement of net profit to be quoted to give the same percentage of net profit of turnover as was realized during the year 1990 assuming that the cost per unit of O.H. charges will be the same as the previous year.

**Solution**

<b>COST AND PROFIT STATEMENT OF STOVES 1990</b>		
<b>Particulars</b>	<b>Amount Rs.</b>	<b>Amount Rs.</b>
Opening Stock of Materials 35000		
Purchase of Materials 52500		
87500		
Closing stock of Materials 4900		
<b>VOLUME OF MATERIAL CONSUMED</b>	<b>82600</b>	<b>20.65</b>
Direct wages	95000	23.75
<b>PRIME COST</b>	<b>177600</b>	<b>44.40</b>
Factory expenses	17500	4.37
<b>WORK COST</b>	<b>195100</b>	<b>48.77</b>
Establishment expenses	10000	2.50
<b>COST OF PRODUCTION</b>	<b>205100</b>	<b>51.27</b>
Opening completed stock	-	
Cost of production during the prd	205100	
Closing completed stock	35000	
<b>COST OF SALES</b>	<b>170100</b>	
<b>PROFIT</b>	<b>18900</b>	

**KARPAGAM ACADEMY OF HIGHER EDUCATION**

CLASS: I MCOM CA

COURSE NAME: APPLIED COST ACCOUNTING

COURSE CODE: 17CCP201

UNIT: I

BATCH-2017-2019

SELLING PRICE	189000	
<b>STATEMENT SHOWING QUOTATION PRICE FOR 1000 STOVES</b>		
Materials consumed	20650	
15% increase	3098	
		23748
Factory wages	23750	
10% increase	2375	
PRIME COST		26125
Factory expenses		49873
		4370
WORK COST		54243
Establishment expenses		2500
TOTAL COST		56743
(profit 10% of selling price of 1/9 of cost)		6305
SELLING PRICE		63058

**Limitations and objections to cost accounting**

1. It is expensive
2. It is unnecessary
3. Matter of routine forms and statements
4. Failure of costing system
5. Not applicable to many industries
6. It is not reliable

**Costing is an aid to management**

1. Planning is thinking in advance i.e. Looking ahead and deciding in advance what to do, how to do it, when to do it and who is to do it. In planning, the management is concerned with laying down objectives and determining the courses of actions to be followed out of the several alternatives available to achieve those objectives.
2. Thus, planning is concerned with future activity and formulates budgets to meet the objectives of the organization. Since management has to make a choice of one course of action out of the several alternative courses of action available, it involves decision-making. All rational decisions are based on accounting information.

3. Decisions may relate to various problems like fixation of price, whether or not price should be reduced for increased level of sales, whether a change in production should be followed, whether or not factory should operate at full capacity, determination of the most profitable levels of production, whether to make or buy a spare part, whether a new product should be discontinued to avoid the present loss and whether or not an investment in a particular asset will be worth while.
4. Controlling is that part of management activity whereby managers compare actual performance against the planned performance, find out the deviations and take remedial steps to remove the deviations.

### **Meaning of Reconciliation of Cost and Financial Accounts**

Reconciliation of Cost and Financial Accounts is process to find all the reasons behind disagreement in profit which is calculated as per cost accounts and as per financial accounts. There are lots of items which are shown in the profit and loss account only when we make it as per financial accounting rules. There are lots of items which are shown in costing profit and loss account only when we calculate profit as per cost accounting.

Suppose, we have taken the profit or loss as per financial accounts, we adjust it as per cost accounts. In the end of adjustments, we see same profit as per cost accounts. If we have taken profit as per cost account, we have to adjust items as per financial accounts. For this purpose, we make reconciliation Statement

#### **1st Case. When we have to adjust items as per financial accounts**

		(+) in Rs.	(-) in Rs.
(A)	<b>Profit as per cost accounts</b>	<b>XXXXX</b>	
<b>Add</b>		<b>XXXXX</b>	
1	Profit on sale of asset	XXXXX	
2	Dividend received	XXXXX	
3	Imputed Rent Charges	XXXXX	
4	Overvaluation of opening stock in cost accounts	XXXXX	
5	Undervaluation of closing stock in cost accounts	XXXXX	
6	Excess of material, Labour and overhead cost which is shown as per cost accounts or Overcharge of Material,	XXXXX	



**KARPAGAM ACADEMY OF HIGHER EDUCATION**

CLASS: I MCOM CA

COURSE NAME: APPLIED COST ACCOUNTING

COURSE CODE: 17CCP201

UNIT: I

BATCH-2017-2019

	Labour and overhead cost as per cost accounts or Over-absorption any expense as per cost accounts		
7	Interest Received on Investment	XXXXXX	
8	Bank Interest Received	XXXXXX	
9	Under valuation of Closing Stock as per cost accounts	XXXXXX	
<b>(B)Less</b>			
1	Loss on Sale of Asset		XXXXXX
2	Dividend Paid		XXXXXX
3	Financial Expenses a) discount (b) fine and penalties (c) bank interest (d) underwriter's commission (e) Donations (f) interest paid on capital		XXXXXX
4	Undercharge or under absorption of any expense or loss as per cost account		XXXXXX
5	over valuation of closing stock as per cost accounts		XXXXXX
	Profit as per financial Accounts (A) – (B)	XXXXXXX	

**2nd Case. When we have to adjust items as per cost accounts**

In this, we take the profit as per financial accounts in the beginning, we add all the times which we have shown in less in above 1st Case. We deduct all the items which we have shown above in Add in 1st Case. After this, balance will be the profit or loss as per cost accounts.

**Need for Reconciliation of Cost and Financial Accounts:**

In a manufacturing concern both financial and cost accounting are maintained. Naturally, two sets of accounts disclose profit which will not agree with each other. Profit disclosed by the financial accounting does not agree with the profit disclosed by the cost accounting. But this does not happen when a manufacturing company uses an integrated accounting system i.e. no separate cost and financial accounts are maintained.

So, when cost and financial accounts are maintained separately and independently of each other, profit disclosed by one system tends to differ from that of the other accounting systems. This difference in profit creates problems and the need of reconciling the accounting systems arises to arrive at one profit figure.

**Reasons for Disagreement between Reconciliation of Cost and Financial Accounts:**

**Disagreement between Cost and Financial accounts generally arises due to the following factors:**

**i. Items that are included only in financial accounts:**

**The following items of purely financial nature are included in financial accounts but not in cost accounts:**

- (a) Interest received on bank deposits
- (b) Profit on sale of assets
- (c) Rents receivable
- (d) Interest and dividend on investments
- (e) Loss on sale of Assets
- (f) Loss on sale of investment
- (g) Interest paid on Bank Loan, Debentures
- (h) Damages payable
- (i) Payment of income-tax
- (j) Payment of dividend
- (k) Transfer to Reserves
- (l) Creation of provisions
- (m) Donations
- (n) Writing off fictitious Assets like Preliminary expense, Discount on issue of shares, debentures
- (o) Writing of intangible fixed assets like Goodwill, Patent Rights etc.

**ii. Under or over-absorption of overhead expenses:**

In cost accounts overheads are absorbed at predetermined rates which are based on past data. On the other hand, in financial accounts the actual amount of expense incurred is only considered. Hence difference arises.

**iii. Adoption of different bases for stock valuation:**

In financial accounts stocks are valued either at cost or at market value whichever is less. But in cost accounts stock of materials are issued to production departments at cost by using FIFO, LIFO, Simple Average, Weighted Average method. This leads to a difference.

**iv. Bases of Depreciation:**

The methods of charging depreciation and the rates may be different which surely leads to difference.

**Calculation of Tender Price or Quotations:**

Very often a manufacturer or producer is asked to submit a tender or cost-estimate for the supply of the product in future. The price quoted for future production is called Quotation Price or Tender Price. This price is ascertained on the basis of previous cost sheet or production account. In ascertaining expected cost in the future, the items of previous elements of cost are considered with due regard to expected changes in the future. Estimated cost is increased by desired profit to ascertain tender price or quotation.

**Tenders of Similar Type Commodity:**

When cost of same type and quality of commodity is to be calculated, normally cost per unit of each element of cost will be taken up. If there is any expected change in these elements, the change will be adjusted accordingly. Following examples will explain the technique.

*Illustration 1:* On 15th August, 2005 the Standard Cycle Co. was required to quote for a contract for the supply of 500 bicycles. From the following details, prepare a statement showing the price to be quoted to give the same percentage of net profit on turnover as was realised during the six months to 30th June 2005.

	₹,
Stock of materials on 1st January, 2005	50,000
Stock of materials on 30th June, 2005	7,000
Purchase of materials during 6 month to 30th June, 2005	75,000
Factory wages	1,50,000
Indirect charges	25,000
Sales	2,70,000
Completed stock-in-hand on 1st January, 2005	Nil
Completed stock-in-hand on 30th June 2005	50,000

The number of bicycles manufactured during the six months was 2,000 including those sold and those in stock at the end of the period. The bicycles to be quoted for are to be of uniform size and quality and similar to those manufactured during the six months to 30th June 2005. As from 1st August, the cost of factory labour has increased by 10 per cent and that of materials by 15 per cent.

# KARPAGAM ACADEMY OF HIGHER EDUCATION

CLASS: I MCOM CA  
COURSE CODE: 17CCP201

COURSE NAME: APPLIED COST ACCOUNTING  
UNIT: I  
BATCH-2017-2019

**Solution:**

## STATEMENT OF COST/COST SHEET (For the half-year ending 30th June, 2005)

		Total (2,000 Bicycle)	Cost per unit or per Bicycle
		₹.	₹.
Raw Materials consumed:			
Stock of Materials as on Jan. 1	50,000		
Materials Purchased	75,000		
	<u>1,25,000</u>		
Less: Stock of Materials as on June 30	<u>7,000</u>	1,18,000	59.00
Direct Wages		1,50,000	75.00
	<b>Prime Cost</b>	2,68,000	134.00
Indirect Charges		25,000	12.50
	<b>Cost of Production</b>	2,93,000	146.50
Less: Completed Stock on 30th June		50,000	
Cost of Sales		2,43,000	
Profit		27,000	
Selling Price		2,70,000	

$$\text{Percentage of Profit on Selling Price} = \frac{\text{Profit}}{\text{Selling Price}} \times 100 = \frac{27,000}{2,70,000} \times 100 = 10\%$$

## Statement of Cost for Tender (For 500 Bicycles)

		Total (500 Bicycle)	Per Bicycle
		₹.	₹.
Materials			
1,18,000 × 500/2000 and Add 15% of it		33,925	67.85
Direct Wages			
1,50,000 × 500/2000 and Add 10% of it		41,250	82.50
	<b>Prime Cost</b>	75,175	150.35
Indirect Charges (25,000 × 500/2000)		6,250	12.50
	<b>Cost of Production</b>	81,425	162.85
Profit (10% on selling price or 81,425 × 10/90)		9,047	18.09
	<b>Selling Price</b>	90,472	180.94

**POSSIBLE QUESTIONS****PART A (ONE MARKS – ONLINE EXAMINATION)****PART B (2 MARKS)**

1. Define Cost Accounting
2. Prepare the chart showing Element of Cost?
3. Define costing.
4. What are the roles of cost in organization?
5. Write a short note on indirect cost
6. Define the term 'Prime Cost'
7. Write a short note on labour
8. What are the methods of costing?
9. Define tender price?
10. Mention any one reason for differences between profit as per cost accounts and financial accounts.

**PART - B (5X6=30 MARKS)****ANSWER THE FOLLOWING QUESTION**

1. Define Cost Accounting and Management Accounting. How does Cost Accounting differs from Management Accounting ?
2. The following extract of costing information relates to commodity 'X' for the half year Ending 31<sup>st</sup> December, 2010

<b>Particulars</b>	<b>Amount Rs.</b>	<b>Particulars</b>	<b>Amount Rs.</b>
Purchases of Raw Materials	1,20,000	Sales - Finished Goods	3,00,000
Works Overheads	48,000	Work – in – progress (1 <sup>st</sup> July, 1997)	4,800
Direct Wages	1,00,000	Work – in – progress (31 <sup>st</sup> December, 1997)	16,000
Carriage on Purchases	1,440	Raw Materials	22,240
Stock (1 <sup>st</sup> July, 1997) :		Finished Goods (2,000 Tons)	32,000
Raw Materials	20,000		
Finished Goods (1,000 Tons)	16,000		

**KARPAGAM ACADEMY OF HIGHER EDUCATION****CLASS: I MCOM CA**  
**COURSE CODE: 17CCP201****COURSE NAME: APPLIED COST ACCOUNTING**  
**UNIT: I****BATCH-2017-2019**

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

You are to ascertain (i) Cost of Raw Materials used, (ii) Cost of output for the period, (iii) Cost of Sales, (iv) Net Profit for the period and (v) Net profit per ton of the commodity.

3. What are the differences between Cost Accounting and Financial Accounting?
4. From the following details, you are required to prepare a Statement of Cost and Profit :

Particulars		Amount Rs.
Opening Stock	(1) Materials	1,00,000
	(2) Work – in – Progress	30,000
	(3) Finished Goods	2,500
Closing Stock	(1) Materials	90,000
	(2) Work – in – Progress	25,000
	(3) Finished Goods	7,500
Material Purchased		2,50,000
Direct Wages		75,000
Manufacturing Expenses		50,000
Sales		4,00,000
Selling and Distribution Expenses		10,000

5. Discuss the advantages of Cost Accounting and Objections to Cost Accounting.
6. From the following details, you are required to prepare a Statement of Cost and Statement of Profit :

Particulars		Amount Rs.
Opening Stock	(1) Materials	4,00,000
	(2) Work – in – Progress	1,20,000
	(3) Finished Goods	10,000
Closing Stock	(1) Materials	3,60,000
	(2) Work – in – Progress	1,00,000
	(3) Finished Goods	30,000
Material Purchased		10,00,000
Direct Wages		3,00,000
Manufacturing Expenses		2,00,000
Sales		16,00,000
Selling and Distribution Expenses		40,000

**KARPAGAM ACADEMY OF HIGHER EDUCATION****CLASS: I MCOM CA**  
**COURSE CODE: 17CCP201****COURSE NAME: APPLIED COST ACCOUNTING**  
**UNIT: I****BATCH-2017-2019**

7. Explain the advantage and limitations of cost accounting.
8. The following data have been extracted from the books of Vinaya Ltd. For the year 2015:

<b>PARTICULARS</b>	<b>Rs.</b>	<b>PARTICULARS</b>	<b>Rs.</b>
Opening Stock of Raw Material	1,00,000	Indirect Consumption of Material	2,000
Purchase of Raw Material	3,40,000	Salary – Office Salesmen	10,000 8,000
Closing stock of Raw Material	1,60,000	Other Factory Expenses	22,800
Carriage Inward	20,000	Other Office Expenses	36,000
Wage – Direct	3,60,000	Manager's Remuneration	48,000
Wages – Indirect	40,000	Bad Debts written off	4,000
Rent and Rates – Factory - Office	20,000 2000	Advertisement Expenses	8,000
Depreciation - Plant and Machinery - Office Furniture	6,000 400	Traveling Expenses of Salesmen	4,400
Cash Discount	20,000	Carriage and Freight Outward	4,000
Sales	10,00,000	Advance Income – tax paid	60,000

The manager has the overall charge of the company and his remuneration is to be allocated at Rs.16,000 to the factory, Rs. 8,000 to the office and Rs. 24,000 to the selling operations.

From the above particulars prepare a statement showing (a) Prime cost (b) Factory cost (c) Cost of production (d) Cost of sales and (e) Net profit

9. Discuss the differences between Cost Accounting and Management Accounting.
10. A manufacturer of Scooter finds that in 2010 it costs him Rs. 7,20,060 to manufacture 175 Scooters, Which he sold for Rs. 5,400 each. The cost is made of:

<b>Particulars</b>	<b>Rs.</b>
Materials	2,82,000
Direct Wages	3,24,000
Factory Overhead	48,600
Office Overhead	65,460

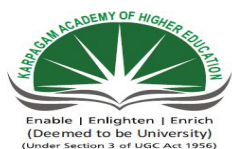
For the next year he estimates that:

- (a) Each scooter will require materials of Rs. 1,600 and labour Rs.1,800.

- (b) The factory overhead will bear the same relation to wages as in the previous year.
- (c) The office overhead percentage on factory cost will be the same as in the past.

Prepare a statement showing the profit he would make per unit, if he reduces the price of the scooter by Rs.200.





**KARPAGAM ACADEMY OF HIGHER EDUCATION**  
(Deemed to be University Established Under section 3 of the UGC Act, 1956), Coimbatore.

**Department of Commerce**

**APPLIED COST ACCOUNTING (17CCP201)**

**Multiple Choice Questions - Online Examination**

Question	Option - I	Option - II	Option - III	Option - IV	Answer
<b>UNIT - I</b>					
Costing is a technique of _____	Ascertainment of cost	analyzing of cost	utilization of cost	cost reduction	<b>Ascertainment of cost</b>
Cost accounting has become an essential tool of _____	Accounts	Management	Purchase	Sales	<b>Management</b>
Cost accounting provide data for managerial _____	Planning	Organizing	Decision making	Decision Making and cost	<b>Decision Making and cost controlling</b>
Cost accounting facilitates cost Reduction and _____	Cost	Contol	Cost Control	Overheads	<b>Cost Control</b>
Direct Cost are known as _____	Work Cost	Prime Cost	Cost of Production	Cost of Sales	<b>Prime Cost</b>
Cost which can be minimized by the executive action are known as _____ cost	Controllable	Un controllable	Fixed Cost	Variable Cost	<b>Controllable</b>
Cost which cannot be minimized by the executive action are known as _____ cost	Controllable	Un controllable	Fixed Cost	Variable Cost	<b>Uncontrollable</b>
_____ cost are those cost which are incurred to maintain the earning capacity of the _____	Capital Cost	Revenue Cost	Fixed Cost	Variable Cost	<b>Capital Cost</b>
Cost which are ascertained after they have been incurred are known as _____ cost	Predetermined Cost	Historical Cost	Marginal Cost	Differential Cost	<b>Historical Cost</b>
_____ cost are those cost which can be allowed by discontinuation of a product _____	Unavoidable cost	Avoidable Cost	Capital Cost	Revenue Cost	<b>Avoidable Cost</b>
_____ Cost which continue to occur even if there is temporary stoppage of production _____	Unavoidable cost	Avoidable Cost	Capital Cost	Revenue Cost	<b>Unavoidable cost</b>
_____ is also called as specific order costing _____	job costing	process costing	unit costing	contract costing	<b>job costing</b>
_____ is also known as terminal costing _____	job costing	process costing	unit costing	contract costing	<b>contract costing</b>
_____ is also called as continuous costing _____	job costing	process costing	unit costing	contract costing	<b>process costing</b>

_____ is referred as single or output costing	job costing	process costing	unit costing	contract costing	<b>unit costing</b>
_____ are those cost which are incurred in purchasing some asset	capital cost	product cost	period cost	revenue cost	<b>capital cost</b>
_____ cost refers to converting of raw material into partly finished books	conversion cost	product cost	period cost	revenue cost	<b>conversion cost</b>
_____ cost which is incurred a given level of output	normal	abnormal	fixed	variable	<b>normal</b>
_____ costing refers to same costing principles and methods	historical costing	direct costing	indirect costing	uniform costing	<b>uniform costing</b>
The costing system should provide for periodic _____ of cost accounts and	summarising	analysing	reconciliation	recording	<b>reconciliation</b>
A cost centre in which ----- is carried on as production cost centre	service	sales	production	marketing	<b>production</b>
_____ Expenses incurred with the packing and delivery of goods	administrative	selling	work overhead	direct overhead	<b>selling</b>
_____ Cost is partly fixed and partly variable	fixed	variable	semivariable	Keep on changing	<b>semivariable</b>
_____ varies with the volume of output	fixed	variable	semivariable	average	<b>variable</b>
Cost accounting is a separate _____ of accounting.	No branch	Branch	Batch	No Batch	<b>Branch</b>
Cost accounting has been developed because of _____ of financial accounting	Advantages	Limitations	Importance	Cost	<b>Limitations</b>
Management accounting is concerned with accounting information that is useful to -----	Financial	Cost	Management	Auditing	<b>Management</b>
Historical costing is also known as _____	Uniform costing	Standard costing	Traditional costing	Job costing	<b>Traditional costing</b>
_____ is ascertainment of cost after they have been incurred.	Marginal costing	Historical costing	Direct costing	Indirect costing	<b>Historical costing</b>
Many theories can be proved or disproved in the light of basic principles of	Cost accounting	Management accounting	Financial accounting.	Financial management	<b>Financial accounting.</b>
Management accounting involves-----	Recording of costs	Recording of transaction	Preparation of accounts	Analysis and interpretation of	<b>Analysis and interpretation of data</b>
Management accounting provides valuable services to management in performing. -----	Planning functions	Controlling functions	Co-ordinating functions	All managerial functions.	<b>All managerial functions.</b>
Management accounting is concerned with formulation of _____ to meet enterprise	Plans	Cost	Purchase	Sales	<b>Plans</b>

Installation of management accounting is ----- purely.	Compulsory	Optional	Optimum	Fixed	<b>Optional</b>
Financial accounting deals with -----	Determination of costs	Determination of profits	Determination of prices	Determination of production	<b>Determination of profits</b>
The term management accounting was first used in the year -----	1910	1939	1950	1970	<b>1950</b>
Preparation of financial accounts is compulsory for -----	Sole trader business	Partnership firm	Joint stock companies	Co-operative societies	<b>Joint stock companies</b>
_____ is the oldest branch of accounting.	Management accounting	Cost accounting	Financial accounting	Corporate accounting.	<b>Financial accounting</b>
Management accounting also comprises the preparation of financial reports for non-	Shareholders	Creditors	Tax authorities	Tax authorities, Shareholders and	<b>Tax authorities, Shareholders and Creditors</b>
Management accounting and cost accounting are -----	Supplementary to each other	Complementary to each other	Independent to each other	Opposite to each other	<b>Complementary to each other</b>
_____ is the general accounting which relates to the recording of business transactions in the	Financial accounting	Cost accounting	Management accounting	Budgeting.	<b>Financial accounting</b>
----- is important part of management accounting	Budgeting	Fixing standards	Inventory control	Interpretation of data	<b>Interpretation of data</b>
Management accounting is a useful advice of managerial -----	Planning	Control	Motivation	Forecasting	<b>Control</b>
Return on capital employed is one of the tools of -----	Financial accounting	Cost accounting	Corporate accounting	Management accounting	<b>Management accounting</b>
Management accounting is an important medium of	Motivation	Co-ordination	Communication	Delegation	<b>Communication</b>
_____ supplies analytical information regarding various alternatives and the choice of	Financial accounting	Management accounting	Cost accounting	Corporate accounting	<b>Management accounting</b>
Incremental cost is a type of -----	Differential cost	Out-of-pocket cost	Conversion cost	Factory	<b>Differential cost</b>
Fixed cost per unit increases when -----	Production volume decreases	Production volume	Variable cost per unit	Sales Increases	<b>Production volume decreases</b>
Direct material+ Direct labour+ Direct expenses =	Fixed cost	Prime cost	Factory cost	Total cost	<b>Prime cost</b>
Salary of general manager is generally treated as -----	Factory overhead	Administrative overhead	Selling overhead	Distribution overhead	<b>Administrative overhead</b>
_____ means and represents the factory cost plus administrative expenses	Prime cost	Work cost	Cost of production	Cost of sales	<b>Cost of production</b>
Works cost =	Prime cost+factory cost	Prime cost+Selling	Prime cost+administ	Prime cost+Selling overhead	<b>Prime cost+factory cost</b>

Cost of production =	Work cost + factory cost	Work cost + prime cost	Work cost x prime cost	Work cost + administrative	<b>Work cost + administrative overhead</b>
Which of the following is equal to total cost?	Cost of production+Selling	Cost of sales+distribution	Cost of production +	None of these	<b>Cost of production+Selling and distribution expenses</b>
The work cost is also known -----	Factory cost	Prime Cost	cost of production	cost of sales	<b>Factory cost</b>
_____ supplies analytical information regarding various alternatives and the choice of	Financial accounting	Management accounting	Cost accounting	Corporate accounting	<b>Management accounting</b>
_____ is the essence of managerial activity	Co-ordination	Control	Motivation	Decision making	<b>Co-ordination</b>
Incremental cost is a type of -----	Differential cost	Out-of-pocket cost	Conversion cost	Factory	<b>Differential cost</b>
Fixed cost per unit increases when -----	Production volume decreases	Production volume	Variable cost per unit	Sales Increases	<b>Production volume decreases</b>
Opportunity cost helps in -----	Ascertainment of cost	Controlling cost	Making managerial	Sales Decisions	<b>Making managerial decisions</b>

**UNIT-II**

**SYLLABUS**

**Materials Control:** – Objectives – Levels of Inventory – EOQ – Methods of Inventory Control – Methods of Valuing Material Issues – Control over Wages – Scrap and Spoilage - Labour - Labour Cost Control – Importance – Systems of Wage Payment – Incentives – Idle Time – Control Over Idle Time –Labour Turnover.

**Meaning of Material**

Materials cost is one of the important elements of cost of product or unit. It constitutes a substantial proportion of the total cost of production. For material cost control purposes, it is very essential to know the important aspects of material, material control and material purchase control.

**Materials:**

The term 'materials' refers to all commodities or components which are consumed in the process of manufacture. The materials may be classified into Direct Materials and Indirect Materials.

**Direct Materials:**

Direct Materials form part of the finished products. They can be easily identified with a particular cost unit. For example, cotton used in textile mills, timber used in furniture industries.

**Indirect Materials:**

Indirect materials indirectly used for conversion from raw materials into finished products. They cannot be easily identified with a particular cost unit. For example, spare parts, tools, nails, lubrications etc.

Materials are further classified on the basis of the nature which have to be used such as:

- (a) Raw Materials, e.g., rubber, timber, steel etc.
- (b) Components, e.g., instruments
- (c) Consumable stores, e.g., cotton waste, brushes
- (d) Maintenance Materials, e.g., spare parts
- (e) Tools, e.g., jigs and fixtures

**Materials Control**

Materials control may be defined as the systematic control over the procurement, storage and usage of materials so as to maintain an even flow of materials and at the same time avoiding excessive investment in inventories.

**From the above definition we can derive the following important aspects:**

- (1) To ensure the smooth flow of production without interruptions.
- (2) Prevention of excessive investments in materials stock.

**Functions of Materials Control**

**The following are the important functions involved in materials control in order to achieve the objectives of the stores department :**

- (1) Purchasing of Materials
- (2) Receiving of Materials
- (3) Inspection of Materials
- (4) Storage of Materials
- (5) Issue of Materials
- (6) Maintenance of Stores Records
- (7) Stock Audit.

**Objectives of Stores Control**

**The following are the objectives of stores control :**

- (1) To receive materials and store them properly.
- (2) To ensure proper production and preservation of materials.
- (3) To make sure proper classification and codification of materials.
- (4) To provide proper information to the management about stock of materials.
- (5) To ensure good housekeeping and effective material handlings.
- (6) To assist in verification and provision of supporting information for effective purchase action.
- (7) To minimize obsolescence of materials adopted through effective control measures.
- (8) To ensure the optimum investment in materials to avoid overstocking or under stocking of materials.
- (9) To maintain proper records about materials, receipts, issues and balances.
- (10) To issue materials as per specifications.
- (11) To make sure of the availability of all types of materials.
- (12) To ensure proper utilization of floor space.

**Essentials of Material Control**

Effective materials control is required for the following essentials to be considered:

- (1) Systematic planning for requirement of materials.
- (2) Essentials for co-ordination and co-operation among different departments.
- (3) Fixing of stock level is essential for avoiding overstocking.
- (4) Floor space is required for smooth handling of materials.
- (5) Proper filing system should be adopted.
- (6) Proper codification and classification of materials as per specifications.
- (7) Perpetual inventory system should be adopted for verification of materials in stock.
- (8) Proper planned storage control and issue.
- (9) Systematic procedure should be adopted for materials, receipts and issues.
- (10) Qualified personnel required to manage the materials functions effectively.
- (11) Appropriate system of internal auditing should be adopted.

**Advantages of Materials Control**

The following are the advantages of materials control :

- (1) It ensures continuous flow of production.
- (2) There is maximum utilization of stores resources.
- (3) It facilitates economy of buying.
- (4) It ensures optimum investments in inventories.
- (5) There is possibility of reduction of loss of theft, leakage, obsolescence etc.
- (6) It minimizes cost of materials during purchase, storage and issue of materials.
- (7) It facilitates effective information.

**Economic Order Quantity**

- This represents the normal quantity to be placed on order when the stock has reached its re-order level.
- Re-ordering quantity is to be fixed taking into account the maximum and minimum stock levels. The quantity ordered must be that which, when added to the minimum stock, will not exceed the maximum stock to be carried at any point of time.

The following factors govern the re-ordering quantity.

1. Average consumption
2. Cost of placing order
3. Cost of storage
4. Interest on capital etc.,

Carrying cost of inventory consists of

- i) The costs of physical storage, such as cost of space, handling and upkeep expenses, insurance, cost of obsolescence etc.
- ii) Interest on capital invested (the opportunity cost of the capital blocked up) and
- iii) Cost of placing the order each time.

**Economic order quantity** or economic lot size (if it relates to production) refers to the number ordered in a single purchase or number of units should be manufactured in a single run so that the total costs-ordering or set up costs and inventory carrying costs are at the minimum level.

In other words, it is the quantity that should be ordered at one time so as to minimize the total of

- i) Cost of placing orders and receiving the goods, and
- ii) Cost of storing the goods as well as interest on the capital invested. The economic order quantity can be determined by the following simple formula.

$$\text{E.O.Q.} = \sqrt{\frac{2AS}{I}} ; \text{where}$$

EOQ	=	Economic order quantity or number of units in one lot.
A	=	Annual usage in units
S	=	Ordering costs for one order (or set-up costs for one set-up)
I	=	Inventory carrying costs per unit per year.

**This formula is based in three assumptions:**

- i) Price will remain constant throughout the year and quantity discount is not involved.
- ii) Pattern of consumption, variable ordering costs per order and variable inventory carrying charge per unit per annum will remain the same throughout, and

EOQ will be delivered each time the stock balance, excluding safety stock, is just reduced to nil.

### **A-B-C Analysis**

To exercise proper control on stores, it is essential that the store items should be classified according to values so that the most valuable items may be paid greater and due a attention regarding their safety and care, as compared to others. The stores are divided into three categories generally, viz., A, B, and C.

In the ABC system, greatest care and control is to be exercised on the items of 'A' list as any loss or breakage or wastage of any items of this list may prove to be very costly; proper care need be exercised on 'B' list items and comparatively less control is needed for 'C' list items. The rules relating to receipt maintenance issue and writing off stores items should be formed in accordance with the utility and value of the items based on the above categorization.

### **Advantages:**

- 1) A Strict Control is exercised on the items which represent a high percentage of the material costs.
- 2) Investment in inventory is reduced to the minimum possible level.
- 3) Storage cost is reduced as a reasonable quantity of materials, which account for high percentage of value of consumption, will be maintained in the stores.

### **Perpetual Inventory System**

Perpetual Inventory is a system of records maintained by the controlling department, which reflects the physical movement of stocks and their current balance. It aims at



devising the system of records by which the receipts and issues of stores may be recorded immediately at the time of each transaction and the balance may be brought out so as to show the up-to-date position.

The records used for perpetual inventory are:

- (1) Bin Cards;
- (2) Store Ledger Accounts or Stores Record cards;
- (3) The forms and documents used for receipt, issue and transfer of materials.

#### **Advantages of Perpetual Inventory system**

1. It keeps the record of stocks up to date.
2. The materials are kept within the Minimum and Maximum Limits. Non-observance of the limits fixed is detected.
3. The materials going out of stock are easily detected and purchased at the appropriate time to avoid the risk of closing down.
4. It acts as a moral check on the staff of the stores Department and so the possibilities of loss or theft of materials are minimized.
5. The recording of stocks in Bin cards as well as Store Record cards minimizes the error in entering the receipts and issues of stocks.
6. The discrepancies noted after physical counting are detected and corrective action is taken promptly to avoid future occurrence.
7. The materials getting stale or being wasted are detected and placed in right atmosphere.
8. The prompt balancing of closing stocks enables quick preparation of final accounts.
9. The slow moving inventories, obsolete or dormant stocks are brought to the notice of the Purchase Department so that such stocks may be purchased in lesser quantities as required.
10. The availability of correct figures of stocks helps in the insurance of the stocks.

#### **Purchasing Procedure**

- (1) Bill of Materials.
- (2) Purchase Requisition.
- (3) Selection of Suppliers.
- (4) Purchase Orders.

(5) Goods Received Note.

(6) Inspection of Materials.

**(1) Bill of Materials** (Specification of Materials):

Bill of Materials is a list of containing all materials required for manufacturing a product. In other words, it is a form which indicates the quantity and quality and other specifications of materials required for a particular job or process or operation. This is a form sent to the purchase department for asking to purchase the said materials required for a particular work order. At least five copies of bill of materials are prepared by materials requiring department. Out of these copies one copy is sent to purchase department, to the stores, to the production section, to the cost office and to the office copy for further reference.

**(2) Purchase Requisition:**

It is a form which indicates indent for materials. In any industry, the purchase department places orders for materials based on the purchase requisition form. Usually the purchase requisition form is initiated by the storekeeper for the standard items, the stock which require restocking again and again. Sometimes, it is initiated by other departments for special materials which are not stocked in stores. Whenever any special material is required for production, the purchase requisition form is prepared in three copies. Out of these copies one copy is sent to purchase department, one to the production control department and one to the initiating department.

**(3) Selection of Suppliers:**

On receipt of the purchase requisition, the purchasing department prepares a list of suppliers who deals with the business of the materials to be purchased and are reliable. It is useful for the purchasing department to call for quotations. If the material to be purchased is of small Materials Cost Control quantities and is required urgently, it may be purchased locally. After receiving the quotations, prepare a comparative statement of the rates, terms and conditions mentioned in the tenders. If required samples may be received from the suppliers who have quoted the lowest rates. After satisfying the above, select the suitable suppliers to place the purchase order for required materials.

**(4) Purchase Order:**

Purchase order is a letter which is sent to the suppliers for asking to supply the specified materials. Purchase order must contain the rates, terms, quantity, quality, time of delivery and other conditions mentioned therein. At least five copies of purchase order are prepared by the purchase section and each copy sent to :

- (1) Original to the Suppliers.
- (2) Storekeeping Department.
- (3) Account Section.
- (4) Inspection Department.
- (5) Retained in the purchase department for further reference.

**(5) Goods Received Note:**

The materials receiving section is responsible to receive the goods and verify the contents of the packages along with Goods Received Note sent by the suppliers. This section should ensure that the goods have been received as per the purchase order and record the same in the Consignment Note. Five copies of the materials received report are generally prepared. Out of these copies, the original is sent to purchasing department and remaining each copy sent to Stores department, Inspection, Accounts department and one copy retained by it for future reference.

**(6) Inspections of Materials:**

A detailed inspection is carried out after the materials are received. The Inspection Section should ensure that the goods have been received according to purchase order specification. Return of materials to suppliers, if any, damaged, spoiled, excess or not in accordance with orders. If the materials are found to be satisfactory the bill of the suppliers is passed and the payment is made to the suppliers.

**Stores Requisitions**

Forms used to keep track of materials charged to a particular job or department. The form contains such items as job number, department, and description of the material, quantity, unit cost, and dollar amount.



**The important factors to be decided are:**

- a) What to purchase;
- b) When to purchase; and
- c) How much to purchase.

## **STORES RECORDS**

### **1. Bin Card**

- A Bin card, also known as Bin Tag or Stock card, is a card showing quantitative record of the receipts, issues and closing balances of the material kept in the corresponding bin.
- The Bin card is placed in the bin or shelf or is hung over the almirah or the rack otherwise known as 'Bin'.
- Separate Bin cards are prepared for each item of stores and if two different materials are kept in one almirah, two Bin cards, one for each, are prepared, treating the almirah as two bins.

### **2. Stores Ledger**

- Stores Ledger is a record of stores, both in quantity and value and is maintained by the stores Accountant.
- It is similar to Bin card but with the main difference that value of material is shown in the Stores ledger.
- Stores Ledger is an important book and the account of each item of stores is maintained separately.
- While Bin cards are maintained by store-keeper in the store, Store Ledger is maintained in the accounting department by the Stores Accountant.

## **Material Control and its Requirements**

“Material Control’ may be defined as the regulation of the procedures for requisitioning, buying, receiving, storing, handling and usage of materials”.

The main requirements of a system of material control are:

- Planning and fixation of definite responsibility for each function of material.
- Co-ordination between departments responsible for requisitioning, purchasing, receiving, inspecting, storing and utilizing the materials,

- Centralization on purchases.
- Use of material purchase budget and material requirement budget.
- Use of standard and uniform forms, and
- Proper system of stock control.

For proper application of the material control the following steps are necessary.

1. Purchasing of materials
2. Receiving and inspecting of materials
3. Storing of materials
4. Pricing material Issues
5. Accounting materials losses.
6. Keeping physical and perpetual inventory

#### **Purchasing of Materials**

- In a large manufacturing concern, a separate purchase department is set up with the object of affecting all purchases.
- The top management lays down the purchase department.
- It is the function of the purchaser department to decide:
  - i) What to purchase;
  - ii) When to purchase;
  - iii) form where to purchase;
  - iv) how much to purchase, and
  - v) finally at what price the material should be purchased.

#### **Maintenance of Stock Levels**

- The next important point after determination of EOQ is to decide as to when the order for purchase should be placed.
- The answer is simple. The order for purchase should be placed when the stock is reduced by usage to the Order Point.
- The Order Point is one where the order should be placed for the economic order quantity.
- For deciding Order Point, two things, viz.,
  - (1) Lead time and
  - (2) Usage during Lead time, are the determining factors.

- Lead time is the supply time, or to be more specific, Lead Time is “the time interval between placing an order and having materials on the factory floor ready for production...”
- Usage means the use of materials by consumptions for productions, or the stock of finished goods sold.
- Sometimes purchase are made in large bulk in a season if the goods are seasonal, i.e., available in one season only, or at a time when it is feared that the goods may not be found available in the near future due to some reason.
- Special items for which no limit or order-points are fixed may be purchased as and when needed.
- To avoid over-stocking and under stocking each items of the inventory has the Maximum Level. Minimum Level and an Order point.

**Order Point**

It is also known; ‘Ordering Level’; or ‘Reorder Point’, or ‘Reordering Level or ‘Ordering Limit’, it has been stated earlier that Order Point is at which order for supply of materials or goods is placed. To decide the Order Point, three factors are considered, viz.,

- (1) Lead time
- (2) Usage during Lead time, and
- (3) Minimum Limit, or the Safety stock.

In order to ensure that the optimum quantity of material is purchased and stocked, neither less nor more, the storekeeper applies scientific techniques of materials management.

Fixing of certain levels for each item of materials is one of such techniques.

The following levels are generally fixed.

1. Maximum level
2. Minimum level
3. Order level
4. Danger level

**1. Maximum level**

- The maximum stock level indicates the maximum quantity of an item of material which can be held in stock at any time.
- The maximum stock can be calculated by applying the following formula.

- Maximum level – Re-order level + re-order quantity – (minimum consumption X minimum re-order period)

## **2. Minimum level**

- Minimum level represents the quantity below which the inventory of any items should not allowed to fall;
- In other words, an enterprise must maintain minimum quantity of stock so that the production is not hampered due to non-availability of materials.
- If some buffer inventory is acting as a cushion against reasonable expected maximum usage.

### **Formula:**

Minimum level = Re-order level – (Normal consumption x normal re-order period)

## **3. Re-ordering Level Point**

- Re-ordering stock level in relation to an items of stock is the point at which it becomes essential to initiate purchase orders for its fresh supplies.
- Normally, re-ordering level is a point between the maximum and the minimum levels.
- Fresh orders must be placed before the actual stocks touch the minimum level.

### **Formula:**

Reorder level = maximum re-order period x maximum usage.

## **4. Danger level**

- The danger level is below the minimum level and represents a stage where immediate steps are taken for getting stock replenished.
- When the stock reaches danger level it is indicative that if no emergency steps are taken to restock the material, the stores will be completely exhausted and normal production stopped.
- Generally the danger level of stock is fixed above the minimum level but below the re-ordering level.

## **CONTROL OVER WASTAGE, SCRAP AND SPOILAGE:**

### **Material Losses**

1. **Waste:** Waste is defined as discarded substances having no value.

❖ **Normal Waste:** It is the loss which is unavoidable on account inherent nature of



material. Some materials such as liquid materials lose their weight due to evaporation. Similarly, there are some materials (i.e. coal) which are wasted due to loading and unloading.

**Example:**

	Units	Amount
Suppose, total cost of input(i.e. material, labour & o/h)	2,000	20,000
Less: Normal waste @ 5% (assumed)	100	-
	-----	-----
Cost of normal output	1,900	20,000
	-----	-----
	20,000	
Therefore, cost per unit = -----		= Rs. 10.53
	1,900	

- ❖ **Abnormal Waste:** Any loss caused by unexpected or abnormal conditions such as sub-standard materials, carelessness, accident etc. or loss in excess of the margin anticipated for normal process loss should be regarded as abnormal waste.

The value of abnormal loss is calculated with the help of the following formula

$$\text{Abnormal Waste} = \frac{\text{Normal cost of normal output}}{\text{Normal output}} \times \text{Units of abnormal Waste}$$

### 1. Scrap

Scrap is discarded material having some value. It represents fragments or remnants of material that are left from certain type of manufacture. It is a material loss but has small value without further processing. Example of scrap are available in operations like turning, boring, punching, sawing, shavings, moldings, etc. from metals on which machine operations are carried out; saw dust and trimmings in the timber industry; dead heads and bottom ends in foundries; and cuttings, pieces and splits in leather industry.

### 2. Defectives

Defective products or units are those which do not meet with dimensional or quality standards and reworked for rectification of defects by application of material, labour and /or processing and salvaged to the point of either standard product or sub-standard product to be sold as

seconds. So defectives are that portion which can be rectified at some extra cost of re-operation.

Defectives may arise due to the following reasons:

1. Sub-standard materials
2. Poor workmanship
3. Poor maintenance of machines
4. Wrong tool setting
5. Faulty design of products
6. Bad supervision
7. Careless inspection
8. Poor working conditions
9. Lack of Control, such as humidity, furnace temperature etc
10. Excessive short runs.

### **3. Spoilage**

Spoilage refers to production that does not meet with dimensional or quality standards in such a way that it cannot be rectified economically and is junked and sold for a disposal value. So it occurs when goods are so damaged in course of manufacturing process as to become not rectifiable with some additional cost. Material used in spoiled units can be used again as material by the same or another process or product. Spoilage cost is the difference between the costs incurred upon the point of rejection less salvage value or cost of material used.

#### **Need for Inventory Control**

The term 'Inventory' is used to denote

- (i) goods awaiting sale (the stock items of a trading concern and the finished stocks of a manufacturer);
- (ii) the goods in course of manufacture, known as work-in-progress, and
- (iii) goods to be used directly or indirectly in production, i.e., raw materials and supplies.

#### **Objectives of Inventory Control**

1. To exercise proper control on the purchases and issues of inventories; proper storing; elimination of wastage; and regulating the proper supplies to works and to customers;
2. Pricing of the inventories on suitable basis;
3. Proper recording, and scientific inventory management
4. To have proper assessment of income through the process of matching appropriate costs against revenues.

5. To maintain inventory of sufficient size for the operations to go on uninterruptedly but the size should match with the optimum financial involvement.

### **Methods of pricing**

There are different methods of pricing materials issue. The various methods used fall under the following main categories:

#### **I. Cost Price Methods**

- (a) First in First out (FIFO)
- (b) Last in First out (LIFO)
- (c) Base Stock

#### **II. Average Price Methods**

- (a) Simple Average.
- (b) Weighted Average

#### **III. Notional Price Method**

- (a) Standard Price.
- (b) Inflated Price.
- (c) Replacement price.

### **First in First out Method (FIFO)**

Under this method materials are used in the order in which they are received. In other words, materials received first are issued first. This process is repeated throughout.

The price of the earliest consignment is taken first and when that is exhausted, the price of the next consignment is adopted and so on. This method is most suitable for use where the material is slow moving and has comparatively high unit cost. This method is also useful in times of falling prices because the issue price of material to the job will be high while the replacement cost of material will be below.

### **Illustration**

Show the Stores Ledger entries for the month of Jan, 2008 as they would appear when using FIFO method:

Jan.1 Purchased 300 units @ Rs.3 per unit

Jan.4 Purchased 600 units @ Rs.4 per unit

Jan.6 Issued 500 units.

Jan. 10 Purchased 700 units @ Rs.4 per unit.

Jan. 15 Issued 800 units.

Jan.20 Purchased 300 units @ Rs.5 per unit.

Jan.23 Issued 100 units.

Ascertain the quantity and value of closing stock as on 31st Jan under FIFO method.

Solution:

**Stores ledger Account (FIFO Method)**

200 units @ Rs.4 = 800 300 units @ Rs.5 = 1,500 Rs. 2,300

**Advantages of FIFO method:**

- (i) It is simple to understand and easy to calculate.
- (ii) FIFO method is based on sound principle that materials are issued in order of purchase. Thus materials received first are issued first.
- (iii) The value of closing stock will reflect current market price.
- (iv) This method is suitable when prices are falling.
- (v) This method is also useful if transactions are few and prices of material remain stable.
- (vi) Unrealized profit or loss does not arise as materials are issued at actual cost but not on estimate.
- (vii) Deterioration and obsolescence can be avoided by exhausting oldest materials at the time of issue.

**Disadvantages**

This method suffers from the following disadvantages:

- (i) The calculation becomes difficult and cumbersome when purchases are made very frequently at different prices.
- (ii) Issue price does not reflect current market price and so does cost of production.
- (iii) For pricing one requisition, more than one price has often to be taken.
- (iv) Cost of production tends to be high during the period of falling prices.
- (v) Two similar jobs cannot be compared as the issue price of one lot differs from that of other.

**Last in First Out Method: (LIFO)**

This method is exactly the opposite of FIFO method. Under this method materials received last are issued first. The price of the material to be issued would be the cost price of the last lot of materials purchased.

This method is useful during a period of rising prices because materials will be issued from the latest consignment at a price which is closely related to the current price levels. Under this method product cost is calculated on a basis which approximates to replacement cost.

**Advantages of LIFO Method:**

The following are the advantages of LIFO method:

- (i) This method is very simple to operate and quite useful where transactions are not too many and prices are fairly steady.
- (ii) Production is charged at the most recent prices so that it is based on the principle that costing should be related to current price levels.
- (iii) During the period of rising prices there is no windfall profit as in case of FIFO method.
- (iv) Closing stock will be valued at earlier price and will not, therefore, show unrealized profit.
- (v) This method reduces burden of income tax during the period of price rise

**Disadvantages****Disadvantages:**

This method suffers from the following disadvantages:

- (i) Like FIFO system, calculations become complicated and cumbersome when transactions are many with frequent price fluctuations.
- (ii) Two similar jobs cannot be compared because of charging different rates of materials to different jobs.
- (iii) Under this system, closing stocks are not shown at current market price.
- (iv) Sometimes more than one price has to be adopted for pricing a single requisition.
- (v) When prices are falling it will lead to low charge to production, whereas materials in the stock purchased at higher rate need adjustment for valuation of closing stock.

(vi) This system of material issue is not accepted by Income Tax Authorities.

### **Base Stock Price**

This is not a distinct method of pricing materials issue. This method is based on the principle that a certain minimum quantity of material is always maintained in to ensure continuous production.

This minimum stock is treated as fixed asset and is called as base stock. Since minimum stock is created out of first lot of material purchased, it is always valued at cost price of first lot of materials. The quantity in excess of this base stock is issued at a price similar to FIFO or LIFO method.

This base stock method operates in conjunction with some other methods like FIFO or LIFO and is called Base Stock - FIFO method or Base Stock - LIFO method. The advantages of FIFO and LIFO are applicable in this method.

### **Simple Average Price Method**

Under this method, materials issued are valued at average price. This is calculated by dividing the total of the price of the materials on the stock from which the material to be priced could be drawn by the number of prices used in that total.

Unit pieces of material in stock  $\text{Issue Price} = \frac{\text{Number of purchases}}{\text{Total cost of purchases}}$

A new simple average price is to be determined when a fresh receipt is made. The rate is also revised when an earlier consignment is exhausted.

The following example will illustrate this. Suppose, following are three different lots of materials in stock when materials is to be priced:

100 units purchased @ Rs.4.00    200 units purchased @ Rs.5.00    300 units purchased @ Rs.6.00

The simple average price will be = Rs.5.00

### **Advantages of Simple Average Price Method**

The following are the advantages of simple average method:

- (1) It is easy to calculate and simple to operate.
- (2) A particular purchase at higher or lower rate cannot disturb the price to a great extent.
- (3) Issue rate remains the same until a fresh purchase is made.

### **Disadvantages:**

- (1) It is not a logical method as it takes into account purchase price but not quantity.

(2) The value of closing stock becomes absurd.

(3) The issue price does not relate to the current market price.

### **Weighted Average Method**

#### **Merits**

1. This method irons out the wide fluctuations in the prices.
2. With every new issue, a new rate is not calculated.
3. The total value of the material issued does not behave up and down to the total value of the material received, as is the case with Simple Average Method.

#### **Demerits**

1. Calculations are tedious. Prices are worked out in decimals to get correct results.
2. A lot of materials purchased at a very high price at one time continues to reflect its effect in the average, for a considerable time after it is exhausted.

1) Show the Store Ledger entries as they would appear when using

- i) FIFO
- ii) LIFO
- iii) Weighted average method
- iv) Simple average method

April	1.	Balance	300 units	Rs. 600/-
	2.	Purchase	200 units	Rs. 440/-
	4.	Issued	150 units	
	6.	Purchase	200 units	Rs. 460/-
	11.	Issued	150 units	
	19.	Issued	200 units	
	22.	Purchase	200 units	Rs. 480/-
	27.	Issued	250 units	

#### **Problem 4**

The following is the record of receipts and issues a certain material in the factory during a week.

April 1997

1. Opening Balance 50 tonnes @ Rs. 10 per tone.  
Issued 30 tonnes @ Rs. 10 per tones
2. Received 60 tonnes @ Rs. 10.20 per tone.
3. Issued 25 tonnes @ Rs. 10.20 per tone (stock verification reveals loss of tone)
4. Received back from orders 10 tonnes @ Rs. 10.20 per tone  
(Previously issued at Rs. 9.15 per tone)

**KARPAGAM ACADEMY OF HIGHER EDUCATION**

CLASS: I MCOM CA  
COURSE CODE: 17CCP201

COURSE NAME: APPLIED COST ACCOUNTING  
UNIT: II  
BATCH-2017-2019

5. Issued 40 tonnes @ Rs. 10.20 per tone.
6. Received 22 tonnes @ Rs. 10.30 per tone.
7. Issued 38 tonnes @ Rs. 10.30 per tone.

**Solution 3****1) Stores Ledger Account as per FIFO METHOD**

Date	Details	Receipt	Issued	Balance						
		Qty	Rate	Amt	Qty	Rate	Amt	Qty	Rate	Amt
April 1	Balance	300	2/-	600	-	-	-	300	2/-	600
2	Purchase	200	2.20	440	-	-	-	300	2.00	600
								200	2.20	440
4	Issue				150	2.00	300	150	2.00	300
								200	2.20	440
6	Purchase	200	2.30	460				150	2.00	300
								200	2.20	440
								200	2.30	460
11	Issue				150	2.00	300	200	2.20	440
								200	2.30	460
19	Issue				200	2.20	440	200	2.30	460
22	Purchase	200	2.40	480				200	2.30	460
								200	2.40	480
27	Issue				200	2.30	460	150	2.40	360
					50	2.40	120			

Value of Closing Stock : 150 units at the rate of Rs. 2.40 value Rs. 360/-

**2) LIFO METHOD**



**KARPAGAM ACADEMY OF HIGHER EDUCATION**

CLASS: I MCOM CA

COURSE NAME: APPLIED COST ACCOUNTING

COURSE CODE: 17CCP201

UNIT: II

BATCH-2017-2019

Date	Details	Receipt	Issued	Balance						
		Unit	Rate	Amt	Unit	Rate	Amt	Unit	Rate	Amt
April 1	Balance	300	2.00	600	-	-	-	300	2.00	600
2	Purchase	200	2.20	440	-	-	-	300	2.00	600
								200	2.20	440
4	Issue				150	2.20	330	300	2.00	600
								50	2.20	110
6	Purchase	200	2.30	460				300	2.00	600
								50	2.20	110
								200	2.30	460
11	Issue				150	2.30	345	300	2.00	600
								50	2.20	600
								50	2.30	115
19	Issue				50	2.30	115	200	2.00	400
					50	2.20	110			
					100	2.00	200			
22	Purchase	200	2.40	480	-	-	-	200	2.00	400
								200	2.40	480
27	Issue				200	2.40	480	150	2.00	300
					50	2.00	100			

Value of Closing Stock : 150 units @ Rs. 2.00 value is Rs. 300/-

**3) WEIGHTED AVERAGE METHOD**

Date	Details	Receipt	Issued	Balance						
		Unit	Rate	Amt	Unit	Rate	Amt	Unit	Rate	Amt
April 1	Balance	300	2.00	600	-	-	-	300	2.00	600
2	Purchase	200	2.20	440	-	-	-	500	2.08	1040
4	Issue	-	-	-	150	2.08	312	350	2.08	728
6	Purchase	200	2.30	460	-		-	550	2.16	1118
11	Issue	-	-	-	150	2.16	324	400	2.16	864
19	Issue	-	-	-	200	2.16	432	200	2.16	432
22	Purchase	200	2.40	480	-	-	-	400	2.28	912
27	Issue	-	-	-	250	2.28	570	150	2.28	342

Value of Closing Stock : 150 units at the rate of Rs. 2.28 value Rs. 342.00/-

**4) SIMPLE AVERAGE METHOD**

Date	Details	Receipt	Issued	Balance						
		Unit	Rate	Amt	Unit	Rate	Amt	Unit	Rate	Amt
April 1	Balance	300	2.00	600	-	-	-	300	2.00	600
2	Purchase	200	2.20	440	-	-	-	500	2.10	1050
4	Issue	-	-	-	150	2.10	315	350	2.10	35
6	Purchase	200	2.30	460	-	-	-	550	2.17	1193..50
11	Issue	-	-	-	150	2.17	325.50	400	2.17	868
19	Issue	-	-	-	200	2.17	434	200	2.17	434
22	Purchase	200	2.40	480	-	-	-	400	2.23	892
27	Issue	-	-	-	250	2.23	557.50	150	2.23	334.50

*Value of Closing Stock : 150 units at the rate of Rs. 2.23 value Rs. 334.50*

**Meaning of Labour Cost**

“Labour Cost, representing the human contribution to production, is an important cost factor which requires constant control, measurement and analysis.”

A rational approach to the problems of labor, fair maintenance of wage records for wage ascertainment, fair wage policy, and the incentives for earning more wages go a long way in providing a sense of security and stability to the workmen, in minimizing the labour turnover, and in exercising effective labour cost control.

Labour cost control aims at the control of the labour cost per unit of production and not at the reduction of the wage rates of the workmen. Efficiency of labour (a concept meaningless to material) has an important impact on the successful working of a business.

Labour cost is second major element of cost. Proper control and accounting for labour cost is one of the most important problems of a business enterprise. But control of labour cost presents certain practical difficulties unlike the control of material cost.

Labour costs represent the various items of expenditure Such as:

**Monetary Benefits:**

- i) Basic Wages;
- ii) Dearness Allowance;

- iii) Employer's Contribution to Provident Fund;
- iv) Employer's Contribution to Employee's State Insurance (ESI) Scheme;
- v) Production Bonus;
- vi) Profit Bonus;
- vii) Old age Pension;
- viii) Retirement Gratuity;

**Fringe Benefits:**

- i) Subsidized Food;
- ii) Subsidized Housing;
- iii) Subsidized Education to the children of the workers;
- iv) Medical facilities;
- v) Holidays pay;
- vi) Recreational facilities.

**Control of labour costs** is an important objective of management and the realization of this objectives depends upon the cooperation of every member of the supervisory force from the top executive to foreman.

From functional point of view, control of labour cost is effected in large industrial concern by the coordinated efforts of the following six departments-

- 1) Personnel Department,
- 2) Engineering Department,
- 3) Rate or time and Motion Study department
- 4) Time-Keeper Department
- 5) Cost Accounting Department
- 6) Pay-roll Department

**Factors Governing a Satisfactory system of Wage Payment**

The system should depend upon the nature of the worked and the efforts involved.

- a) It should guarantee a minimum living wage to ensure a satisfactory standard of living.
- b) It should be based upon a scientific time and motion study.
- c) It should be capable of being understood by al the employees.
- d) It should be flexible and capable of being adapted to changed circumstances.

- e) Its incidence on the cost per unit should be such that it does not form a considerable proportion of the total cost per unit to deprive the employer of a fair margin of profit, given the market price of the commodity produced by concern.
- f) It should reduce the labour turnover.
- g) The cost of working the system should be the least.
- h) It should boost employee morale.
- i) It should be acceptable to trade unions.
- j) It should be correlated to the capacity of the concern to pay.

### **Characteristics of Good Wage System**

#### **1. Fair to both the Parties:**

The system should be such as may be acceptable gladly to the employer and the employees. for this purpose, the employer should decide the system in consultation with the workers.

#### **2. Easy to Calculate**

The workers should be in a position to calculate their wages correctly and feel sure that they have been correctly paid. Easy calculation will help the employer also in maintaining simple records.

#### **3. Related to Efficiency**

‘Fair remunerations for fair output’, should be the idea and remuneration should be related to the individual efficiency of the workers.

#### **4. Minimum wage guaranteed**

There should be a guarantee of minimum wages to the workers to enable them to maintain their basic standards of life, and to do away with uncertainty-concept.

#### **5. Incentive-oriented**

The wage system should be such that the workers may feel encouraged to product more and earn more wages.

#### **6. Quality Improvement-oriented**

In the race to earn more wages with an increase in production, the chances are that the quality of the output may deteriorate. The system should, therefore, ensure ‘better wages for better quality’.

### **Labour Turnover**

Labour turnover is an index denoting change in the labour force for an organisation during a specified period. In every industry, workers leave their job and new workers have to be appointed to replace them. The ratio of the replaced workers to the number of workers is the Labour Turnover Ratio. If more workers leave the factory, the turnover would be high, and vice versa. A high turnover is a costly affair and must be avoided.

### **Causes of Labour Turnover**

The workers leave the factory either by

- i) Resignation, or by
- ii) Discharge by the employer, or
- iii) Due to a cause not within one's control.

### **Measurement of Labour Turnover**

Labour Turnover is measured by applying any one of the following three Methods:

#### **1. Separation Method**

$$\frac{\text{Number of employees left during a period}}{\text{Average number of employees during the period}} \times 100$$

$$\text{Average Number} = \frac{\text{No. at the beginning} + \text{No. at the end}}{2}$$

Multiplication of the formula by 100 indicated Ratio of the turnover in percentage.

#### **2. Replacement Method**

$$= \frac{\text{Number of replacement in the period}}{\text{Average number of employees during the period}} \times 100$$

In this method, only the actual replacement are counted irrespective of the number of workers left. If new workers are appointed for expansion programme, they are excluded from the number of replacements.

#### **3. Flux Method**

$$\frac{\text{Number of Separations} + \text{Number of replacement}}{\text{Average number of employees during the period}} \times 100$$

This method is the combination of Method 1 and Method 2.

### **Effect of Labour Turnover on Cost**

A high turnover has an adverse effect on the cost of production due to the following reasons:

1. Change in workers interrupts production and the production goes down.
2. New comers take time in learning the factory procedure and the work procedure.
3. The tools and machines cannot be handled as efficiently by the new workers as hitherto done by the old staff. There are chances of more break-downs and of greater cost of repairs of machines.
4. What is true of machines is also true of material handling and usage by the new workers.
5. The rate of accidents may increase, the rate of defectives in the finished output may increase, and there may be increased wastage of time.
6. The cost of making selections and cost of imparting training to the new entrants would further increase the cost and reduce the profits.

### **Cost of Labour Turnover**

There are two types of costs

- i) Preventive cost and
- ii) Replacement costs

And amenities to the workers that they may be tempted to continue at their job in the factory and not to leave it for example:

- i) Personnel Administration: Only that portion of the cost of this department which is related to the maintenance of good relationship between labour and management.
- ii) Medical Services-Preventive as well as curative.
- iii) Welfare activities and services.
- iv) Miscellaneous schemes and benefits, e.g., Provident fund scheme, Pension scheme, Bonus incentives schemes, etc.

The replacement costs are those incurred to recruit new workers and also the costs consequent or incidental to replacement, for example:

- i. Cost in selection and appointment
- ii. Training cost
- iii. Loss of output due to delay in recruitment workers
- iv. Cost of inefficiency of new workers
- v. Cost of breakage of tools and machinery
- vi. Cost of increased spoilage and defectives

- vii. Cost of frequent accidents

### **IDLE TIME**

The time when the worker does no work and remains idle, is the idle time. So the idle time cost represents the wages paid for the time lost. The following are its causes:

#### **1. Lack of proper planning:**

That the production work should go on smoothly depends upon proper planning. If the workers do not have material at the right time, or the machines are not kept fit for working, the time goes waste. Sometimes, delay in the proceeding process delays the operations of the succeeding progress. Here also the workers have to wait due to faulty planning or bad management.

#### **2. Careless in Supervision:**

If the foreman of a department does not take his duty seriously, the labour working under him also becomes careless and spoils time in the idle way.

#### **3. Confrontation between labour management:**

The confrontation between labour and management arising from any cause, does waste time in discussions, dialogues, strikes etc., and the wages paid, if any, for this period form the idle time cost.

#### **4. Economic Factors:**

Trade depression, or severe competition lowers the production, and so labour remains effectively unutilized.

#### **5. Others reasons:**

The electricity may fail or the machine may break down for some or more time. They make labour to remain idle for the time being.

### **OVER-TIME**

The time worked over and above the normal hours is overtime. The remuneration usually paid for the overtime work is at double the normal rate. The need for over time work arises due to:

1. Increase in demand for the products where the production during the normal hours falls short to meet it;

2. Shortage of workers due to absence or non-availability and so it is decided to give overtime work to the existing staff;
3. Utilization of perishable raw materials by working overtime;
4. Execution of urgent orders, or to complete the work on the same day;
5. Shortage of equipments, machines, or space for the completion of jobs;
6. Lack of administrative control on workers, on account of which the production during normal hours remains less the standard output and overtime work has to be done by the workers.

**Disadvantages of overtime working**

The following are the disadvantages:

1. Worker's health is adversely affected;
2. The quality of the output is at a discount; and
3. The cost of production rises due to increased labour cost.

**System of Wage Payment**

Strictly speaking, there are only two basic methods of wage payment, viz., wages based on the time spent in the factory, and wages based on the quantum of work turned out. These are thus known respectively as the 'time wage' and the 'piece wage' methods of remuneration. Since each of these has its own advantages and disadvantages, attempts are made to combine the two, mainly with a view to overcoming their disadvantages. We have therefore, the premium bonus or the incentive schemes which may either be considered to be merely variations of the two, or as another of wage payment. These three methods may also be re-classified into only two groups, viz., the time wage system and the payment by results.

**Methods of Remuneration**

The methods of remuneration can be classified into:

1. Time Rate System
2. Pieced Rate System
3. Incentive Schemes

**1. Time Rate System**

In this system, a worker is paid on the basis of attendance for the day or according to the hours of the day, regardless of the output. This system is also known as time work, day work,



day age rate or day rate. The wage rate of the day worker may be fixed on hourly, daily, weekly, fortnightly, or monthly basis depending on the practice followed in the concern.

The basic feature of this system is that the worker is paid so much per unit of time regardless of the output he produces. The unit of time may be an hour, a day, a week or a month. Under this method, wages depend entirely upon the time clocked, but not on the efficiency of the worker. There are three variants of this system, each differing only in so far as the fixation of the time rate is concerned. They are:

- a) Flat Time or Time Rate at Ordinary level;
- b) High Day Rate or Time Rate at high level;
- c) Measured Day work or Graduated Time Rate.

### **Graduated Time Rate**

Under this method wages are paid at time rates which vary according to

- a. Merit-rating of the workers, or
- b. Changes in the cost of living index.

It the cost of living goes up, the wages also go up proportionately, and vice versa. Thus the works get the real wages. Similarly, the workers having higher merit rating get higher wages, and the workers with lower rating get lower wages.

### **Differential Time Rate**

Workers are paid rate accounting to their individual efficiency. They are paid normal rate upto a certain percentage of efficiency and the rate increases in steps for efficiency slabs beyond the standard. As the efficiency is measured in terms of output, this method does not fall strictly under the area of time rate system.

### **2. Payment by Results-Piece-work Rate**

The payment of wages under this system is based upon the out turn of the worker. The rate is fixed per piece of work and the worker is paid according to the pieces of work completed or the volume of work done by him, irrespective of the time taken by him in completing that work. A workman is free to earn as much as his ability, energy, or skill would allow to him to produce.

The various schemes falling under 'Payment by results' make speed as the basis of payment, instead of time. Accordingly, these schemes are just the opposite of the time wage

system. They are so called because of the fact that wages are linked to the volume of work done regardless of the time taken by workers. Efficiency is recognized in all these schemes and workers get wages according to their ability, efficiency, and speed. The following schemes fall under the payment by results method of wage payment.

- a. Straight Piece Rate.
- b. Differential Piece Rate.

### **Stability of the System**

This system is suitable in the following cases:

1. Where the production can be measured in standard units.
2. Where strict supervision is not possible.
3. Where quality and precision are not of primary importance.

### **Advantages**

1. It provides initiative and incentive to the workers to produce more.
2. The productivity increases and cost of production per unit goes down.
3. As there is little wastage of time on the part of the workers, the fixed overheads and resources like plant, machinery and space are well utilized.
4. Workers feel free to work, compete with fellow workers, exhibit their efficiency, and earn more of wages.
5. Less supervision is required over the workers, and happy relations are maintained with them.
6. It is easy to calculate the labor cost of products.

### **Disadvantages**

1. In the race to earn more wages by producing more, the quality of products is likely to deteriorate. So it requires strict inspection and quality control.
2. Continuous and increased working for some days may cause fatigue and ill health to the workers.
3. To speed up production, the machines, tools, and equipments are sometimes not handled with the care that they require, and so the workers expose themselves to accidents, besides causing loss of breakdown to the machines, equipments etc.,
4. The inefficient workers earning less of wages start feeling jealous of other workers who

earn more. This creates unhealthy atmosphere.

5. The workers feel insecure of earning during the days of ill health, holidays, etc.

6. This system is not useful for quality products.

The piece rate System can be classified into:

### **Straight Piece Rates**

It is a simple method of making payment at a fixed rate per unit for the units manufactured.

Earnings = Number of units X Rate per unit

The rate is fixed taking into consideration

- a. Time rate for the same class of workers, and
- b. Standard output during a given time.

### **Differential Piece Rates**

Under this system, efficient workers are paid wages at a lower rate. A definite standard of efficiency is set for each job and for efficiency below or above the standard different piece rates are paid according to different levels of efficiency. The following two methods of wage payment are studied under this system:

- a. Taylor Differential Piece-rate Method, and
- b. Merrick Differential Piece rate Method

### **Taylor Differential Piece-Rate**

F.W. Taylor thought to improve the efficiency of workers by suggesting two rates of payment of wages:

- (I) A higher rate to the workers who product equal to or more than the standard fixed for production during the day, and
- (II) A lower rate to the workers who do not achieve the standard.

### **Merrick Differential Piece-rate**

In the Taylor Method, the effect on the wages is quite sharp in the marginal cases. To remove this defect Merrick suggested three piece rates for a job as follows:

Percentage of Standard Output	Payment under Merrick Method
Upto 83%	Normal piece rate
Above 83% and upto 100%	110% of normal piece rate

Above 100%

120% of normal piece rate

### **3.Incentive Schemes**

#### **Factors for Selecting Incentive Scheme**

The following factors should be considered for selecting an incentive scheme:

##### **1. Productivity**

The object of the incentive scheme is to increase productivity. Therefore, this factor is very important. The increased productivity lowers the cost to the benefit of the employers.

##### **2. Simplicity**

The scheme should be simple in operations and well understood by the workers. The scheme should be amenable to the setting up of standards and the comparison of the results with the actual.

##### **3. Cost Reduction**

The scheme, when introduced, is bound to increase the pay-bill of the workers, and thus \*increase the cost. But the simultaneous increase in production would reduce the cost per unit or production. The fixed overheads remain constant up to a certain limit of plant capacity. As such, the increased productivity reduces the cost of fixed overheads per unit.

##### **4. Better Labour Psychology**

The scheme should not affect worker's health adversely, should reduce labour turnover and help to improve the standard of living of the workers.

Under this heading, we study the following methods:

- (I) Halsey Premium Scheme;
- (II) Halsey Weir Scheme;
- (III) Rowan Premium Scheme;

##### **1. Halsey Premium Scheme**

Under this plan,

- (i) Time rate is guaranteed;
- (ii) Standard time is fixed for the job or operation;
- (iii) The workers producing more than the standard, or the workers completing the work in less than the standard time fixed, get bonus in addition to the ordinary time wage;
- (iv) The bonus of the premium, by whatever name called, is 30 to 70 percent of the wages

of time saved, the usual percentage being 50%,

- (v) The remaining of the bonus percentage is shared by the employer.

### Merits of Halsey Plan

- (i) Day wage or the time rate is guaranteed. Even if output is less than the standard, one gets the time wage;
- (ii) Workers get premium for the output above the standard. It provides incentive to the workers to produce more;
- (iii) As the premium is not 100% but only 50% or so, the employers feel happy about it as they share the remaining 50%;
- (iv) The scheme is very simple and understood easily by the workers.

### Demerits

- (i) A significant share of the bonus goes to the employers. So the workers object to it;
- (ii) Incentive is not so attractive as it is with the piece work;
- (iii) Where the workers start saving more than 50% of the time, they earn premium in huge amounts, which the employers do not relish.

### 2. Halsey – Weir Scheme

This scheme is similar to Halsey scheme except that in this scheme the workers and employers share the premium in 1:2 ratio.

### 3. Rowan Premium Scheme (variable sharing plan)

Mr. James Rowan introduced this scheme in Glasgow in 1898. It is similar to Halsey scheme but the premium concept here is different. Here the premium is in the ratio of Time saved to Standard time, calculated on the ordinary wages.

$$\text{Premium} = \text{Wages of time worked} \times \text{Time saved} / \text{Standard Time}$$

$$\text{Or; } (AT \times R) TS / ST$$

This scheme also guarantees day wage as is done by Halsey Plan.

### Problem 1

Calculate the earnings of a worker from the following information as under.

a) Time Rate Method: Standard time 30 hours Time taken 20 hours. Hourly rate of wages of Re. 1 per hour plus dearness allowance 50 paise per hour worked.

**Problem 2**

On the basis of the following information calculate the earnings of A and B on the straight price Rate basis and Taylor's differential piece rate system.

Standard Production	8 units per hour
Normal time rate	Rs. 0.40 per hour

**Differential to be applied:-**

80% of piece rate below standard

120% of piece rate at or above standard. In a 9 hour day, A produces 54 units and B products 75 units.

**Problem 3**

Calculate the earning of workers A,B and C under Merrick's multiple piece system from the following particulars.

Normal rate per Hour Rs. 1.80  
Standard time per unit 1 minute

**Output per day as follows:-**

Worker A: 384 units  
Worker B: 450 units  
Worker C: 552 units  
Working rows per day are 8

**Problem 4**

Calculate the earnings of workers A and B under straight piece rate system and Taylor's differential piece rate system from the following particulars.

Normal Rate per hour Rs. 2.40  
Standard time per unit 30 seconds

**Differentials to be applied:-**

80% of piece rate below standard

120% of piece rate at above standard

Worker A produces 800 units per day and

**Worker B produces 1000 units per day.**

**Solution 1:**

**Time Rate Method:-**

Time Put in by workers x Rate per hour =  $30 \times 1 = \text{Rs. } 30$

**Solution 2**

Standard production per hour 8 units

Normal time rate per hour Rs. 0.40

Piece Rate Rs.  $0.40/8 =$  Rs. 0.05

Earnings under the straight piece rate system:-

A: 54 units @ Rs. 0.05 = Rs. 2.70

B: 75 units @ Rs. 0.05 = Rs. 3.75

**Differential Piece Rate:-**

Low Piece rate: 80% of piece rate  $(0.05 \times 80 / 100) = \text{Rs. } 0.04$

High Piece rate: 120% of piece rate  $= (0.05 \times 120 / 100) = \text{Rs. } 0.06$

Standard output per hour is 8 units, So Standard Output for a 9 hour day is 72 units. A produces only 54 units which is less than the standard output of 72 units. So he is entitled to get a lower price rate of Rs. 0.04 per unit. On the other hand, B's output of 75 units is more than the standard output of 72 units. So SA is to get higher piece rate of Re. 0.06 per unit.

A's earning: 54 units @ Re. 0.04 = Rs. 2.16

B's earning: 75 units @ Re. 0.06 = Rs. 4.50

**Solution 3**

Standard output per minute	= 1 units
Standard Production per hour	= 60 units
Standard Production per day of 8 hour	= 480 units
	i.e. $(60 \times 8)$
Normal rate per hour	= Rs. 1.80
Normal output per hour	= 60 units

**KARPAGAM ACADEMY OF HIGHER EDUCATION**CLASS: I MCOM CA  
COURSE CODE: 17CCP201COURSE NAME: APPLIED COST ACCOUNTING  
UNIT: II  
BATCH-2017-2019Therefore Normal piece rate =  $(1080/60) \times 5$  paise

Calculation of level of Performance:-

Standard output per day = 480 units

Worker A's Output per day = 384 units

Worker A's level of performance =  $(384/480) \times 100 = 80\%$ 

Worker B's Output per day = 450 units

Worker B's level of performance =  $(450/480) \times 100 = 93.75\%$ 

Worker C's Output per day = 550 units

Worker C's level of performance =  $(550/480) \times 100 = 114.58\%$ Earnings of workers A:-

Merrick's multiple piece rate system:-

For 384 units @ 3 paise per unit =  $(384 \times 3) / 100 = 11.52$ 

Normal piece rate has been applied because worker A's level of performance is 80%.  
Which is below 83%.

Earning of Worker B:-For 450 units @ 3.3 Paise per unit =  $450 \times 3.3 / 100 = \text{Rs. } 14.85$ 

Worker B's level of Performance is 93.75% which is between 83% and 100%. So he is  
entitled to get 110% of normal piece rate.

Earning of Worker C:-

For 552 units @ 3.6 paise per unit =  $(552 \times 3.6) / 100$   
Rs. 19.87

Worker C's level of performance is 115% which is more than 100% of standard output. So it is  
entitled to get 120% of normal Piece rate.

**Solution 4**

3600

1000

Hourly Production	=	= 120 units
120		

		2.210
Piece rate	=	= 0.005

Low piece rate:-

LPR = 80% of normal piece rate



**KARPAGAM ACADEMY OF HIGHER EDUCATION****CLASS: I MCOM CA****COURSE NAME: APPLIED COST ACCOUNTING****COURSE CODE: 17CCP201****UNIT: II****BATCH-2017-2019**

$$= 80\% \times 0.005$$

$$= 0.004$$

High piece rate:

$$\text{HPR} = 120 \text{ of } 0.005$$

$$= 0.006$$

$$\text{Standard Production per day} = 120 \text{ units} \times 8$$

$$= 960 \text{ units}$$

Computation of earnings of A and B:-

	A	B
Normal Piece Rate	0.005	0.005
Production per day	800	1000
Standard Production		
Per day	960 units	960 units
a. Straight piece Rate System	$800 \times 0.005$	$1000 \times 0.005$
Earning	Rs. 4.80	Rs. 5
b. Taylor's Differential piece		
Rate	$0.004 \times 800$	$0.006 \times 1000$
	Rs. 3.2	Rs. 6.00

**POSSIBLE QUESTIONS****PART A (ONE MARKS – ONLINE EXAMINATION)****PART B (2 MARKS)**

1. Define material
2. Find out the economic ordering quantity (E.O.Q) from the following particulars:  
Annual usage: Rs. 2,40,000  
Cost of placing and receiving one order: Rs.120  
Annual carrying cost: 10% of inventory value.
3. What are the techniques of inventory control?
4. Write a short note on FIFO
5. Explain LIFO
6. In a company weekly minimum and maximum consumption of material A are 25 and 75 units respectively. The re-order quantity as fixed by the company is 300 units. The material is received within 4 to 6 weeks from issue of supply order. Calculate minimum and maximum level of material A.

- 7.Explain re- ordering level
- 8.Write a short note on minimum and maximum level
- 9.What is idle time?
- 10.Write any two bonus methods of wage payments.

**PART - B (5X6=30 MARKS)****ANSWER THE FOLLOWING QUESTION**

1. Show the Store Ledger entries as they would appear when using

i) FIFO	ii) LIFO
January 1 Balance	300 units Rs. 1200/-
3 Purchase	200 units Rs. 880/-
6 Issued	150 units
8 Purchase	200 units Rs.920/-
13 Issued	150 units
21 Issued	200 units
24 Purchase	200 units Rs. 960/-
29 Issued	250 units

2. From the following information -

Standard Time 20 hours

Hourly Rate of wages Rs. 4

Time Taken by A – 16 hours, B- 10 hours and C – 8 hours.

Calculate the Total Earnings and the Rate Earned Per Hour of three workers under the Halsey and Rowan Plans; the hours under Halsey Plan is 50 % of the time saved.

3. Show the Stores Ledger entries for the month of April, 2016 as they would appear when using LIFO method:

April 1 Purchased 300 units @ Rs.3 per unit

April 4 Purchased 600 units @ Rs.4 per unit

April 6 Issued 500 units.

April 10 Purchased 700 units @ Rs.4 per unit.

April 15 Issued 800 units.

April 20 Purchased 300 units @ Rs.5 per unit.

April 23 Issued 100 units.

Calculate the quantity and value of closing stock as on 30th April under LIFO method.

---

**KARPAGAM ACADEMY OF HIGHER EDUCATION**

---

**CLASS: I MCOM CA**  
**COURSE CODE: 17CCP201****COURSE NAME: APPLIED COST ACCOUNTING**  
**UNIT: II****BATCH-2017-2019**

---

4. From the following particulars supplied by the HR Department of a Company, Calculate Labour Turnover Rate and Flux Rate.

Total number of employees at the beginning of the month	4,020
Number of employees who are recruited during the month	60
Number of employees who left during the month	100
Total number of employees at the end of the month	3,980

5. The following particulars have been extracted in respect of Material Q. Prepare Ledger account showing the receipts and issues, pricing the materials issued on the basis of Weighted Average Method.

**Receipts**

1 <sup>st</sup> Nov.	Purchased 1000 units @ Rs. 4.00 per unit
12 <sup>th</sup> Nov.	Purchased 1800 units @ Rs. 4.30 per unit
23 <sup>rd</sup> Nov.	Purchased 1200 units @ Rs. 3.80 per unit

**Issues**

5 <sup>th</sup> Nov.	Issued 800 units
15 <sup>th</sup> Nov.	Issued 1200 units
25 <sup>th</sup> Nov.	Issued 1200 units

6. Standard time allotted for a job is 20 hours and the rate per hour is Rs. 2 plus a dearness allowance @ 50 paise per hour worked.

The actual time taken by a worker is 15 hours.

Calculate the earnings per hour under

- (i) Time Wage System
- (ii) Piece Wage System
- (iii) Rowan Scheme

7. In a factory three components X, Y, Z are used as follows:

Normal Usage	900	Units Per Week Each	
Maximum Usage	1,350	Units Per Week Each	
Minimum Usage	450	Units Per Week Each	
Re – order quantity	X - 7,200	Y - 9,000	Z – 10,800
Re – order period	X – 2 – 4 weeks	Y – 4 – 6 weeks	Z – 3 – 5 weeks

**KARPAGAM ACADEMY OF HIGHER EDUCATION****CLASS: I MCOM CA**  
**COURSE CODE: 17CCP201****COURSE NAME: APPLIED COST ACCOUNTING**  
**UNIT: II****BATCH-2017-2019**

Calculate for each component :

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

8. For a certain work order, the standard time is 20 hours, wages, Rs.5 per hour, the actual time taken is 13 hours and the factory overhead charges are 80% of standard time.

Set out a comparative statement showing the effect on paying wages on (i) The Halsey Plan and (ii) Rowan incentive Bonus Systems.

9. The following extract of costing information relates to commodity 'X' for the half year ending 31<sup>st</sup> December, 2010.

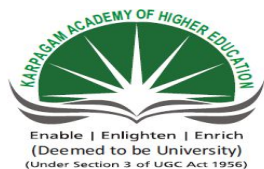
Particulars	Amount Rs.	Particulars	Amount Rs.
Purchases of Raw Materials	1,20,000	Sales - Finished Goods	3,00,000
Works Overheads	48,000	Work – in – progress (1 <sup>st</sup> July, 2010)	4,800
Direct Wages	1,00,000	Work – in – progress (31 <sup>st</sup> December, 2010)	16,000
Carriage on Purchases	1,440		
Stock (1 <sup>st</sup> July, 2010) :		Raw Materials	22,240
Raw Materials	20,000	Finished Goods (2,000 Tons)	32,000
Finished Goods (1,000 Tons)	16,000		

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

You are to ascertain (i) Cost of Raw Materials used, (ii) Cost of output for the period, (iii) Cost of Sales, (iv) Net Profit for the period and (v) Net profit per ton of the commodity.

10. From the following particulars supplied by the personal department of a firm, calculate Labour Turnover Rate and Flux Rate:

Total number of employees at the beginning of the month	6,030
Number of employees who are recruited during the month	90
Number of employees who left during the month	150
Total number of employees at the end of the month	5,970



**KARPAGAM ACADEMY OF HIGHER EDUCATION**  
(Deemed to be University Established Under section 3 of the UGC Act, 1956), Coimbatore.

**Department of Commerce**  
**APPLIED COST ACCOUNTING (17CCP201)**

**Multiple Choice Questions - Online Examination**

Question	Option - I	Option - II	Option - III	Option - IV	Answer
<b>UNIT - II</b>					
_____ ensures effective utilisation of material	control	usage	material control	wastage	<b>material control</b>
_____ cost is one of the most important elements of the cost of production	Labour	material	Selling Overhead	Administrative Overhead	<b>Material</b>
_____ avoids over investment in inventories	control	usage	material control	wastage	<b>material control</b>
_____ ensures upto date maintenance of stock records	control	usage	material control	wastage	<b>material control</b>
_____ Document which records transfer of surplus from one job to another	Material control	material transfer note	BIN card	Stores ledger	<b>material transfer note</b>
Inventory means _____	Stock	Material	Stores	Sales	<b>Stock</b>
BIN card is maintained by _____	Storekeeper	Accountant	Auditor	Supervisor	<b>Store keeper</b>
EOQ = _____	$\sqrt{AO/C}$	$\sqrt{AC/O}$	$\sqrt{2CO/I}$	$\sqrt{2CA/C}$	$\sqrt{2CO/I}$

_____ level below which stock level should not be allowed to fall at any time	Minimum	Maximum	Re- Order level	Average	<b>Minimum</b>
Market price method is also called as----- - method	Standard price Method	Replacement method	Average Method	Base stock Method	<b>Base stock Method</b>
_____scrap is arises due to bad workmanship	legitimate scrap	Administrati ve scrap	Defective Scarp	Average Stock	<b>legitimate scrap</b>
_____ Spoilage is uncontrollable or unavoidable	Normal	Abnormal	Defective	Average	<b>Normal</b>
_____ is attached to each bin	Material control	material transfer note	BIN card	Stores ledger	<b>BIN Card</b>
_____ taking is an essential future of the perpetual inventory system	bin card	stores ledger	continuous stock taking	Material transfer note	<b>continuous stock taking</b>
storce ledger is kept in the ----- department	production	sales	stores	costing	<b>costing</b>
ABC means	always better control	always best cost	analysis of best cost	always best cost	<b>always better control</b>
under ----- method a standard are fixed price is used for pricing issues	actual	fixed	standard	costing	<b>actual</b>
scrap refers to	damage	wastage	reused	valueless	<b>damage</b>
_____ refers to a units or output which failed to reach the require standard of quality or specification	scrap	spoilage	wastage	damage	<b>spoilage</b>
_____ is the portion of raw material lost in processing having no recovery value	scrap	spoilage	wastage	damage	<b>spoilage</b>

_____ gives the complete list of materials required for a particular job or work order	job costing	process costing	unit costing	contract costing	<b>job costing</b>
_____ is attached to each bin to show the position of stock in the bin	bin card	stores ledger	bill of material	stock transfer note	<b>bin card</b>
_____ is known as automatic inventory system	perputal inventory	stores ledger	bill of material	stock transfer note	<b>perputal inventory</b>
An _____ system of material control will lead to a significant reduction in total cost of production	Poor	Better	Efficient	good	<b>Efficient</b>
_____ prevents loss during storage of raw materials	Material control	material transfer note	BIN card	Stores ledger	<b>Material Control</b>
Inventory means	Stock	Material	Cost	Sales	<b>Stock</b>
_____ card helps the store keeper to control the stock	Material control	material transfer note	BIN card	Stores ledger	<b>BIN Card</b>
_____ contains the accounts for each class of material	Material control	material transfer note	BIN card	Stores ledger	<b>Stores Ledger</b>
_____ is maintained in loose leaf form	Material control	material transfer note	BIN card	Stores ledger	<b>Stores Ledger</b>
A _____ gives a complete list of materials required for a particular job or work order	Material control	material transfer note	BIN card	Bill of material	<b>Bill of material</b>
_____ serve as a purchase requisition to the purchase department	Material control	material transfer note	BIN card	Bill of material	<b>Bill of material</b>
_____ method in which materials are issued in order in which they are received in the store	FIFO	LIFO	FFFO	LFIO	<b>FIFO</b>

_____ method materials received last are issued first	FIFO	LIFO	FFFO	LFIO	<b>LIFO</b>
The minimum quantity is known as _____	Base stock method	Simple Average Method	weighted average method	Market price method	<b>Base stock method</b>
_____ method is determined by adding different prices of materials in stock	Base stock method	Simple Average Method	weighted average method	Market price method	<b>Simple Average Method</b>
_____ method takes into account both quantity and price for arriving at the average price	Base stock method	Simple Average Method	weighted average method	Market price method	<b>weighted average method</b>
_____ method is also called replacement method	Base stock method	Simple Average Method	weighted average method	Market price method	<b>Market price method</b>
_____ method a standard or a fixed price is used for pricing the issues	Standard price Method	Simple Average Method	weighted average method	Market price method	<b>Standard price Method</b>
Anything which has no value is considered to be _____	wastage	Scarp	Spoliage	materials	<b>wastage</b>
_____ is sold without further treatment are used as raw material for another process	wastage	Scarp	Spoliage	materials	<b>Scarp</b>
_____ may be normal or abnormal	wastage	Scarp	Spoliage	materials	<b>wastage</b>
_____ is a document which authorises and records the issues of materials for use	Material Requisition Note	material transfer note	BIN card	Bill of material	<b>Material Requisition Note</b>
Goods received note is prepared by the department receiving the goods from the _____	Supplier	Customer	Producer	Distributor	<b>Supplier</b>
scrap refers to _____	damage	wastage	reused	valueless	<b>damage</b>



_____ level below which stock level should not be allowed to fall at any time	Minimum	maximum	reorder level	zero level	<b>minimum</b>
Market price method is also called as----- - method	Standard price Method	Replcement method	Average Method	Base stock Method	<b>Base stock Method</b>
_____scarp is arises due to bad workmanship	legimate scrap	Administrati ve scarp	Defective Scarp	Average Stock	<b>legimate scrap</b>
_____ Spoilage is uncontrollable or unavoidable	Normal	Abnormal	Defective	Average	<b>Normal</b>
_____ taking is an essential future of the prepetual inventory system	bin card	stores ledger	continuous stock taking	Material transfer note	<b>continuous stock taking</b>
storce ledger is kept in the ----- department	production	sales	stores	costing	<b>costing</b>
ABC means	always better control	always best cost	analysis of best cost	always best cost	<b>always better control</b>
under ----- method a standard are fixed price is used for pricing issues	actual	fixed	standard	costing	<b>actual</b>
$T \times R + \% (S - T)R =$	Rowan plan	Emerson efficiency plan	Halsey premium	Maslows premium	<b>Halsey premium</b>
Wage sheets is prepared by-----	Production	Purchase	Sales	Pay roll	<b>Pay roll</b>
In Taylor's differential piece rate system ----- -- piece rates are set for each job.	Two	Three	Four	Five	<b>Two</b>
What is considered under Gantt task and bonus scheme?	Time	Piece rate	Bonus	Piece rate + Bonus	<b>Piece rate + Bonus</b>

The taylor's differential wage system-----	Punishes the inefficient workers	Encourages the efficient workers	Punishes the inefficient worker and Encourages	Awarded	<b>Punishes the inefficient worker and Encourages the efficient workers</b>
----- is not included in the labour cost	Basic pay	Employer's contribution to ESI	Employee's contribution to provident	Dearness allowance	<b>Employee's contribution to provident fund</b>
Labour turnover is calculated by	number of workkrs left/ average number of workers	number of additions/ average number of workers	number of workkrs replaced/ average number of	number of workkrs left/ number of workkrs replaced	<b>number of workkrs replaced/ average number of workers</b>
The payment of idle time arises only when workers are paid on ----- basis.	time	money	value	job	<b>time</b>



**UNIT-III**

**SYLLABUS**

**Overheads** – Classification of Overheads – Allocation, Apportionment and Absorption of Overheads – Methods of Absorption of Overheads.

**Meaning and Definition**

Aggregate of all expenses relating to indirect material cost, indirect labour cost and indirect expenses is known as Overhead. Accordingly, all expenses other than direct material cost, direct wages and direct expenses are referred to as overhead.

According to Wheldon, Overhead may be defined as "the cost of indirect material, indirect labour and such other expenses including services as cannot conveniently be charged to a specific unit."

Blocker and WeItmer define overhead as follows :

"Overhead costs are operating cost of a business enterprise which cannot be traced directly to a particular unit of output. Further such costs are invisible or unaccountable."

**Importance of Overhead Cost**

Nowadays business is a dynamic organism. Advancement of technological development and innovation, economic situations and social considerations are the important factors for modernization of industries at mass production to meet its more demand. The overhead charges are heavily increased and they represent major portion of total cost. Therefore, it assumes greater importance for cost control and cost reduction.

• **Classification of Overheads**

Classification of overheads is the process of grouping of costs based on the features and objectives of the business organization. The following are the important methods on which the overheads are classified:

- (a) On the basis of Nature.
- (b) On the basis of Function.
- (c) On the basis of Variability.
- (d) On the basis of Normality.
- (e) On the basis of Control.

**(1) On the Basis of Nature**

One of the important classifications is on the basis of nature or elements. Based on nature the aggregate of all indirect material cost, indirect labour cost and indirect other expenses

are known as overheads. Accordingly, overheads are grouped into (a) Indirect Material Cost (b) Indirect Labour Cost and (c) Indirect Expenses.

(a) **Indirect Material Cost:** Indirect materials do not form part of the finished products.

Indirect materials are indirectly or generally used for production which cannot be identified directly. For example, oil, lubricants, cotton waste, tools for repairs and maintenance etc. are indirect materials.

(b) **Indirect Labour Cost:** Indirect labour is for work in general. The importance of the distribution lies in the fact that whereas direct labour can be identified with and charged to the job, indirect labour cannot be so charged and has, therefore, to be treated as part of the factory overheads to be included in the cost of production. Examples are salaries and wages of supervisors, storekeepers, maintenance labour etc.

(c) **Indirect Expenses:** Any expenses that are not specifically incurred for or can be readily charged to or identified with a specific job. These are the expenses incurred in general for more than one cost centre. Examples of indirect expenses are rent, insurance, lighting, telephone, stationery expenses etc.

## **(2) On the Basis of Function**

The classification overheads on the basis of the various function of the business concern is known as function wise overheads. Here there are four important functional overheads such as :

(a) **Production Overhead:** Production overhead is also termed as manufacturing overhead or works overhead or factory overhead. It is the aggregate of all indirect expenses which are incurred for work in operation or factory. These costs are normally incurred during the period when the production process is carried on. For example, factory rent, factory light, power, factory employees' salary, oil, lubrication of plant & machinery, etc.

(b) **Administrative Overhead:** Administrative expenses are incurred in general for management to discharge its functions of planning organizing, controlling, co-ordination and directing. These expenses are not specifically incurred and cannot be identified with the specific job. It is also termed as office cost. For example, office rent, rates, printing, stationery, postage, telegram, legal expenses etc. are the office and administrative costs.

(c) **Selling Overheads:** Selling expenses are overheads which are incurred for promoting sales, securing orders, creating demand and retaining customers. For example,

salesmen's salaries, advertisement, rent and rates of show room, samples, commission etc.

- (d) **Distribution Overhead:** Distribution overhead are incurred for distribution of products or output from producers to the ultimate consumers. For example, warehouse staff salaries, expenses of delivery van, storage expenses, packing etc.

**(3) On the Basis of Variability**

One of the important classifications is on the basis of variability. According to this, the expenses can be grouped into (a) Fixed Overhead (b) Variable Overhead and (c) Semi-Variable Overhead.

- (a) **Fixed Overhead:** Fixed cost or overhead incurred remain constant due to change in the volume output or change in the volume of sales. For example, rent and rates of buildings, depreciation of plant, salaries of supervisors etc.

- (b) **Variable Overhead:** Variable overhead may be defined as "they tend to increase or decrease in total amount with changes in the volume of output or volume of sales." Accordingly the change is in direct proportion to output. Indirect materials, Indirect labour, repair and maintenance, power, fuel, lubricants etc. are examples of variable overhead costs.

- (c) **Semi-Variable Overheads:** Semi-variable overheads are incurred with a change in the volume of output or turnover. They neither remain fixed nor do they tend to
- (d) vary directly with the output. These costs remain fixed upto a certain volume of output but they will vary at other part of activity. Semi-variable overheads are mixed cost, i.e., partly fixed and partly variable. For example, power, repairs and maintenance, depreciation of plant and machinery telephone etc.

**(4) On the Basis of Normality**

Overheads are classified into normal overheads and abnormal overheads on the basis of normality features. According to this normal overheads are incurred in achieving the target output or fixed plan. On the other hand, abnormal overhead costs are not expected to be incurred at a given level of output in the conditions in which the level of output is normally produced. For example, abnormal idle time, abnormal wastage etc. Such expenses are transferred to Profit and Loss Account.

**(5) On the Basis of Control**

It is one of important classifications of overhead on the basis of control. Based on control it is grouped into controllable overhead and uncontrollable overhead.

Controllable overhead which can be controlled by the action of a specified number of undertaking. For example, idle time, wastages etc. can be controlled. Uncontrollable overheads cannot be controlled by the action of the executive heading the

**Procedure or Steps in Overhead**

Overheads are incurred for work in general. Overhead is added to the prime cost in order to measure the total cost of production or cost of goods sold. For allocation and apportionment of overhead in the cost of production or cost of goods sold the following procedures are involved:

- (1) Classification of Overhead
- (2) Collection of Overhead
- (3) Overhead Analysis:
  - (a) Distribution of overhead to production and service departments, i.e., Allocation and Apportionment of overhead to cost centre.
  - (b) Re-distribution of overhead from service department to production department, i.e., Allocation and Apportionment of service centres to production centres or departments.
- (4) Absorption of overhead by cost units, i.e., computation of overhead absorption rates.
  - (1) **Classification Overhead:** We have already discussed the classification of overhead in the preceding pages, and the discussion on other procedures would follow in this chapter and the subsequent one.

**Collection of Overhead:** The production overheads or factory overheads are collected and identified under separate overhead code numbers or standing order numbers. These overheads are collected from different sources and documents.

- (1) The following are the important sources and documents :

<i>Overhead Expenses</i>	<i>Sources and Documents Used</i>
Indirect Materials	Materials Requisition
Power and light	Meter Reading
Indirect wages	Time Cards, Pay Rolls, Wage Analysis
Salaries	Salaries Sheet
Depreciation	Plant Register, Machinery Register
Rates	Lease
Rates	Local Government Assessment
Office Stationery	Supplier's Invoices

Postage	Postage Book
---------	--------------

(3) Overhead Analysis : (a) Allocation and Apportionment of Overhead to Cost Centres

The first step of overhead analysis is distribution of overhead to production department and service department. Before analysing overhead, we should know the concept of Allocation, Absorption and Apportionment.

**Allocation:** Cost allocation refers to the allotment of whole item of cost to cost centres. The technique of charging the entire overhead expenses to a cost centre is known as cost allocation.

**Absorption:** Cost absorption refers to the process of absorbing all overhead costs allocated to apportioned over particular cost centre or production department by the unit produced.

**Apportionment:** Apportionment is the process of distribution factory overheads to cost centres or cost units on an equitable basis. The term apportionment refers to the allotment of expenses which cannot be identified wholly with a particular department. Such expenses require division and apportionment over two or more cost centres in proportion to estimated benefits received.

**Allocation Vs Apportionment**

- (1) Allocation deals with whole amount of factory overheads while apportionment deals with proportion of item of cost or proportion to cost centres.
- (2) The item of factory overhead directly allocated and identified with specific cost centers. Whereas apportionment requires suitable and equitable basis. For example, factory rent may be allocated to the factory and has to be apportioned among the producing and service departments on an equitable basis.

**Basis of Apportionment**

Overhead apportionment depends upon matching with principles. Accordingly the basis for apportionment should be related to the basis on which the expenditure is incurred. The following are the usual basis adopted for apportionment of overhead :

Basis of Apportionment	
<i>Overhead Cost</i>	<i>Basis of Distribution</i>
	No. of light points, floor space or meter
(1) Lighting	- reading
(2) Rent, Rates and Taxes	- Floor Area
(3) Insurance of building } Depreciation of building, Heating	Area of floor
(4) Depreciation of plant }	



---

**KARPAGAM ACADEMY OF HIGHER EDUCATION**

---

**CLASS: I MCOM CA**  
**COURSE CODE: 17CCP201****COURSE NAME: APPLIED COST ACCOUNTING**  
**UNIT: III**  
**BATCH-2017-2019**

---

and Machinery and Equipments E S I, Canteen,	- Book value
(5) Safety, }	
compensation, supervision welfare, fringe benefits	- No. of employees
(6) Delivery Van, }	
Internal Transport	- Weight, volume ton
(7) Audit fees	- Sales or Total Cost
Storekeeper's	Weight, value of materials or Number of
(8) expenses	- requisitions
(9) Power	- H. P. Hours or K. W. Hours

---

**Illustration: 1**

A departmental store has several departments. What bases would you recommend for apportioning the following items of expenses to its departments :

- (1) Fire Insurance of building
- (2) Sales commission
- (3) Advertisement
- (4) Salesmen's salaries
- (5) Commission paid to salesmen
- (6) Show room expenses
- (7) Depreciation on plant
- (8) Rent of finished goods, warehouse
- (9) Factory power
- (10) Delivery Van expenses

**Solution:**

<i>Items</i>	<i>Basis of Apportionment</i>
(1) Fire Insurance Building	Floor space or Value
(2) Sales Commission	Sales value
(3) Advertisement	Sales value
(4) Salesmen's Salaries	Sales value
(5) Commission paid to Salesmen	Sales value
(6) Show room expenses	Sales value or Total cost
(7) Depreciation on plant	Value of plant

**KARPAGAM ACADEMY OF HIGHER EDUCATION**CLASS: I MCOM CA  
COURSE CODE: 17CCP201COURSE NAME: APPLIED COST ACCOUNTING  
UNIT: III

BATCH-2017-2019

Rent of finished goods  
(8) warehouse  
(9) Factory power  
(10) Delivery Van expenses

Floor space or Area  
H.P. Power (or) K.W. hours  
Weight, Volume

**Illustration: 2**

A factory has three production departments and two service departments. The following figures have been extracted from the financial books :

	<i>Rs.</i>
Supervision	6,000
Repairs of Plant and Machinery	3,000
Rent	8,000
Light	2,000
Power	3,000
Employer's contribution to ESI	600
Canteen Expenses	1,000

The following further details have been extracted from the books of the respective departments :

<i>Particulars</i>	<i>A</i>	<i>B</i>	<i>C</i>	<i>D</i>	<i>E</i>
Direct Wages (Rs.)	4,000	3,000	2,000	2,000	1,000
Area of Square feet	2,000	1,000	500	500	100
No. of Employees	50	40	20	20	10
Value of Machinery	10,000	5,000	3,000	3,000	1,000
Light Points	80	60	30	30	20
H.P. of Machines	200	100	50	50	20

**Solution:**

**Primary Overhead Distribution  
Summary**

<i>Particulars</i>	<i>Basis of Apportionment</i>	<i>Total Rs.</i>	<i>Production Department</i>	<i>Service Department</i>
--------------------	-----------------------------------	----------------------	----------------------------------	-------------------------------

# KARPAGAM ACADEMY OF HIGHER EDUCATION

CLASS: I MCOM CA

COURSE NAME: APPLIED COST ACCOUNTING

COURSE CODE: 17CCP201

UNIT: III

BATCH-2017-2019

			A	B	C	D	E
Supervision	No. of Employees 5:4:2:2:1	6,000	2,142	1,715	857	857	429
Repairs of Plant { and Machinery	Value Machinery 10:5:3:3:1	3,000	1,364	681	409	409	137
Rent	Area of square feet 20:10:5:5:1	8,000	3,902	1,951	976	976	195
Light	Light points 8: 6: 3 : 3: 2	2,000	727	545	273	273	182
Power	H.P. of Machines 20:10:5:5:2	3,000	1,429	714	357	357	143
Employers Contribution to ESI Canteen Expenses	Direct Wages 4: 3 : 2 : 2: 1 No. of Employees 5:4:2:2:1	600	200	150	100	100	50
		23,60	10,12				
	Total	0	1	6,044	3,115	3,115	1,207

(b) **Re-apportionment (Re-distribution):** Re-distribution of overhead from various service departments to production departments is known as Re-apportionment or Secondary distribution. Accordingly, allocation and apportionment of overheads from service departments or centres to production centres or departments. The following are the important bases adopted for apportionment of secondary distribution:

	<i>Service Department</i>	<i>Basis of Apportionment</i>
(1)	Purchase Department	Number of Purchase Orders or Number of Purchase Requisition or Value of Materials
(2)	Maintenance and Repairs Department	Hours worked
(3)	Stores Department	No. of Requisition or Value of Materials

## KARPAGAM ACADEMY OF HIGHER EDUCATION

CLASS: I MCOM CA

COURSE NAME: APPLIED COST ACCOUNTING

COURSE CODE: 17CCP201

UNIT: III

BATCH-2017-2019

(4)	Personnel Department	No. of Employees or Direct wages
	(Canteen, Welfare, Medical, Employer's liability)	
(5)	Time Keeping Department	No. of Employee or Labour Hours or Direct Wages
(6)	Pay roll Department	No. of Employees or Direct Wages
(7)	Accounts Department	No. of Employees
(8)	Tool Room	Direct Labour Hours or Machine Hours or Direct Wages

	<i>Service Department</i>	<i>Basis of Apportionment</i>
(9)	Transport Department	Car hours, Truck hours, Tonnage handled
(10)	Power House	K.W. Hours
(11)	Fire Insurance	Stock Value

### Methods or Re-apportionment or Re-distribution

The following are the important methods of re-distribution of service department overheads to production department :

- (1) Direct Re-distribution Method
- (2) Step Distribution Method
- (3) Reciprocal Service Method - this method further grouped into:
  - (a) Repeated Distribution Method
  - (b) Simultaneous Equiation Method
  - (c) Trial and Error Method

The following chart explains more about the method of re-apportionment of service department cost:

### Methods of Secondary Distribution

- (1) **Direct Re-distribution Method:** Under this method, the cost of service department is directed to re-distribution to the production departments without considering the services rendered by one service department to another service department.

Illustration: 3

**KARPAGAM ACADEMY OF HIGHER EDUCATION**

CLASS: I MCOM CA

COURSE NAME: APPLIED COST ACCOUNTING

COURSE CODE: 17CCP201

UNIT: III

BATCH-2017-2019

Ramesh Ltd. has three production departments A, B and C and six service departments.  
The following figures are extracted from the records of the company :

**Production Departments**

A	Rs.16,000
B	Rs.10,000
C	Rs.12,000
	Rs.38,000

**Service Departments**

Stores	Rs.2,000
Timekeeping	Rs.3,000
Maintenance	Rs. 1,000
Power	Rs.2,000
Welfare	Rs. 1,000
Supervision	Rs.2,000

Particulars	Production Departments		
	A	B	C
No. of Employees	40	30	20
No. of Stores Requisition	30	20	10
Horse Power of Machines	500	500	600
Machine Hours	2500	1500	1000
Total	Rs.49,000		

The other information available in

You are required to apportion the costs of various service departments to production departments.

**Solution:****Departmental Overhead Re-distribution Summary**

# KARPAGAM ACADEMY OF HIGHER EDUCATION

CLASS: I MCOM CA  
COURSE CODE: 17CCP201

COURSE NAME: APPLIED COST ACCOUNTING  
UNIT: III  
BATCH-2017-2019

(2) **Step Method:** Under this method the cost of most serviceable department is first distributed to production departments and other service departments. Thereafter, the next service department is distributed and later the last service department until the cost of all the service departments are redistributed to the production department.

## Illustration: 4

A manufacturing company has two production departments A and B and three Service Departments - Timekeeping, Stores and Maintenance. The departmental summary showed the

<i>Production Departments:</i>	Rs.	following expenses for Dec. 2003.
A	32,000	
B	10,000	The following information about departments is available and is used as a basis for distribution :
<i>Service Departments:</i>		
Timekeeping	8,000	
Stores	10,000	
Maintenance	6,000	
Total Overhead Expenses	66,000	

<i>Particular</i>	<i>Production Departments</i>		<i>Service Departments</i>		
	A	B	Timekeeping	Stores	Maintenance
No. of Employees	20	15	10	8	5
No. of Stores Requisitions	12	10	-	-	3
Machine Hours	1200	800	-	-	-

You are required to apportion these costs to production departments :

Solution:

<i>Departments</i>	<i>Primary Distribution</i>				
	<i>Rs.</i>				
Timekeeping	8000	(-) 8,000			
Stores	10,000	3,334	(-) 13,334		
Maintenance	6,000	2,500	1,600	(-) 10,100	
A	32,000	1,333	6,400	6,060	45,793
B	10,000	833	5,334	4,040	20,207

## KARPAGAM ACADEMY OF HIGHER EDUCATION

CLASS: I MCOM CA  
COURSE CODE: 17CCP201

COURSE NAME: APPLIED COST ACCOUNTING  
UNIT: III

BATCH-2017-2019

Total	66,000				66,000
-------	--------	--	--	--	--------

Basis of Apportionment:

Timekeeping: 20 : 15 : 8 : 5 (No. of Employees)

Stores: 12 : 10 : 3 ( No. of Stores Requisition)

Maintenance: 12 : 8 (Machine Hours)

(3) Reciprocal Service Method : This method recognizes the fact that if a service department receives services from other department, the services should be charged in the receiving department. Thus, the cost of inter departmental services is taken into account on reciprocal basis. The following are the three important methods available for dealing with reciprocal distribution :

(a) Simultaneous Equation Method.

(b) Repeated Distribution Method.

(c) Trail and Error Method.

(a) *Simultaneous Equation Method*: Under this method, the true cost of total overhead of each service department is ascertained with the help of Simultaneous or Algebraic Equation. The obtained result reapportioned to production department on the basis of given percentage.

(b) *Repeated Distribution Method*: Under this method, the total overhead costs of the service departments are distributed to service and production departments according to given percentage of the service departments are exhausted, in turn repeatedly until the figures become too small to matter.

(c) *Trail and Error Method*: In this method, the cost of a service centre is apportioned to another service centre. Then, the cost of another service centre along with the apportioned cost from the first centre is again apportioned back to the first service centre. This process is repeated till the amount to be apportioned becomes zero or negligible.

### 1. Direct Material Cost Method

According to the material cost method, we calculate the rate of overhead on the basis of past actual direct material and past actual overheads. For example, past actual direct material's cost is Rs. 10,000 and past actual overhead cost is Rs. 2000. So, Overhead rate will be 20%. If we have obtained any specific order for producing any product, we will include the 20% cost of overhead. For example, we have produced one unit for our customer for this, we have used our Rs. 1000 material. Our overhead cost in it will be Rs. 1000 X 20% = Rs. 200. We this, we need not to go to deep study of calculating each overhead like electricity consumption in this one unit, depreciation for this one unit, salary cost for this one unit and other

overhead cost for producing this one unit. Ok.

## **2. Direct Labour Cost Method**

According to the Direct Labour Cost method, we calculate the rate of overhead on the basis of past actual cost of direct wages and past actual overheads

following is the formula = **Actual Overhead Cost / Direct Labour Cost X 100**

For example, past actual direct wage's cost is Rs. 10,000 and past actual overhead cost is Rs. 2000. So, Overhead rate will be 20%. If we have obtained any specific order for producing any product, we will include the 20% cost of overhead. For example, we have produced one unit for our customer for this, we have paid Rs. 1000 to our laborers for their labour. Our overhead cost in it will be Rs. 1000 X 20% = Rs. 200.

## **3. Prime Cost Method**

Under prime cost method, we calculate the actual or estimated prime cost in which direct material cost and direct labour cost will be added. We also calculate the budgeted Overhead Cost. After this, we calculate the rate of overhead. On this rate, we absorb our overhead cost on any new production.

Following is the formula of overhead rate = **Budgeted Overhead Expenses / Anticipated Prime Cost**

## **4. Direct Labour Hour Method**

Under this method of overhead absorption, we calculate the total direct labour hours by using our accounting information. We also see the total cost of overhead in these labour hours. After dividing this overhead cost with direct labour hours, we can easily calculate the rate of overhead. On this rate, we can absorb the estimated amount of overhead in any unit or units of production.

Following is the formula = **Overhead Cost / Direct labour Hours**

For example, total direct labour hours are 10,000. Total overhead cost in these hours are Rs. 5,000. Our overhead rate is the 50% of labour hours in any production.

## **5. Machine Hour Rate Method**

This is very good method of absorption of overhead cost in the industry where we do all works with the help of machines. We just have to calculate the machine hour rate and same rate will be the overhead rate and on this basis, we can absorb the estimated cost of overhead when we produce any unit of production. Following is the formula of calculating the machine hour rate = **Total Overhead Cost / Total Machine Hours**

We have to apportion all the overhead cost on the basis of our machines.

a) Rent Expense

It is divided on the basis of area for each machine.

b) Lighting Expenses

It is divided on the basis of No. of Points for Each Machine

c) Supervision Cost

It is divided on the basis of time spent on each machine.

d) Insurance



It is divided on the basis of value of each machine.

*e) Depreciation*

It is divided on the basis of cost of each machine.

*f) Power*

It is divided on the basis of consumption by each machine.

*g) Repair*

It is divided on the basis of working life of each machine.

### **6. Rate Per Unit of Production Method**

In this method, we calculated estimated overhead rate on the basis of units output and same is used for absorption of actual units of production.

Rate of Overhead = **Budgeted Overhead Cost / Budgeted Units of Production**

### **7. Sales Price Method**

Under this method of absorption of overhead, we calculate the rate of overhead on the basis of sales of units and budgeted overhead cost. Same rate is used for absorption.

## **POSSIBLE QUESTIONS**

### **PART A (ONE MARKS – ONLINE EXAMINATION)**

#### **PART B (2 MARKS)**

1. Write a short note on allocation
2. Explain absorption of overheads.
3. Define Overheads
4. Explain over and under absorption
5. What are the source documents for collection of overheads?
6. Write a short note on Manufacturing overheads
7. What are the different types of Department in Manufacturing Concern.
8. Explain administration Overheads
9. Write a short note on normal capacity
10. What are joint-products?

#### **PART - B (5X6=30 MARKS)**

### **ANSWER THE FOLLOWING QUESTION**

1. The Sumithra Company has five departments P, Q, R, S are producing departments and T is a service department. The actual costs for a period are as follows :

<b>Particulars</b>	<b>Rs.</b>
Repairs to plant	1,200

**KARPAGAM ACADEMY OF HIGHER EDUCATION****CLASS: I MCOM CA**  
**COURSE CODE: 17CCP201****COURSE NAME: APPLIED COST ACCOUNTING**  
**UNIT: III****BATCH-2017-2019**

Rent	1,000
Depreciation	1,200
Supervision	4,000
Insurance	1,500
Employer's Liability of employees Insurance	600
Light	1,800

The following data are also available in respect of the five department :

Particulars	Dept. P	Dept. Q	Dept. R	Dept. S	Dept. T
Area Sq. Ft.	140	120	110	90	40
No. of workers	25	20	10	10	5
Total Wages	Rs. 10,000	Rs. 8,000	Rs. 5,000	Rs. 5,000	Rs. 2,000
Value of Plant	Rs. 20,000	Rs. 18,000	Rs. 16,000	Rs. 10,000	Rs. 6,000
Value of Stock	Rs. 15,000	Rs. 10,000	Rs. 5,000	Rs. 2,000	-

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

2. How does Activity Based Costing differs from Traditional Costing?
3. An engineering firm has three departments. The budgeted expenses for the current year are :

Particulars	Dept. A (Rs.)	Dept. B (Rs.)	Dept. C (Rs.)
Materials	1,00,000	1,00,000	79,700
Direct Wages	1,36,640	87,840	79,300
Direct Expenses	1,760	2,280	900
Works Expenses	97,600	65,880	61,100
Administration Expenses	26,880	25,600	19,890
Direct Labour Hours	78,080	57,645	48,880

Works expenses are charged to output at a man-hour rate and administration expenses as a percentage on works cost.

Compute man-hour rate and percentage of administration overhead on works cost.

4. Discuss the advantages and disadvantages of Activity Based Costing

5. Raj Company Ltd. has three production departments and four service departments.

The expenses for three departments as per Primary Distribution Summary were:

**KARPAGAM ACADEMY OF HIGHER EDUCATION**

CLASS: I MCOM CA

COURSE NAME: APPLIED COST ACCOUNTING

COURSE CODE: 17CCP201

UNIT: III

BATCH-2017-2019

**Production Departments :**

	Rs.	Rs.
X	30,000	
Y	26,000	
Z	<u>24,000</u>	80,000

**Service Departments :**

Stores	4,000	
Time-keeping and accounts	3,000	
Power	1,600	
Canteen	1,000	<u>9,600</u>
<b>Total</b>		<b><u>89,600</u></b>

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

Particulars	Dept. A	Dept. B	Dept. C
Horse Power of Materials	600	600	400
Number of workers	40	30	30
Value of Stores Requisitioned	Rs. 5,000	Rs. 3,000	Rs. 2,000

Apportion the costs of the various service departments to the production departments.

6. From the following information relating to the machinery installed in a factory, calculate the machine - hour rate :

Purchase price of the machine with the scrap value zero Rs. 90,000

Installation and incidental charges incurred on the machine Rs. 10,000

Machine consumes 10 units of electric power per hour @ 40 paise per unit

Oil expense @ Rs. 2 per day of eight hours

Life of the machine is 10 years of 2,000 working hours each

Repair charges : 50 % of depreciation

Consumable stores @Rs. 10 per day of eight hours

Two workers are engaged on the machine @ Rs. 4 per day of eight hours.

7. Compute Labour Hour Rate from the following particulars:

Total number of workers	100
Working days in a year	300

**KARPAGAM ACADEMY OF HIGHER EDUCATION****CLASS: I MCOM CA**  
**COURSE CODE: 17CCP201****COURSE NAME: APPLIED COST ACCOUNTING**  
**UNIT: III****BATCH-2017-2019**

No. of hours per day worked 8

Idle Time 5%

Factory Overheads Rs. 11,40,000

Gift to workers Rs. 7,000

Life of the machine is 10 years of 2,000 working hours each

Repair charges : 50 % of depreciation

8. Makesh Company Ltd. has three production departments and four service departments.

The expenses for three departments as per Primary Distribution Summary were:

<b>Production Departments :</b>	<b>Rs.</b>	<b>Rs.</b>
K	30,000	
L	26,000	
M	<u>24,000</u>	80,000
<b>Service Departments :</b>		
Stores	4,000	
Time-keeping and accounts	3,000	
Power	1,600	
Canteen	1,000	<u>9,600</u>
<b>Total</b>		<b><u>89,600</u></b>

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

<b>Particulars</b>	<b>Dept. K</b>	<b>Dept. L</b>	<b>Dept.M</b>
Horse Power of Materials	600	600	400
Number of workers	40	30	30
Value of Stores Requisitioned	Rs. 5,000	Rs. 3,000	Rs. 2,000

Apportion the costs of the various service departments to the production departments.

9. From the following information relating to the machine installed in a factory, calculate the machine-hour rate:

Purchase price of the machine with the scrap value zero Rs.1,80,000

Installation and incidental charges incurred on the machine Rs. 20,000

Life of the machine is 10 years of 2,000 working hours each

Repair charges: 50 % of depreciation

Machine consumes 10 units of electric power per hour @ 40 paise per unit

**KARPAGAM ACADEMY OF HIGHER EDUCATION****CLASS: I MCOM CA**  
**COURSE CODE: 17CCP201****COURSE NAME: APPLIED COST ACCOUNTING**  
**UNIT: III****BATCH-2017-2019**

Oil expense @ Rs. 2 per day of eight hours

Consumable stores @Rs. 10 per day of eight hours

Two workers are engaged on the machine @ Rs. 4 per day of eight hours.

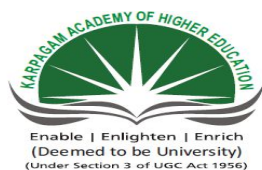
10. The following data were obtained from the books of Sun Engineering Company for the half year ended 30th September. Calculate the departmental overhead rates for each of the production departments, assuming that the overheads are recovered as a percentage of direct wages:

Particulars	Production Departments				Service Departments	
		P	Q	R	X	Y
Direct Wages	Rs.	7,000	6,000	5,000	1,000	1,000
Direct Materials	Rs.	3,000	2,500	2,500	1,500	1,000
Employees	Nos.	200	150	150	50	50
Electricity	Kwh.	8,000	6,000	6,000	3,000	3,000
Light Points	Nos.	10	15	15	5	5
Assets Value ('000)	Rs.	50	30	20	10	10
Area Occupied	Sq.Ft.	800	600	600	200	100

The expenses for 6 months were :

Stores Overhead	Rs. 400	Depreciation	Rs.6,000
Motive Power	Rs. 1,500	Repairs & Maintenance	Rs.1,200
Electric Lighting	Rs. 200	General Overheads	Rs.10,000
Labour Welfare	Rs. 3,000	Rent and Taxes	Rs.600

Apportion the expenses of department X in the ratio of 4:4:3 and that of department in proportion to direct wages, to department P,Q and R respectively.



**KARPAGAM ACADEMY OF HIGHER EDUCATION**  
(Deemed to be University Established Under section 3 of the UGC Act, 1956), Coimbatore.

**Department of Commerce**

**APPLIED COST ACCOUNTING (17CCP201)**

**Multiple Choice Questions - Online Examination**

Question	Option - I	Option - II	Option - III	Option - IV	Answer
<b>UNIT - III</b>					
overhead means	Indirect expenses	Direct expenses	Work expenses	Factory expenses	<b>Indirect Expenses</b>
classification of overhead is important in order to identify cost with _____ centre	Process	sales	Cost	production	<b>Cost</b>
_____ are those materials which do not form a part of the finished goods	direct	indirect materials	Raw material	cost of material	<b>Indirect materials</b>
_____ or indirect materials cannot be identified with and allocated but can be apportioned to a particular product	cost	expenses	labour	sales	<b>Cost</b>
_____ labours which is not directly engaged in production of goods or services	Direct	indirect	semi- skilled	Skilled	<b>Indirect</b>
_____ tht are not directly charged to production	Indirect expenses	Direct expenses	overhead expenses	selling expenses	<b>indirect expenses</b>
factory expenses is also known as	production overhead	manufacturing overhead	selling overhead	distribution overhead	<b>manufacturing overhead</b>

_____ overhead covers all expenses incurred from stage to raw materials to finished goods	production overhead	factory overhead	selling overhead	distribution overhead	<b>factory overhead</b>
_____ expenses incurred for running the administrative office	adminstaration overhead	factory overhead	selling overhead	distribution overhead	<b>Adminstration overhead</b>
_____ expenses incurred for actual sales and promotion of sales	administration overhead	factory overhead	selling overhead	distribution overhead	<b>Selling overhead</b>
_____ expenses incurred for with packing and delivery of goods to customers	administration overhead	factory overhead	selling overhead	distribution overhead	<b>distribution overhead</b>
_____ don not vary with the volume of products	Fixed overhead	variable overhead	selling overhead	semivariable overhead	<b>fixed overhead</b>
_____ is the process of grouping of cost according to their common characterstics	Cost Classification	Cost Allocation	Cost Apportionmen t	Cost absorption	<b>Cost classification</b>
_____ is defined as the allotment of whole amount of cost centre or cost units	Cost Classification	Cost Allocation	Cost Apportionmen t	Cost absorption	<b>Cost allocation</b>
_____ is defined as the alloment proportions of cost to cost centre or cost units	Cost Classification	Cost Allocation	Cost Apportionmen t	Cost absorption	<b>Cost apportionment</b>
Expenses which can be directly identified with a particular department or cost centre is called	Cost Classification	Cost Allocation	Cost Apportionmen t	Cost absorption	<b>Cost Allocation</b>

_____ department are those department which enable other department to work	Service	Production	Sales	Purchase	Service
_____ is obtained by dividing the amount of overheads by the machine hours	Direct material cost percentage	direct labour cost percentage	machine Hour rate	Direct labour hour percentage	<b>machine hour rate</b>
Overheads in cost accounts are usually the basis of	Estimate Rates	Fixed rates	Variable rates	semivariable rates	<b>Estimated rates</b>
_____ method helps to compare the efficiencies and cost of operating different machines	Direct material cost percentage	direct labour cost percentage	machine Hour rate	Direct labour hour percentage	<b>machine hour rate</b>
Under absorption means that the overheads absorbed in production less than the _____ overhead	Actual	work	selling overhead	distribution overhead	<b>Actual</b>
_____ absorption means that the overhead absorbed in production are more than that of actual overhead	under	Over	Fixed	Variable	<b>Over</b>
Each machine or group of machine is treated as a cost centre in order to identify the _____ expenses	Fixed overhead	Direct overhead	Variable overhead	Semi variable overhead	<b>fixed overhead</b>
Standing charge is also known as	Fixed overhead	Direct overhead	Variable overhead	Semi variable overhead	<b>fixed overhead</b>
Machine expenses is also known as _____	Variable expenses	Fixed Expenses	Semi variable Expenses	Direct expenses	<b>Variable Expenses</b>



State the bases of Apportionment for rent	Floor area	value of plant	value of stock	value of materials	<b>Floor area</b>
State the bases of apportionment for insurance of stock	Light points	value of plant	value of stock	value of materials	<b>value of stock</b>
State the bases of apportionment for material handling charges	Light points	value of plant	value of stock	value of materials	<b>Value of materials</b>
_____ is the process of distribution of overheads to various departments	Cost Classification	Cost Allocation	Cost Apportionment	Cost absorption	<b>Cost Apportionment</b>
_____ is process of charging the full amount of overhead without division	Cost Classification	Cost Allocation	Cost Apportionment	Cost absorption	<b>Cost allocation</b>
_____ are partly fixed and partly variable	Fixed overhead	variable overhead	selling overhead	semivariable overhead	<b>semivariable overheads</b>
_____ overheads refers to such overhead which are expected to be incurred in attaining a given output	Normal	Abnormal	Controllable	Un controllable	<b>Normal</b>
_____ overheads refers to such overhead which are not expected to be incurred in attaining a given output	Normal	Abnormal	Controllable	Un controllable	<b>abnormal</b>
_____ cost are variable cost which can be controlled	Normal	Abnormal	Controllable	Un controllable	<b>controllable</b>

_____ cost are fixed cost which cannot be controlled	Normal	Abnormal	Controllable	Un controllable	<b>un controllable</b>
allocation and apportionment of overheads expenses to various production and service department is known as	Departmentalisation	Cost Allocation	Cost Apportionment	Cost absorption	<b>Departmentalisation</b>
_____ department are those department which enable other department to work	Service	Production	Sales	Purchase	<b>Service</b>
_____ ensures accuracy in cost ascertainment	Departmentalisation	Cost Allocation	Cost Apportionment	Cost absorption	<b>Departmentalisation</b>
_____ is obtained by dividing the amount of overheads by the direct wages	Direct material cost percentage	direct labour cost percentage	prime cost percentage	work cost percentage	<b>Direct labour cost percentage</b>
_____ is obtained by dividing the amount of overhead by the prime cost	Direct material cost percentage	direct labour cost percentage	prime cost percentage	work cost percentage	<b>prime cost percentage</b>
_____ is obtained by dividing the amount of overheads by the labour hours	Direct material cost percentage	direct labour cost percentage	prime cost percentage	Direct labour hour percentage	<b>Direct labour hour percentage</b>
_____ is obtained by dividing the amount of overheads by the machine hours	Direct material cost percentage	direct labour cost percentage	machine Hour rate	Direct labour hour percentage	<b>machine hour rate</b>
Overheads in cost accounts are usually the basis of	Estimated Rates	Fixed rates	Variable rates	semivariable rates	<b>Estimated rates</b>

_____ report help the management in decision making	Audit	cost	estimated	historical cost	<b>Audit</b>
_____ method helps to compare the efficiencies and cost of operating different machines	Direct material cost percentage	direct labour cost percentage	machine Hour rate	Direct labour hour percentage	<b>machine hour rate</b>
_____ means that the overheads absorbed in production less than the actual overhead	Under absorption	work	selling overhead	distribution overhead	<b>Under absorption</b>
_____ absorbtion means that the overhead absorbed in production are more than that of actual overhead	under	Over	Fixed	Variable	<b>Over</b>
_____ rate is the cost of running a machine per hour	Labour per hour	Machine Hour	wage hour	indirect labour hour	<b>machine Hour</b>
Each machine or group of machine is treated as a cost centre in order to identify the _____ expenses	Fixed overhead	Direct overhead	Variable overhead	Semi variable overhead	<b>fixed overhead</b>
State the bases of apportionment for lighting	Light points	value of plant	value of stock	value of materials	<b>Light points</b>
State the bases for apportionment of depriciation of plant and macinery	Light points	value of plant	value of stock	value of materials	<b>Value of plant</b>
State the bases of apportionment for insurance of stock	Light points	value of plant	value of stock	value of materials	<b>value of stock</b>

State the bases of apportionment for material handling charges	Light points	value of plant	value of stock	value of materials	<b>Value of materials</b>
State the bases of apportionment of supervision	No.of, Employees	value of plant	value of stock	value of materials	<b>No.of Employees</b>
State the bases of apportionment of repairs to plant	No.of, Employees	value of plant	value of stock	value of materials	<b>Value of plant</b>
Canteen expenses is apportionmet based on	No.of Employees	value of plant	value of stock	value of materials	<b>No.of Employees</b>
State the bases for apportionment of indirect materials	Direct Materials	value of plant	value of stock	value of materials	<b>Direct materials</b>
State the bases for apportionment of indirect wages	Direct Materials	Direct wages	value of stock	value of materials	<b>Direct wages</b>
State the bases for apportionment of municipal taxes	Floor area	value of plant	value of stock	value of materials	<b>Floor area</b>
State the bases for advertising	Actual Expenses	value of plant	value of stock	value of materials	<b>Actual Expenses</b>

**UNIT-IV**

**SYLLABUS**

**Process Costing** – Features – General Principles – Comparison between Job Costing and Process Costing – Process Losses – Normal Loss – Abnormal Loss – Abnormal Gains – Inter Process Profit – Equivalent Production – Procedure for Evaluation – Joint Product and by Product.

**MEANING OF PROCESS COSTING**

Process costing is a method of costing under which all costs are accumulated for each stage of production or process, and the cost per unit of product is ascertained at each stage of production by dividing the cost of each process by the normal output of that process.

**Definition:**

CIMA London defines process costing as “that form of operation costing which applies where standardize goods are produced”.

**Features of Process Costing:**

- (a) The production is continuous
- (b) The product is homogeneous
- (c) The process is standardized
- (d) Output of one process become raw material of another process
- (e) The output of the last process is transferred to finished stock
- (f) Costs are collected process-wise
- (g) Both direct and indirect costs are accumulated in each process

(h) If there is a stock of semi-finished goods, it is expressed in terms of equivalent units

(i) The total cost of each process is divided by the normal output of that process to find out cost per unit of that process.

### **General Principles**

Following general principles are followed for cost determination under Processes Costing

(a) The production activities of the factory are classified by processes or departments. Each process or department includes a number of operations, none of which is separately measurable and each of which completes a distinct stage in the manufacture of the product. The boundaries of the process are determined by (i) jurisdiction or supervision, (ii) similarity of work performed, (iii) physical location of men and machines in the plant.

(b) All direct and indirect cost of a particular period are classified by processes. Each process account is debited with the amount of direct material, and labour and with a proportionate part of overhead expenses.

(c) Production in terms of physical quantities is recorded in respective process accounts.

(d) The total cost of each process is divided by the total production of the process and average cost per unit for the period is obtained.

(e) When products are processed in more than one department, costs of one department are transferred to the next department as initial costs. The total cost and cost per unit is thus determined by cumulating costs of different departments.

(f) In case of loss or spoilage of units in a department, the loss is borne by the units produced in that department. Thus the average cost per unit is increased.

### **Advantages of process costing:**

1. Costs are computed periodically at the end of a particular period
2. It is simple and involves less clerical work than job costing

3. It is easy to allocate the expenses to processes in order to have accurate costs.
4. Use of standard costing systems is very effective in process costing situations.
5. Process costing helps in preparation of tender, quotations
6. Since cost data is available for each process, operation and department, good managerial control is possible.

**Limitations:**

1. Cost obtained at each process is only historical cost and are not very useful for effective control.
2. Process costing is based on average cost method, which is not that suitable for performance analysis, evaluation and managerial control.
3. Work-in-progress is generally done on estimated basis which leads to inaccuracy in total cost calculations.
4. The computation of average cost is more difficult in those cases where more than one type of products is manufactured and a division of the cost element is necessary.
5. Where different products arise in the same process and common costs are prorated to various costs units. Such individual products costs may be taken as only approximation and hence not reliable.

**Steps to approach process accounting problems**

**Step 1:** Draw up a T account for the process account. (There may be more than one process, but start with the first one initially.) Fill in the information given in the question.

<i>Process account</i>					
	Units	\$		Units	\$
Opening WIP	X	X	Normal loss	X	X
Materials		X	Transfer to		
			Process 2 or	X	X
			Finished goods		
Labour		X	Abnormal loss	X	X
Overheads		X	Closing WIP	X	X
Abnormal gain	X	X			

**Step 2:** Calculate the normal loss in units and enter on to the Process account. (The value will be zero unless there is a scrap value.)

**Step 3:** Calculate the abnormal loss or gain (there won't be both). Enter the figure on to the Process account and open a T account for the abnormal loss or gain.

**Step 4:** Calculate the scrap value (if any) and enter it on to the Process account. Open a T account for the scrap and debit it with the scrap value.

**Step 5:** Calculate the equivalent units and cost per unit.

**Step 6:** Repeat the above if there is a second process.

**DISTINCTION BETWEEN JOB COSTING AND PROCESS COSTING**

Job order costing and process costing are two different systems. Both the systems are used for cost calculation and attachment of cost to each unit completed, but both the systems are suitable in different situations. The basic difference between job costing and process costing are



---

**KARPAGAM ACADEMY OF HIGHER EDUCATION**

---

CLASS: I MCOM CA

COURSE NAME: APPLIED COST ACCOUNTING

COURSE CODE: 17CCP201

UNIT: IV

BATCH-2017-2019

---

	<b>Basis of Distinction</b>	<b>Job order costing</b>	<b>Process costing</b>
1.	Specific order	Performed against specific orders	Production is continuous
2.	Nature	Each job may be different.	Product is homogeneous and standardized.
3.	Cost determination	Cost is determined for each job separately.	Costs are compiled for each process for department on time basis i.e. for a given accounting period.
4.	Cost calculations	Cost is compiled when a job is completed.	Cost is calculated at the end of the cost period.
5.	Control	Proper control is comparatively difficult as each product unit is different and the production is not continuous.	Proper control is comparatively easier as the production is standardized and is more suitable.
6.	Transfer	There is usually not transfer from one job to another unless there is some surplus work.	The output of one process is transferred to another process as input.

**COSTING PROCEDURE**

For each process an individual process account is prepared. Each process of production is treated as a distinct cost centre.

**Items on the Debit side of Process A/c.**

Each process account is debited with :

- a) Cost of materials used in that process.
- b) Cost of labour incurred in that process.

- c) Direct expenses incurred in that process.
- d) Overheads charged to that process on some pre determined.
- e) Cost of ratification of normal defectives.
- f) Cost of abnormal gain (if any arises in that process)

**Items on the Credit side:**

Each process account is credited with

- a) Scrap value of Normal Loss (if any) occurs in that process.
- b) Cost of Abnormal Loss (if any occurs in that process)

**Cost of Process:**

The cost of the output of the process (Total Cost less Sales value of scrap) is transferred to the next process. The cost of each process is thus made up to cost brought forward from the previous process and net cost of material, labour and overhead added in that process after reducing the sales value of scrap. The net cost of the finished process is transferred to the finished goods account. The net cost is divided by the number of units produced to determine the average cost per unit in that process. Specimen of Process

Account when there are normal loss and abnormal losses.

**KARPAGAM ACADEMY OF HIGHER EDUCATION**

CLASS: I MCOM CA

COURSE NAME: APPLIED COST ACCOUNTING

COURSE CODE: 17CCP201

UNIT: IV

BATCH-2017-2019

Dr.			Process I A/c.			Cr.	
Particulars	Units	Rs.	Particulars	Units	Rs.		
To Basic Material	xxx	xx	By Normal Loss	xx	xx		
To Direct Material		xx	By Abnormal Loss	xx	xx		
To Direct Wages		xx	By Process II A/c.	xx	xx		
To Direct Expenses		xx	(output transferred to				
To Production Overheads		xx	Next process)				
To Cost of Rectification of Normal Defects		xx	By Process I Stock A/c.	xx	xx		
To Abnormal Gains		xx					
	xx	xxx		xx	xx		

**Process Losses:**

In many process, some loss is inevitable. Certain production techniques are of such a nature that some loss is inherent to the production. Wastages of material, evaporation of material is unavoidable in some process. But sometimes the Losses are also occurring due to negligence of Labourer, poor quality raw material, poor technology etc. These are normally called as avoidable losses. Basically process losses are classified into two categories

- (a) Normal Loss
- (b) Abnormal Loss

**1. Normal Loss:**

Normal loss is an unavoidable loss which occurs due to the inherent nature of the materials and production process under normal conditions. It is normally estimated on the basis of past experience of the industry. It may be in the form of normal wastage,

normal scrap, normal spoilage, and normal defectiveness. It may occur at any time of the process. No of units of normal loss:  $\text{Input} \times \text{Expected percentage of Normal Loss}$ .

The cost of normal loss is a process. If the normal loss units can be sold as a scrap then the sale value is credited with process account. If some rectification is required before the sale of the normal loss, then debit that cost in the process account. After adjusting the normal loss the cost per unit is calculated with the help of the following formula:

**Cost of good unit:**

$$\frac{\text{Total cost increased} - \text{Sale Value of Scrap}}{\text{Input} - \text{Normal Loss units}}$$

**2. Abnormal Loss:**

Any loss caused by unexpected abnormal conditions such as plant breakdown, substandard material, carelessness, accident etc. such losses are in excess of pre-determined normal losses. This loss is basically avoidable. Thus abnormal losses arrive when actual losses are more than expected losses. The units of abnormal losses are calculated as under:

$$\text{Abnormal Losses} = \text{Actual Loss} - \text{Normal Loss}$$

The value of abnormal loss is done with the help of following formula:

**Value of Abnormal Loss:**

$$\frac{\text{Total Cost increase} - \text{Scrap Value of normal Loss}}{\text{Input units} - \text{Normal Loss Units}} \times \text{Units of abnormal loss}$$

Abnormal Process loss should not be allowed to affect the cost of production as it is caused by abnormal (or) unexpected conditions. Such loss representing the cost of materials, labour and overhead charges called abnormal loss account. The sales value of

the abnormal loss is credited to Abnormal Loss Account and the balance is written off to costing P & L A/c.

**KARPAGAM ACADEMY OF HIGHER EDUCATION**

CLASS: I MCOM CA

COURSE NAME: APPLIED COST ACCOUNTING

COURSE CODE: 17CCP201

UNIT: IV

BATCH-2017-2019

Dr. **Abnormal Loss A/c.** Cr.

Particulars	Units	Rs.	Particulars	Units	Rs.
To Process A/c.	xx	xx	By Bank	xx	xx
			By Costing P & L A/c.	xx	xx
	xx	xxx		xx	xx

**3. Abnormal Gains:**

The margin allowed for normal loss is an estimate (i.e. on the basis of expectation in process industries in normal conditions) and slight differences are bound to occur between the actual output of a process and that anticipates. This difference may be positive or negative. If it is negative it is called as abnormal Loss and if it is positive it is Abnormal gain i.e. if the actual loss is less than the normal loss then it is called as abnormal gain. The value of the abnormal gain calculated in the similar manner of abnormal loss.

The formula used for abnormal gain is:

$$\frac{\text{Total Cost incurred} - \text{Scrap Value of Normal Loss}}{\text{Input units} - \text{Normal Loss Units}} \times \text{Abnormal Gain Units}$$

The sales values of abnormal gain units are transferred to Normal Loss Account since it arrive out of the savings of Normal Loss. The difference is transferred to Costing P & L A/c. as a Real Gain.

Dr. **Abnormal Gain A/c.** Cr.

Particulars	Units	Rs.	Particulars	Units	Rs.
To Normal Loss A/c.	xx	xx	By Process A/c.	xx	xx
To Costing P & L A/c.	xx	xx			

**KARPAGAM ACADEMY OF HIGHER EDUCATION**

CLASS: I MCOM CA

COURSE NAME: APPLIED COST ACCOUNTING

COURSE CODE: 17CCP201

UNIT: IV

BATCH-2017-2019

**Problem1:** (Normal / Abnormal Loss)

Prepare a Process Account, Abnormal Loss Account and Normal Loss Account from the following information.

Input of Raw material	1000 units @ Rs. 20 per unit
Direct Material	Rs. 4,200/-
Direct Wages	Rs. 6,000/-
Production Overheads	Rs. 6,000/-
Actual output transferred to process II	900 units
Normal Loss	5%
Value of Scrap per unit	Rs. 8/-

**Solution :**

Dr. Process – I A/c. Cr.

Particulars	Units	Rs.	Particulars	Units	Rs.
To Raw material @ 20	1000	20000	By Normal Loss		
To Direct Material		4200	(5% on 1000)	50	400
To Direct Wages		6000	By Abnormal Loss A/c.	50	
To Production Overheads		6000	BY Process – II A/c.		
			(output transferred)	900	
	1000	36200		1000	36200

**KARPAGAM ACADEMY OF HIGHER EDUCATION**

CLASS: I MCOM CA

COURSE NAME: APPLIED COST ACCOUNTING

COURSE CODE: 17CCP201

UNIT: IV

BATCH-2017-2019

Dr. **Abnormal Loss A/c.** Cr.

Particulars	Units	Rs.	Particulars	Units	Rs.
To Process – I A/c.	50		By Bank A/c.	50	400
			By Costing P & L A/c.		
	50			50	400

Dr. **Normal Loss A/c.** Cr.

Particulars	Units	Rs.	Particulars	Units	Rs.
To Process – I A/c.	50	400	BY Bank	50	400

**Working notes:****(1) Cost of abnormal Loss :**

$$= \frac{\text{Total Cost increased} - \text{Sales value of Scrap}}{\text{Input units} - \text{Normal Loss Units}} \times \text{abnormal units}$$

$$= \frac{36200 - 400}{1000 - 50} \times 50$$

**(2)** It has been assumed that units of abnormal loss have also been sold at the same rate i.e. of Normal Scrap

**Problem 2:** (Normal / Abnormal Loss and Abnormal Gain)

The product of a company passes through 3 distinct process. The following information is obtained from the accounts for the month ending January 31, 2008.

**KARPAGAM ACADEMY OF HIGHER EDUCATION**

CLASS: I MCOM CA

COURSE NAME: APPLIED COST ACCOUNTING

COURSE CODE: 17CCP201

UNIT: IV

BATCH-2017-2019

Particulars	Process – A	Process – B	Process – C
Direct Material	7800	5940	8886
Direct Wages	6000	9000	12000
Production Overheads	6000	9000	12000

3000 units @ Rs. 3 each were introduced to process – I. There was no stock of materials or work in progress. The output of each process passes directly to the next process and finally to finished stock A/c.

The following additional data is obtained :

Process	Output	Percentage of Normal Loss to Input	Value of Scrap per unit (Rs.)
Process – I	2850	5 %	2
Process – II	2520	10 %	4
Process – III	2250	15 %	5

Prepare Process Cost Account, Normal Cost Account and Abnormal Gain or Loss Account.

**Solution:**



**KARPAGAM ACADEMY OF HIGHER EDUCATION**

CLASS: I MCOM CA

COURSE NAME: APPLIED COST ACCOUNTING

COURSE CODE: 17CCP201

UNIT: IV

BATCH-2017-2019

Dr.

Process – A A/c.

Cr.

Particulars	Units	Rs.	Particulars	Units	Rs.
To Units introduced	3000	9000	By Normal Loss A/c.	150	300
To Direct Material		7800	By Process – B A/c.	2850	28500
To Direct Wages		6000	(Units transferred		
To Production Overheads			@ Rs. 10/-)		
		6000			
	3000	28800		3000	28800

Dr.

Process – B A/c.

Cr.

Particulars	Units	Rs.	Particulars	Units	Rs.
To Process – I A/c.	2850	28500	By Normal Loss A/c.	285	1140
To Direct Material		5940	By Abnormal Loss A/c.	45	9000
To Direct Wages		9000	By Process – C A/c.	2520	50400
To Production Overheads					
		9000			
	2850	52440		2850	52440

**KARPAGAM ACADEMY OF HIGHER EDUCATION**

CLASS: I MCOM CA

COURSE NAME: APPLIED COST ACCOUNTING

COURSE CODE: 17CCP201

UNIT: IV

BATCH-2017-2019

10

Dr. **Process – C A/c.** Cr.

Particulars	Units	Rs.	Particulars	Units	Rs.
To Process – II A/c.	2520	50400	By Normal Loss A/c.	378	1890
To Direct Material A/c		8886	By Finished Stock A/c.	2250	85500
To Direct Wages		12000			
To Production Overheads		12000			
To Abnormal Gain A/c.	108	4104			
	<b>2628</b>	<b>87390</b>		<b>2628</b>	<b>87390</b>

Dr. **Abnormal Gain A/c.** Cr.

Particulars	Units	Rs.	Particulars	Units	Rs.
To Normal Loss A/c.	108	540	By Process – C A/c.	108	4104
To Costing P&L A/c.		3564			
	<b>108</b>	<b>4104</b>		<b>108</b>	<b>4104</b>

Dr. **Normal Loss A/c.** Cr.

Particulars	Units	Rs.	Particulars	Units	Rs.
To Process – A A/c.	150	300	By Bank A/c. (Sales)		
To Process – B A/c.	285	1140	Process – A A/c.	150	300
To Process – C A/c.	378	1890	Process – B A/c.	285	1140
			Process – C A/c.	270	1350
			By Abnormal Gain A/c.	108	540
	<b>813</b>	<b>3330</b>		<b>813</b>	<b>3330</b>

**INTER PROCESS PROFITS:**

Normally the output of one process is transferred to another process at cost but sometimes at a price showing a profit to the transfer process. The transfer price may be made at a price corresponding to current wholesale market price or at cost plus an agreed percentage.

The advantage of the method is to find out whether the particular process is making profit (or) loss. This will help the management whether to process the product or to buy the product from the market. If the transfer price is higher than the cost price then the process account will show a profit. The complexity brought into the accounting arises from the fact that the inter process profits introduced remain a part of the prices of process stocks, finished stocks and work-in-progress.

The balance cannot show the stock with profit. To avoid the complication a provision must be created to reduce the stock at actual cost prices. This problem arises only in respect of stock on hand at the end of the period because goods sold must have realized the internal profits. The unrealized profit in the closing stock is eliminated by creating a stock reserve. The amount of stock reserve is calculated by the following formula.

$$\text{Stock Reserve} = \text{Transfer Value of stock} \times \frac{\text{Profit included in transfer price}}{\text{Transfer Price}}$$

**Problem 3:**

A product passes through three processes before its completion. The output of each process is charged to the next process at a price calculated to give a profit of 20% on transfer price. The output of Process III is transferred to finished stock account on a similar basis. There was no work-in-progress at the beginning of the year. Stock in each process has been valued at prime cost of the process. The following data is available at the end of 31st March, 2009

**KARPAGAM ACADEMY OF HIGHER EDUCATION**

CLASS: I MCOM CA

COURSE NAME: APPLIED COST ACCOUNTING

COURSE CODE: 17CCP201

UNIT: IV

BATCH-2017-2019

	Process I	Process II	Process III	Finished Stock Rs.
Direct Material	20000	30000	10000	--
Direct Wages	30000	20000	40000	--
Stock on 31 <sup>st</sup> March 2009	10000	20000	30000	15000
Sale during the year	--	--	--	180000

1. Process Cost Account showing the profit at each stage.
2. Actual realized profit and
3. Stock Valuation as would appear in the balance sheet

**Solution:****Dr.****Process – I A/c.****Cr.**

Particulars	Total Rs.	Cost Rs.	Profit Rs.	Particulars	Total Rs.	Cost Rs.	Profit Rs.
To Materials	20000	20000	--	By Process IIA/c. (Transfer)	50000	40000	10000
To Wages	30000	30000	--				
Total	50000	50000	--				
Les Closing							
Stock c/d	10000	10000	--				
Prime Cost	40000	40000	--				
To Gross Profit	10000	--	10000				
(20% on							
Transfer Price)	50000	40000	10000		50000	40000	10000
To Stock B/d.	10000	10000	--				

# KARPAGAM ACADEMY OF HIGHER EDUCATION

CLASS: I MCOM CA

COURSE NAME: APPLIED COST ACCOUNTING

COURSE CODE: 17CCP201

UNIT: IV

BATCH-2017-2019

Dr.

Process – II A/c.

Cr.

Particulars	Total Rs.	Cost Rs.	Profit Rs.	Particulars	Total Rs.	Cost Rs.	Profit Rs.
To Process – I A/c.	50000	40000	10000	By Process-III A/c.	100000	72000	28000
To Material	30000	30000	--	(Transfer)			
To Wages	20000	20000	--				
	100000	90000	10000				
Less : Closing Stock C/d.	20000	18000	2000				
Prime Cost	80000	72000	8000				
To Gross Profit (20% on Transfer Price)	20000	--	20000				
	100000	72000	28000		100000	72000	28000
To Stock	20000	18000	2000				

# KARPAGAM ACADEMY OF HIGHER EDUCATION

CLASS: I MCOM CA

COURSE NAME: APPLIED COST ACCOUNTING

COURSE CODE: 17CCP201

UNIT: IV

BATCH-2017-2019

## Process III A/c

Particulars	Total Rs.	Cost Rs.	Profit Rs.	Particulars	Total Rs.	Cost Rs.	Profit Rs.
ToprocessII A/c	100000	72000	28000	ByFinished stock A/c	150000	97600	52400
To Material	10000	10000	-----				
To Wages	40000	40000	-----				
TOTAL	150000	122000	28000				
Less.Closing stock	30000	24400	5600				
To Gross profit	120000	97600	22400				
(20%of transfer price)	30000	-----	30000				
	150000	97600	52400		150000	97600	52400
To Stock b/d	30000	24000	5600				

## Finished stock A/c

Particulars	Total Rs.	Cost Rs.	Profit Rs.	Particulars	Total Rs.	Cost Rs.	Profit Rs.
To process III A/c	115000	97600	52400	By Sales	180000	87840	92160
(-)Stock	15000	9760	5240				
To gross profit	135000	87840	92160				
	45000	---	45000				
	180000	87840	92160		180000	87840	92160
To Stock A/c	15000	9760	5240				

Calculation of profit on closing stock

Profit included in stock =  $\frac{\text{Profit included in transfer price} \times \text{Value of stock}}{\text{Transfer price}}$

Process I = No profit

Process li =  $\frac{10000 \times 20000}{100000} = 2000$

Process lii =  $\frac{28000 \times 30000}{150000} = 5600$

Finished stock =  $\frac{52400 \times 15000}{150000} = 5240$

**POSSIBLE QUESTIONS****PART A (ONE MARKS – ONLINE EXAMINATION)****PART B (2 MARKS)**

1. Define Process Costing
2. What is 'Normal Process Loss'?
3. Define the term contract costing'.
4. What are joint-products?
5. Define the term inter-process profit.
6. What is meant by equivalent production?
7. What is 'Abnormal Process Loss'?
8. What is 'Job Costing'?
9. What is 'Abnormal Gains'
10. How to compute the reserve for unrealized profits?

**PART - B (5X6=30 MARKS)****ANSWER THE FOLLOWING QUESTION**

1. A Particular brand of phenyl passed through three important processes. During the week ended 15<sup>th</sup> January, 1200 gross bottles were produced. The cost book shows the following information :

<b>Particulars</b>	<b>Process A (Rs.)</b>	<b>Process B (Rs.)</b>	<b>Process C (Rs.)</b>
Materials	8,000	4,000	3,000
Labour	6,000	5,000	4,600
Direct Expenses	12,000	400	1000
Cost of Bottles	Nil	4,060	Nil
Cost of Corks	Nil	Nil	650

The indirect expenses for the period were Rs. 3,200

The by – products were sold for Rs. 480 (Process B)

The residue was sold for Rs. 251(Process C)

Prepare the account in respect of each of the process, showing its cost and cost of production of the finished product per gross bottles.



**KARPAGAM ACADEMY OF HIGHER EDUCATION**

CLASS: I MCOM CA

COURSE NAME: APPLIED COST ACCOUNTING

COURSE CODE: 17CCP201

UNIT: IV

BATCH-2017-2019

2. From the information, find the profit made by each product, appropriating joint-costs on the sale-value basis

Joint – Cost :	Rs.	
Direct Materials	1,26,000	
Power	25,000	
Petrol, Oil, Lubricants	5,000	
Labour	7,500	
Other Charges	4,100	
	Product L	Product M
Selling Costs	Rs. 20,000	Rs. 80,000
Sales	Rs. 1,52,000	Rs. 1,68,000

3. The product of a company passes through three distinct process. The following information is obtained from the accounts for the month ending January 31, 2016.

<b>Particulars</b>	<b>Process – A</b>	<b>Process – B</b>	<b>Process – C</b>
Direct Material	7800	5940	8886
Direct Wages	6000	9000	12000
Production Overheads	6000	9000	12000

3000 units @ Rs.3 each were introduced to process – I. There was no stock of materials or work in progress. The output of each process passes directly to the next process and finally to finished stock A/c.

The following additional data is obtained:

<b>Process</b>	<b>Output</b>	<b>Percentage of Normal Loss to Input</b>	<b>Value of Scrap per Unit (Rs.)</b>
Process – I	2,850	5 %	2
Process – II	2,520	10 %	4
Process – III	2,250	15 %	5

Prepare Process Cost Account and Abnormal Gain or Loss Account.

**KARPAGAM ACADEMY OF HIGHER EDUCATION****CLASS: I MCOM CA****COURSE NAME: APPLIED COST ACCOUNTING****COURSE CODE: 17CCP201****UNIT: IV****BATCH-2017-2019**

4. From the following information given to you, prepare process B Account: 2,000 units are transferred to Process B @ Rs. 4 per unit. Other details relating to the process are:

	<b>Rs.</b>
Materials	4,000
Labour	1,000
Overhead	700

The normal loss has been estimated @ 10 % of the process input. Units representing normal loss can be sold @ Re. 1.00 per unit. Actual production in the process is 1,900 units. Output of Process B transferred to finished stock Account.

5. A product passes through two distinct processes, A and B and thereafter to finished stock.

From the following information, you are required to prepare Process Cost Account

	<b>Process A</b>	<b>Process B</b>
Materials Consumed	Rs. 12,000	Rs. 6,000
Direct Labour	Rs. 14,000	Rs. 8,000
Manufacturing expenses	Rs. 4,000	Rs. 4,000
Input in Process 'A' (units)	10,000	
Input in Process 'A' (Value)	Rs. 10,000	-
Output (units)	9,400	units 8,300
Normal Wastage	5 %	10 %
Value of Normal Wastage (per 100 units)	Rs. 8	Rs. 10

6. Prepare a Process Account, Normal Loss Account and Abnormal Loss Account from the following information.

Input of Raw material	1000 units @ Rs. 20 per unit
Direct Material	Rs. 4,200/-
Direct Wages	Rs. 6,000/-
Production Overheads	Rs. 6,000/-
Actual output transferred to process II	900 units
Normal Loss	5%
Value of Scrap per unit	Rs. 8/-

---

**KARPAGAM ACADEMY OF HIGHER EDUCATION**

---

**CLASS: I MCOM CA****COURSE NAME: APPLIED COST ACCOUNTING****COURSE CODE: 17CCP201****UNIT: IV****BATCH-2017-2019**

---

7. Product A is obtained after it passes through three distinct processes. 2,000 kgs. Of material at Rs.5 per Kg. were issued to the process I. Direct wages amounted to Rs.900 and production overhead incurred was Rs.500. Normal loss is estimated at 10 % of input. This wastage is sold at Rs.3 per kg. the actual output is 1,850 kgs.

Prepare Process I Account and the Abnormal Gain or Abnormal Loss Account as the case may be.

8. From the following information given to you, prepare process B Account : 2,000 units are transferred to Process B @ Rs. 4 per unit. Other details relating to the process are :

	<b>Rs.</b>
Materials	4,000
Labour	1,000
Overhead	700

The normal loss has been estimated @ 10 % of the process input. Units representing normal loss can be sold @ Re. 1.00 per unit. Actual production in the process is 1,900 units. Output of Process B transferred to finished stock Account.

9. From the information, find the profit made by each product, appropriating joint-costs on the sale-value basis

<b>Joint – Cost :</b>	<b>Rs.</b>		
Direct Materials	1,26,000		
Power	25,000		
Petrol, Oil, Lubricants	5,000		
Labour	7,500		
Other Charges	4,100		
		<b>Product L</b>	<b>Product M</b>
Selling Costs		Rs. 20,000	Rs. 80,000
Sales		Rs. 1,52,000	Rs. 1,68,000

---

**KARPAGAM ACADEMY OF HIGHER EDUCATION**

---

**CLASS: I MCOM CA****COURSE NAME: APPLIED COST ACCOUNTING****COURSE CODE: 17CCP201****UNIT: IV****BATCH-2017-2019**

---

10. A Particular brand of phenyl passed through three important processes. During the week ended 15<sup>th</sup> January, 600 gross bottles were produced. The cost book shows the following information:

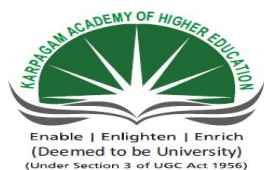
<b>Particulars</b>	<b>Process A (Rs.)</b>	<b>Process B (Rs.)</b>	<b>Process C (Rs.)</b>
Materials	4,000	2,000	1,500
Labour	3,000	2,500	2,300
Direct Expenses	6,000	200	500
Cost of Bottles	Nil	2,030	Nil
Cost of Corks	Nil	Nil	325

The indirect expenses for the period were Rs. 1,600

The by – products were sold for Rs. 240 (Process B)

The residue was sold for Rs. 125.50 (Process C)

Prepare the account in respect of each of the process, showing its cost and cost of production of the finished product per gross bottles.



**KARPAGAM ACADEMY OF HIGHER EDUCATION**  
**(Deemed to be University Established Under section 3 of the UGC Act, 1956), Coimbatore.**

**Department of Commerce**  
**APPLIED COST ACCOUNTING (17CCP201)**  
**Multiple Choice Questions - Online Examination**

**UNIT - IV**

Question	Option - I	Option - II	Option - III	Option - IV	Answer
_____ is a method of costing to findout the cost of a product at a each stage or process of production	Process costing	Job costing	Unit costing	Contract costing	<b>Process costing</b>
there are certain industries where the _____ passes through the different stages of a product	Goods	Product	Raw material	Sales	<b>Raw material</b>
process cosing is used to find out _____ of the product at the end of each stage	Cost	Income	Unit costing	Income	<b>Cost</b>
_____ are collected for each process and debited to the process account	Overhead	Direct wages	Direct labour	Indirect wages	<b>Overheads</b>
_____ is arrived by dividing the total process cost by the number of units produced	Taotal cost	Product expenses	Cost per unit	sales cost	<b>Cost per unit</b>
_____ cost of the finished product is the sum of all costs incurred in all the process	Taotal cost	Product expenses	Cost per unit	sales cost	<b>Total Cost</b>

_____ costing the production is carried on in anticipation of demand	Process costing	Job costing	Unit costing	Contract costing	<b>Process costing</b>
_____ costing the costs are computed periodically for each process	Process costing	Job costing	Unit costing	Contract costing	<b>Process costing</b>
_____ are transferred from one process to another process	Process costing	Job costing	Unit costing	Contract costing	<b>Process costing</b>
_____ costing the paper work is comparatively less	Process costing	Job costing	Unit costing	Contract costing	<b>Process costing</b>
_____ loss refers to the loss which is unavoidable in a manufacturing process	Normal	Abnormal	Controllable	Un controllable	<b>Normal</b>
_____ value of normal loss units is credited to process account	Usable	Realisable	Unusable	controllable	<b>Realisable</b>
The cost of normal loss is treated as a part of	Sales value	Cost of production	Cost of sales	cost per unit	<b>Cost of production</b>
_____ loss refers to the avoidable loss	Abnormal Loss	Normal Loss	Avoidable Loss	Unavoidable loss	<b>Abnormal Loss</b>

_____ can be estimated in advance	Abnormal Loss	Normal Loss	Avoidable Loss	Unavoidable loss	<b>Abnormal Loss</b>
Abnormal loss arises when the actual loss is more than the _____ loss	Abnormal Loss	Normal Loss	Avoidable Loss	Expected Loss	<b>Expected Loss</b>
The cost abnormal loss is not included in the _____	Sales value	Cost of production	Cost of sales	cost per unit	<b>Cost of production</b>
_____ gain arises when the actual output is higher than the expected normal output	Normal Gain	Abnormal Gain	Expected Gain	Less Gain	<b>Abnormal Gain</b>
abnormal gain is treated on _____ of cost of production	usable	recovery	wastage	useful	<b>recovery</b>
inter process profit is the difference between transfer price and _____	unit price	cost price	abnormal price	normal price	<b>Unit price</b>
_____ is the production carried on against specific orders from customers	Process costing	Job costing	Unit costing	Contract costing	<b>job costing</b>
_____ accumulated for each job	cost	price	unit	sales	<b>Cost</b>

cost are not transferred except when there is _____ production	low	high	surplus	defecit	<b>surplus</b>
process costing facilitates correct	value of stock	high	surplus	defecit	<b>value of stock</b>
process costing is based on _____ cost	Future cost	historical cost	estimate cost	prime cost	<b>historical cost</b>
job costing is a method of _____ cost of an individual job	Cost allotment	ascertainment of cost	allocation of cost	classification of cost	<b>ascertainment of cost</b>
each job is treated as a cost unit for which costs are	ascertined	accumulated	collected	changed	<b>accumulated</b>
job costing shows the cost and _____ of each job	profit& losss	profit	loss	revenue cost	<b>profit</b>
_____ method of costing adopted in printing press	Process costing	Job costing	Unit costing	Contract costing	<b>job costing</b>
job costing is also known as	terminal costing	Job costing	Unit costing	Contract costing	<b>terminal costing</b>



Specific order costing is also known as	Process costing	Job costing	Unit costing	Contract costing	<b>job costing</b>
In _____ costing the production is always against the customer order	Process costing	Job costing	Unit costing	Contract costing	<b>job costing</b>
the cost data provided by job costing helps in _____	Decision making	Planning	Cost control	cost Reduction	<b>Planning</b>
cost reordered under job costing help in preparation of	Report	Budget	Cost Data	Selling Price	<b>Budget</b>
Each _____ treated as a cost unit	unit price	process	Contract	Unit	<b>Contract</b>
Contracts are generally of a _____ duration	Long	Short	medium	very long	<b>Long</b>
_____ costing is mainly adopted in construction of bridges	Process costing	Job costing	Unit costing	Contract costing	<b>process costing</b>
the number of contract undertaken are usually _____	High	Small	Medium	Very Low	<b>Small</b>

The _____ price is paid in installments depending on the process of work	Process costing	Job costing	Unit costing	Contract costing	<b>Contract Costing</b>
Contract costing is a form of _____ costing	Specific order costing	Job costing	Unit costing	Contract costing	<b>Specific order costing</b>
a seprate _____ account is prepared for each contract	Contract	Unit	Job	Specific Order	<b>Contract</b>
_____ cost usually constitute a major portion of the total cost of the contract	Direct	Indirect	Fixed	Variable	<b>Direct</b>
_____ cost usually constitue a small portion of the total cost of contract	Direct	Indirect	Fixed	Variable	<b>In direct</b>
The direct labour cost incurred on the contract is _____ to the contract account	Debited	Credited	Enetered	Fixed	<b>Debited</b>
the direct expenses incurred for the contract is also _____ to the contract account	Debited	Credited	Enetered	Fixed	<b>Debited</b>
_____ which cannot be directly charged to contract	Dircet expenses	Indirect Expenses	Fixed Expenses	Variable Expenses	<b>Indirect Expenses</b>

_____ contracts take a long time for completion and require huge investments	Large	Small	Medium	Very High	<b>Large</b>
_____ money is paid to the contractor after the expiry of a stipulate time	usable	recovery	wastage	useful	<b>recovery</b>
_____ is treated as a reserve	Notional profit	recovery	wastage	useful	<b>Notional Profit</b>
The Contract Costing price is paid in installments depending on the _____ of work	Process	Job	Unit	Costing	<b>Process</b>
_____ is a contract in which the contractee agrees to pay the cost of work done plus a percenatge of it towards profit	Cost + contract	Esclation clause	Retention money	Unit Contract	<b>Cost + contract</b>
in which contract _____ contracts is assure a fixed percentage of profit	Cost + contract	Esclation clause	Retention money	Unit Contract	<b>Cost + contract</b>
_____ is clause in contract agreement	Cost + contract	Esclation clause	Retention money	Unit Contract	<b>Esclation clause</b>
_____ product refers to the secondary product obtained during the course of manufacturing the main product	Substitute	Joint	By product	Related product	<b>By product</b>

value of closing stock of _____ is considered as zero for the purpose of balance sheet	Substitute	Joint	By product	Related product	<b>By product</b>
_____ expenses are incurrd for setting the by products	Selling& distribution	Production	purchase	Raw material expenses	<b>Selling&amp; distribution</b>
_____ method by products are valued at the current market price	Replacement method	Standard Cost method	Apportionment Method	Allocation Method	<b>Replacemant Method</b>
_____ method by products are valued at standard cost	Replacement method	Standard Cost method	Apportionment Method	Allocation Method	<b>Standard cost</b>
_____ products refers two or more prodcuts of equal importance which are prodcued from same raw material	Substitute	Joint	By product	Related product	<b>Joint Product</b>
_____ has its own price and market utility	Substitute	Joint	By product	Related product	<b>Joint Product</b>

**UNIT-V**

**SYLLABUS**

**Activity Based Costing:** Meaning and Methodology of Activity Based Costing (ABC Analysis)- Merits, Demerits and Suitability of Activity Based Costing-Implementation of Activity Based Costing- Draw Back of Conventional Costing - Target costing: Meaning-Characteristics-Principles-Implementation of Target Costing-Installation of Target Costing-Target Costing Vs. Traditional Costing- Life Cycle Costing-Meaning-Definition-Applications of LCC -Importance-Process of LCC.

**ACTIVITY-BASED COSTING**

**Activity Based Costing (ABC)** is a costing method that is designed to provide managers with cost information for strategic and other decisions that potentially affect capacity and therefore "fixed cost".

Activity based costing system is used to determine product costs for special management reports. This system is ordinarily used as a supplement to the company's usual costing system. Most organizations that use ABC system have two costing systems - the official costing system that is used for preparing external financial reports and the activity based costing system that is used for internal decision making and for managing activities.

In traditional cost accounting systems, the objective is to value inventories and cost of goods sold for external financial reports in accordance with the generally accepted accounting principles (GAAP). In activity based costing (ABC) system the objective is to understand overhead and the profitability of products and customers and to manage overhead. As a consequence of these differences in objectives, "best practice" activity based costing system differs in a number of ways from traditional cost accounting.

**In activity based costing:**

1. Non-manufacturing as well as manufacturing costs may be assigned to products.
2. Some manufacturing costs may be excluded from product costs.

3. A number of overhead cost pools are used, each of which is allocated to products and other costing objects using its own unique measure of activity.
4. The allocation bases often differ from those used in traditional costing system.
5. The overhead rates or activity rates may be based on the level of activity at capacity rather than on the budgeted level of activity.

These differences from traditional cost accounting systems can dramatically impact the apparent costs of products and the profitability of products and customers.

Activity-based costing (ABC) is a costing methodology that identifies activities in an organization and assigns the cost of each activity with resources to all products and services according to the actual consumption by each. Activity-based costing differs from traditional costing systems in a number of ways. In activity-based costing, nonmanufacturing as well as manufacturing costs may be assigned to products. And, some manufacturing costs—including the costs of idle capacity—may be excluded from product costs. An activity-based costing system typically includes a number of activity cost pools, each of which has its unique measure of activity. These measures of activity often differ from the allocation bases used in traditional costing systems.

In activity-based costing, costs must first be allocated to activity cost pools and then they are allocated from the activity cost pools to products, customers, and other cost objects.

Life cycle costing is a technique which takes account of the total cost of owning a physical asset, or making a product, during its economic life. It includes the costs associated with acquiring, using, caring for and disposing of physical assets, including the feasibility studies, research, design, development, production, maintenance, replacement and disposal, as well as support, training and operating costs generated by the acquisition, use, maintenance and replacement of permanent physical assets.

### **Features or Characteristics of Activity Based Costing**

The features or characteristics of Activity Based Costing are briefly explained below.

1. The total cost is divided into two types i.e. fixed cost and variable cost which is necessary to provide quality information to design a suitable cost system in a manufacturing concern.
2. The proper distinction is made between the cost behavior patterns.

3. The cost behavior patterns are volume related, diversity related, events related and time related.
4. The appropriate cost driver has to be identified for tracing the overhead to a product.
5. The cost drivers dictate the cost behavior pattern.

### **Weaknesses of Traditional Cost Accounting System**

Providing inaccurate costing information leads to taking of wrong decisions by the top management if used for control purposes or for fixing selling prices or sending quotations. Moreover, the allocation of indirect costs do not truly reflect the resources consumed by the end products. In this way, weaknesses of traditional cost accounting system are briefly explained below.

1. Overhead recovery rates such as machine hour rate, labor hour rate etc. are used for absorption of indirect costs i.e. overhead. These are highly suitable for the valuation of closing stock and reporting the same to the top management as accounting information. But, this is not useful for taking decisions since the decisions have implications over 3 to 5 years. Moreover, some fixed costs are variable in the long run.
2. The splitting of cost into fixed and variable is often unrealistic. The reason is that the splitting of cost gives inaccurate costs of products if business grows.
3. Some companies are manufacturing and selling more than single product. In such a case, these companies are forced to take decision on pricing, product mix, advertisement, sales promotion campaign, process technology etc. based on the approximate cost information. This is due to difficulty in collection, classification, allocation and recovery of overheads to individual products accurately.
4. In the modern technology developed business world, most of the labor work is done through automation i.e. mechanization of manual work. If so, automatically the direct costs are reduced and indirect costs are increased. In this way, cost structure of a product is changed if automation is taking place in any products.
5. The indirect costs are allocated and reallocated at product level only after manufacturing of a product. At work in progress stage, the allocation of indirect costs is made in an arbitrary manner. Under new manufacturing technology, there is a need of the degree of completion of

work with accurate indirect costs incurred. This is not possible under traditional cost accounting system.

In order to overcome these weakness and short term bias of marginal costing, Activity Based Costing (ABC) has been emerged.

### **Implementation of Activity Based Costing**

The following steps are involved in implementing Activity Based Costing to achieve the desired results.

1. Identify the functional areas of organization.
2. Identify the main activities of each functional areas.
3. Allocate common indirect costs to each functional areas on suitable basis.
4. Identify the most suitable cost driver in each activity under functional areas.
5. Preparing the statement of expenditure on activity wise.
6. Compare this statement with the value addition activity wise.
7. Find the activities which are to be eliminated or improved for better performance of the organization.

### **Meaning of Target Cost**

Target cost means an estimation of total cost to win in the competition in terms of quality, cost and productivity. It is not a method or technique of costing. But, it is a management technique used to survive under the increasing competitive environment.

### **Features of Target Costing**

**The main features of target costing are presented below.**

1. It is a part of management process used for the cost reduction and cost management.
2. It gives much importance to customers views, market conditions and profitability.
3. It is considered as an integral part of product design and introduction of new product.
4. It emphasized the earning of at least target profit margin from each product at any cost.
5. Under the target costing process, the target selling price is fixed on the basis of various sales forecasting techniques.
6. The fixing of selling price is based on the fixing of target production volumes since there is a relationship between price and volume.
7. The required profit margin is included in the target selling price.



8. The product design specifications, quality and the customers requirements and expectations are taken into consideration while fixing target selling price.
9. The difference between the target selling price and required profit margin is the target cost.
10. The cost reduction programme is followed on the basis of the components of current cost of the product. The current cost is based on existing technologies.
11. The difference between current cost and target cost is the level of cost reduction.
12. Target cost is divided into various parts. Each part is properly studied for finding the opportunities connected with to know the extent of cost reduction possibilities.
13. The studying of each part is known as value engineering (VE) and value analysis (VA).
14. A team is constituted to integrate the activities like marketing, engineering, manufacturing purchasing and finance in order to achieve the objectives of target costing.

### **Meaning Life Cycle Costing**

Life cycle costing is a system that tracks and accumulates the actual costs and revenues attributable to cost object from its invention to its abandonment. Life cycle costing involves tracing cost and revenues on a product by product base over several calendar periods.

Life Cycle Cost (LCC) of an item represents the total cost of its ownership, and includes all the costs that will be incurred during the life of the item to acquire it, operate it, support it and finally dispose it. Life Cycle Costing adds all the costs over their life period and enables an evaluation on a common basis for the specified period (usually discounted costs are used).

### **Stages in product life cycle:**

There are five distinct stages in the life cycle of a product as follows :

**Introduction stage** – Research and engineering skill leads to product development. The product is put on the market and its awareness and acceptance are minimal. Promotional costs will be high, sales revenue low and profits probably negative. The skill that is exhibited in testing and launching the product will rank high in this phase as critical factor in securing success and initial market acceptance. Sales of new products usually rise slowly at first.

**Growth Stage** – In the growth stage product penetration into the market and sales will increase because of the cumulative effects of introductory promotion, distribution. Since costs will be lower than in the earlier stage, the product will start to make a profit contribution. Following the consumer acceptance in the launch stage it now becomes vital or secure

wholesaler / retailer support. But to sustain growth, consumer satisfaction must be ensured at this stage. If the product is successful, growth usually accelerates at some point, often catching the innovator by surprise.

**Maturity Stage** – This stage begins after sales cease to rise exponentially. The causes of the declining percentage growth rate the market saturation – eventually most potential customers have tried the product and sales settle at a rate governed by population growth and the replacement rate of satisfied buyers. In addition there were no new distribution channels to fill. This is usually the longest stage in the cycle, and most existing products are in this stage. The period over which sales are maintained depends upon the firm's ability to stretch the cycle by means of market segmentation and finding new uses for it.

**Saturation stage** – As the market becomes saturated, pressure is exerted for a new product and sales along with profit begin to fall. Intensified marketing effort may prolong the period of maturity, but only by increasing costs disproportionately.

**Declining Stage** – Eventually most products and brands enter a period of declining sales. This may be caused by the following factors :

- Technical advances leading to product substitution
- Fashion and changing tastes
- Exogenous cost factors will reduce profitability until it reaches zero at which point the product's life is commercially complete.

**Problem:**

D Ltd specializes in the manufacture of Computers. It is planning to introduce a new computer specially designed for children. Development of the new computer is to begin shortly and D Ltd is in the process of preparing a product life cycle budget. It expects the new product to have a life cycle of 3 years and estimates the following costs :

**KARPAGAM ACADEMY OF HIGHER EDUCATION****CLASS: I MCOM CA****COURSE NAME: APPLIED COST ACCOUNTING****COURSE CODE: 17CCP201****UNIT: V****BATCH-2017-2019**

	<i>Year 1</i>	<i>Year 2</i>	<i>Year 3</i>
Units manufactured & Sold	50,000	200,000	150,000
Computers per batch	400	500	500
Price per computer	Rs 45	Rs 40	Rs 35
R & D Cost	Rs 9,00,000	Rs 1,00,000	—
Production Cost :			
Variable Cost per unit	Rs 16	Rs 15	Rs 15
Variable Cost PER BATCH	Rs 700	Rs 600	Rs 600
Fixed Cost	Rs 6,00,000	Rs 6,00,000	Rs 6,00,000
Marketing Cost :			
Variable Cost PER UNIT	Rs 3.60	Rs 3.20	Rs 2.80
Fixed Cost	Rs 4,00,000	Rs 3,00,000	Rs 3,00,000
Distribution Cost :			
Units produced per batch	200	160	120
Variable Cost per unit	Rs 1	Rs 1	Rs 1
Variable Cost PER BATCH	Rs 120	Rs 120	Rs100
Fixed Cost	Rs 2,40,000	Rs 2,40,000	Rs 2,40,000
Customer service Cost PER UNIT	Rs 2	Rs 1.50	Rs 1.50

- a. Calculate the budgeted life cycle operating profit for the new product.
- b. Explain how an organization would benefit from a product life cycle costing exercise.

Life Cycle Operating Profit

# KARPAGAM ACADEMY OF HIGHER EDUCATION

CLASS: I MCOM CA

COURSE NAME: APPLIED COST ACCOUNTING

COURSE CODE: 17CCP201

UNIT: V

BATCH-2017-2019

	Year 1 Rs '000	Year 2 Rs '000	Year 3 Rs '000	Total Rs '000
Sales	2,250	8,000	5,250	15,500
R & D Design	(900)	(100)		(1,000)
<b>Production Cost</b>				
Variable cost per unit	(800)	(3000)	(2,250)	(6,050)
Variable cost per batch	(87.5)	(240)	(180)	(507.5)
Fixed Cost	(600)	(600)	(600)	(1800)
<b>Marketing Cost</b>				
Variable Cost per unit	(180)	(640)	(420)	(1240)
Fixed Cost	(400)	(300)	(300)	(1000)
<b>Distribution Cost</b>				
Variable cost per unit	(50)	(200)	(150)	(400)
Variable cost per batch	(30)	(150)	(125)	(305)
Fixed Cost	(240)	(240)	(240)	(720)
Customer Service				
Costs per unit	(100)	(300)	(225)	(625)
Operating Profit	(1137.5)	2230	760	1852.5

b.A Life Cycle Costing exercise enables an organization to appraise the profitability over the whole life of the product rather than a period of time. Thus,products that are loss making initially but profitable in the longer term will be accepted.

## Problem:

XYZ Ltd.having idle capacity received an offer to sell 2000 units of one of its product to a new customer in a geographic region not normally serviced by the company. The offering price is Rs.10 per unit. The product normally sells for Rs.14. The activity based accounting system provides the following information :

	Cost Driver	Unused Capacity	Quantity Demanded *	Activity Rate (Rs)**	
				Fixed	Variable
Direct Materials	Units	0	2,000	—	3.00
Direct Labour	Direct Labour hours	0	400	—	7.00
Set-ups	Set-up hours	0	25	50.00	8.00
Machining	Machine hours	6,000	4,000	4.00	1.00

\* This represents the amount of resources demanded by the special order being considered.

\*\* Fixed activity rate is the price that must be paid per unit of activity capacity. The variable activity rate is the price per unit of resources for resources acquired as needed.

Although the fixed activity rate for set-ups is Rs.25 per hour, any expansion of this resource must be acquired in blocks. The unit of purchase for set-ups is 100 hours of set-up servicing. Thus, any expansion of set-up activity must be done 100 hours at a time. The price per hour is the fixed activity rate.

Required :

- (a) Compute the change in income for XYZ Ltd. if the order accepted. Comment on whether the order should be accepted or not (in particular, discuss the strategic issues).
- (b) Suppose that the set-up activity had 50 hours of unused capacity. How does this affect the analysis?

**Solution (a)**

**Order to be accepted or not.**

The relevant costs are those that change if the order is accepted. These costs would consist of the variable activity costs (resources acquired as needed) plus any cost of acquiring additional activity capacity (resources acquired in advance of usage). The income will change by the following amount :

Revenue (Rs. $10 \times 2,000$ units)		Rs. 20,000
Less : Increase in resource		
spending Direct materials (Rs. $3 \times$	Rs. 6,000	
2000 units)	2,800	
Direct labour (Rs. $7 \times 400$ Direct labour hours)		
Setups (Rs. $50 \times 100$ hours) + (Rs. $8 \times 25$ hours)	5,200	
Machining (Rs. $1 \times 4,000$ machine hours)	<u>4,000</u>	<u>18,000</u>
Income change		<u>Rs. 2,000</u>

Special orders need to be examined carefully before acceptance. The order offers an increase in income of Rs. 20,000, but it does require expansion of the setup activity capacity – perhaps a recurring annual commitment of Rs. 5,000 for the future, unless there is some certainty that such special orders will be forthcoming in future years as well.

The special order may be accepted, as the company is suffering from idle capacity. Other strategic factors need to be considered. These include —

- Will this order affect any regular sales?
- Is the company looking for a permanent solution to its idle-capacity or are special orders becoming a habit-a response pattern that may eventually prove disastrous?
- Will acceptance adversely affect the company's normal distribution channels?
- Will it be an opportunity for the company to explore the new market for its other products?
- Can this be taken as the company's penetration pricing policy for the new market?
- Any reaction from competitors in the new market?

**Solution (b)**

The special order needs only 25 setup hours, whereas the company has 50 hours of excess setup capacity. In this case there will be no need for expansion of capacity with attendant increase in fixed costs. So, the total incomes will increase by Rs. 7,000 if the order is accepted.

Indo Gulf Fertilizers Ltd. supports the concept of the terotechnology or life cycle costing for new investment decisions covering its engineering activities.

The company is to replace a number of its machines and the Production Manager is to run between the “X” machine, a more expensive machine with a life of 12 years, and the “W” machine with an estimated life of 6 years. If the “W” machine chosen it is likely that it would be replaced at the end of 6 years by another “W” machine. The pattern of maintenance and running costs differs between the two types of machine and relevant data are shown below :(Rs.)

**KARPAGAM ACADEMY OF HIGHER EDUCATION**

CLASS: I MCOM CA

COURSE NAME: APPLIED COST ACCOUNTING

COURSE CODE: 17CCP201

UNIT: V

BATCH-2017-2019

Particulars	X	W
Purchase price	19,000	13,000
Trade-in-value	3,000	3,000
Annual repair costs	2,000	2,600
Overhead costs (in 8th & 4th year respectively)	4,000	2,000
Estimated financing costs averaged over machine life (p.a.)	10%	10%

You are required to recommend, with supporting figures, which machine to purchase, stating any assumptions made.

**Solution**

Machine X – Life 12 years

	Year	Cost (Rs.) factor	Discountcost (Rs.)	Discount ed
Purchase price	0	19,000	1.00	19,000
Overhead cost	8	4,000	0.47	1,880
Trade-in-value	12	(3,000)	0.32	(960)
Annual repair cost	1-12	2,000	6.81	13,620
				<b>33,540</b>

Annualized equivalent = Rs. 33,540 / 6.81 = Rs. 4,925

Machine W – Life 6 years

**KARPAGAM ACADEMY OF HIGHER EDUCATION**

CLASS: I MCOM CA

COURSE NAME: APPLIED COST ACCOUNTING

COURSE CODE: 17CCP201

UNIT: V

BATCH-2017-2019

	Year	Cost (Rs.)	Discount factor	Discounted cost (Rs.)
Purchase price	0	13,000	1.00	13,000
Overhead cost	4	2,000	0.68	1,360
Trade-in-value	6	(3,000)	0.56	(1,680)
Annual repair cost	1-6	2,600	4.36	11,336
				<b>24,016</b>

Annualised equivalent = Rs. 24,016 / 4.36 = Rs. 5,508.

Recommendation – Purchase Machine “X”

**Assumptions :**

- (a) Same performance, capacity and speed
- (b) No inflation
- (c) 12 year-estimates are as accurate as 6-years estimates
- (d) Cash flow at the year end.

**Problem**

A factory engaged in manufacturing plastic buckets is working at 40% capacity and produces 10,000 buckets per month. The present cost break-up for one bucket is as under :

Materials	Rs. 20
Labour	Rs. 6
Overheads	Rs. 10 (60% fixed)

The selling price is Rs. 40 per bucket. If it is decided to work the factory at 50% capacity, the selling price falls by 3%. At 90% capacity, the selling price falls by 5% accompanied by a similar fall in the price of materials.



**KARPAGAM ACADEMY OF HIGHER EDUCATION****CLASS: I MCOM CA****COURSE NAME: APPLIED COST ACCOUNTING****COURSE CODE: 17CCP201****UNIT: V****BATCH-2017-2019**

Capacity level	40% Present	50%	90 %
Production and sales (units)	10,000	12,500	22,500
Selling price (Rs.)	40.00	38.80	38.00
Sales (a)	4,00,000	4,85,000	8,55,000
Variable cost			
Materials @ Rs. 20 for 40% & 50%, @ 19 for 90%	2,00,000	2,50,000	4,27,500
Labour @ Rs. 6	60,000	75,000	1,35,000
Variable overheads (Rs. 10 × 40/100)	40,000	50,000	90,000
Total (b)	3,00,000	3,75,000	6,52,500
Contribution (a) – (b)	1,00,000	1,10,000	2,02,500
Less : Fixed overheads @ (Rs. 10 × 60/100 × 10,000 units)	60,000	60,000	60,000
Profit	40,000	50,000	1,42,500
Contribution per unit	10.00	8.80	9.00
Break even point (units) =	6,000	6,818	6,677

You  
are

required to prepare a statement showing the profits at 50% and 90% capacities and also determine the break-even points at each of these production levels.

(b) What is target costing and what are the stages to the methodology?

**Solution. (b)**

Target costing is defined 'as a cost management tool for reducing the overall cost of a product over its entire life cycle with the help of the production, engineering, R&D.'

The target cost is the estimated cost of a product that enables a company to remain and compete in the market in the long run. The idea of target costing, originally promoted in Japan, is about going upstream to achieve cost reduction. Target costing is not really a method of costing, but it is a technique used in cost management. The intent of target costing is to reduce cost, where reduction is aimed at the entire life cycle of any product. Target costing can also help in achieving certain broader objectives, such as, identifying and delivering various customer requirements in a product through effective management of different processes.

A firm's business plan and product market strategies provide the framework and basic guidelines for applying the target costing methodology. Specific steps involved in target

costing may be summarized as follows :

- Determine customer wants precisely.
- Translate them into desired product performance feature.
- Estimate the proportion of value added by each feature and component.
- Choose a product design assures a targeted profit, and cost targets for each component in total.
- Choose manufacturing design that assure targeted costs.
- Choose suppliers that assure buying at targeted costs.
- After each cost review, conduct value engineering to reduce target costs.
- Monitor initial production to be sure that all product performance, cost, profit, targets are met.

### **POSSIBLE QUESTIONS**

#### **PART A (ONE MARKS – ONLINE EXAMINATION)**

#### **PART B (2 MARKS)**

1. What is 'Activity Based Costing'?
2. Define - Target costing.
3. What is Life Cycle Costing?
4. Write any two benefits of Life Cycle Costing.
5. Write any two benefits of Activity Based Costing.
6. Write any two Characteristics of Target Costing.
7. State the importance of Life Cycle Costing?
8. Write about the draw back of Conventional Costing.
9. State the principles of Target Costing.
10. State about any two demerits of Activity Based Costing.

**PART - B (5X6=30 MARKS)****ANSWER THE FOLLOWING QUESTION**

1. What is target costing and what are the stages to the methodology?
2. XYZ Ltd having idle capacity received an offer to sell 2000 units of one of its product to a new customer in a geographic region not normally serviced by the company.

The offering price is Rs.10 per unit. The product normally sells for Rs.14. The activity based accounting system provides the following information:

	Cost Driver	Unused Capacity	Quantity Demanded	Activity Rate (Rs)	
				Fixed	Variable
Direct Materials	Units	0	2,000	—	3.00
Direct Labour	Direct Labour hours	0	400	—	7.00
Set-ups	Set-up hours	0	25	50.00	8.00
Machining	Machine hours	6,000	4,000	4.00	1.00

Although the fixed activity rate for set-ups is Rs.25 per hour, any expansion of this resource must be acquired in blocks. The unit of purchase for set-ups is 100 hours of set-up servicing. Thus, any expansion of set-up activity must be done 100 hours at a time. The price per hour is the fixed activity rate.

Compute the change in income for XYZ Ltd. if the order accepted. Comment on whether the order should be accepted or not.

3. What is life Cycle Costing? Explain the stages in product life cycle?
4. Indo Gulf Fertilizers Ltd. supports the concept of the life cycle costing for new investment decisions covering its engineering activities.

The company is to replace a number of its machines and the Production Manager is to run between the “X” machine, a more expensive machine with a life of 12 years, and the “W” machine with an estimated life of 6 years. If the “W” machine chosen it is likely that it would be replaced at the end of 6 years by another “W” machine. The pattern of maintenance and running costs differs between the two types of machine and relevant data are shown below:

**KARPAGAM ACADEMY OF HIGHER EDUCATION****CLASS: I MCOM CA****COURSE NAME: APPLIED COST ACCOUNTING****COURSE CODE: 17CCP201****UNIT: V****BATCH-2017-2019**

Particulars	X (Rs.)	W (Rs.)
Purchase price	19,000	13,000
Trade-in-value	3,000	3,000
Annual repair costs	2,000	2,600
Overhead costs (in 8th & 4th year respectively)	4,000	2,000
Estimated financing costs averaged over machine life (p.a.)	10%	10%

You are required to recommend, with supporting figures, which machine to purchase, stating any assumptions made.

5. What do you mean by activity-based costing? Give its advantages.
6. What is life Cycle Costing? Explain the stages in product life cycle?
7. What is target costing and what are the stages to the methodology?
8. Indo Gulf Fertilizers Ltd. supports the concept of the life cycle costing for new investment decisions covering its engineering activities.

The company is to replace a number of its machines and the Production Manager is to run between the “X” machine, a more expensive machine with a life of 12 years, and the “W” machine with an estimated life of 6 years. If the “W” machine chosen it is likely that it would be replaced at the end of 6 years by another “W” machine. The pattern of maintenance and running costs differs between the two types of machine and relevant data are shown below:

Particulars	X(Rs.)	W(Rs.)
Purchase price	19,000	13,000
Trade-in-value	3,000	3,000
Annual repair costs	2,000	2,600
Overhead costs (in 8th & 4th year respectively)	4,000	2,000
Estimated financing costs averaged over machine life (p.a.)	10%	10%

You are required to recommend, with supporting figures, which machine to purchase, stating any assumptions made.

9. What is life Cycle Costing? Explain the stages in product life cycle?
10. XYZ Ltd having idle capacity received an offer to sell 2000 units of one of its product to a new customer in a geographic region not normally serviced by the company. The

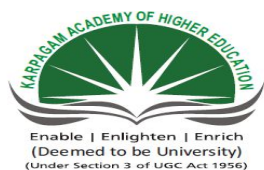
**KARPAGAM ACADEMY OF HIGHER EDUCATION****CLASS: I MCOM CA****COURSE NAME: APPLIED COST ACCOUNTING****COURSE CODE: 17CCP201****UNIT: V****BATCH-2017-2019**

offering price is Rs.10 per unit. The product normally sells for Rs.14. The activity based accounting system provides the following information:

	Cost Driver	Unused Capacity	Quantity Demanded	Activity Rate (Rs)	
				Fixed	Variable
Direct Materials	Units	0	2,000	—	3.00
Direct Labour	Direct Labour hours	0	400	—	7.00
Set-ups	Set-up hours	0	25	50.00	8.00
Machining	Machine hours	6,000	4,000	4.00	1.00

Although the fixed activity rate for set-ups is Rs.25 per hour, any expansion of this resource must be acquired in blocks. The unit of purchase for set-ups is 100 hours of set-up servicing. Thus, any expansion of set-up activity must be done 100 hours at a time. The price per hour is the fixed activity rate.

Compute the change in income for XYZ Ltd. if the order accepted. Comment on whether the order should be accepted or not.



**KARPAGAM ACADEMY OF HIGHER EDUCATION**  
**(Deemed to be University Established Under section 3 of the UGC Act, 1956), Coimbatore.**

**Department of Commerce**  
**APPLIED COST ACCOUNTING (17CCP201)**  
**Multiple Choice Questions - Online Examination**  
**UNIT - V**

Question	Option - I	Option - II	Option - III	Option - IV	Answer
ABC is a method of allocating costs to-----	Products	services	products services	none	<b>products services</b>
Target Cost =	Target Price—Target profit	Target Price +Target profit	Target profit	none	<b>Target Price—Target profit</b>
Life cycle cost is the -----	total cost of ownership	management	Target Cost	none	<b>total cost of ownership</b>
-----wants to minimize capital costs as the only criteria,	Project Engineering	Maintenance Engineering	Reliability Engineering	none	<b>Project Engineering</b>
----- wants to minimize repair hours as the only criteria	Maintenance Engineering	Project Engineering	Maintenance Engineering	Reliability Engineering	<b>Maintenance Engineering</b>
Implementation of Activity Based Costing	Resources	cost	products	services	<b>Resources</b>
ABC is applicable throughout -----	Company financing	costing	accounting	none	<b>Company financing</b>

ABC is a -----.	Special costing model	costing model	product model	none	<b>Special costing model</b>
The value chain enablers	the supplier's	distributor's	service providers	all the above	<b>all the above</b>
product costs are irrelevant under ----- --	target costing	LCC	ABC	none	<b>target costing</b>
Excessive amount of scrap shows _____	efficiency	inefficiency	none of the above	scrap	<b>none of the above</b>
Target costing is defined as the----- --	cost management tool	cost tool	management tool	none	<b>cost management tool</b>
Manufacturing costs are driven primarily by the characteristics of the	products	services	products and services	none	<b>products</b>
Target costing-----	Design and production stages	design stage	production stage	none	<b>Design and production stages</b>
Total life-cycle costs which includes _____.	purchase price	operating costs	maintenance and distribution costs	all the above	<b>all the above</b>
Simple – estimates the relationship between the dependent variable and ---- ----- independent variable _____.	One	two	one and two	none	<b>One</b>
Life Cycle Costing adds _____.	All the costs of alternatives	one cost	three cost alternatives	none	<b>All the costs of alternatives</b>

Kaizen costing is the maintenance of present levels for-----.	products	services	variable expenses	none	<b>products</b>
_____ is clause in contract agreement	Cost + contract	Escalation clause	Retention money	Unit Contract	<b>Escalation clause</b>
if work completed _____ of the contract price is taken to profit and loss account	one fourth	two fourth	three fourth	one fifth	<b>one fourth</b>
_____ contracts such as constructions of bridges, theatres and hospitals takes a long time to complete	Large	small	medium	Very small	<b>Large</b>
operating costing is also called _____	Process	Job costing	Contract costing	Service costing	<b>Service Costing</b>
_____ is a method of costing applied to ascertain the cost of providing a service	Operating Costing	Job costing	Contract costing	Service costing	<b>Operating Costing</b>
_____ type of costing used in transport services	Operating Costing	Job costing	Contract costing	Service costing	<b>Operating Costing</b>
Service rendered in the same organisation is known as _____	Internal Service	External Service	Both	Costing Service	<b>Internal Service</b>
_____ percent is calculated by dividing the total cost by number of service units produced or rendered	Operating Costing	Job costing	Contract costing	Service costing	<b>Operating Costing</b>
A proper cost unit must be selected in order to ascertain the _____ unit of services	Cost	Demand	Sales	Supply	<b>Cost</b>



other name of service costing	Operating Costing	Job costing	Contract costing	Service costing	<b>Operating Costing</b>
industries using _____ costing do not produce goods but render service	Operating Costing	Job costing	Contract costing	Service costing	<b>Operating Costing</b>
service rendered to the customers is known as	Internal Service	External Service	Both	Costing Service	<b>external service</b>
Example sof external services _____	Hospital	Manufacttuting industry	service outlet	distributors	<b>Hospitals</b>
In _____ case only one variable is taken	Simple cost unit	composite cost unit	Multiple cost unit	single cost unit	<b>simple cost unit</b>
in _____ case more than one variabke is combined	Composite costing	multiple costing	single unit costing	opertaing costing	<b>composite costing</b>
the basic problem in _____ costing is the selection of cost unit	Composite costing	multiple costing	single unit costing	opertaing costing	<b>Operating Costing</b>
_____ changes are incurred weather the vechicle is running or not	Standing Charges	operating charges	maintenance charges	variable charges	<b>standing charges</b>
in Standing charges variables are _____ in nature	Fixed	Variable	Semivariable	Changed	<b>Fixed</b>
_____ is one of the example of standing charge	Rent	Salary	Fuel	Power	<b>Rent</b>

_____ expenses variable in nature	Standing Charges	operating charges	maintenance charges	variable charges	<b>opering charges</b>
_____ is an example of operating charge	Pertol/ diesel	annual tax	Insurance	Rent	<b>Petrol/Diesel</b>
_____ charges are semi variable in nature	Standing Charges	operating charges	maintenance charges	variable charges	<b>maintenance charges</b>
_____ is an example of maintenance charge	Repairs	Depreciation	Wages	Annual Tax	<b>Repairs</b>
Garrage rent will occur in _____	Fixed cost	Variable Cost	Maintenance Cost	Operating Cost	<b>Fixed Cost</b>
Wages of operators will incur in _____ cost	Fixed cost	Variable Cost	Maintenance Cost	Operating Cost	<b>Operating Cost</b>
Methodology of ABC focuses on in operational management	cost allocation	absorption	apportionment	Allocation	<b>cost allocation</b>
ABC helps to find unnecessary costs that may be	Eliminated	included	identify	fixing	<b>Eliminated</b>
Determine ----- (work performed) that are supported by Resources	Activities	Resources	fixing	identify	<b>Activities</b>

LCC analysis can be used to assist management in the	Decision-making process	making process	Analysis	production	<b>Decision-making process</b>
Target costing, in both the	Design and production stages	Design stages	production stages	Process	<b>Design and production stages</b>
Depreciation will incur in _____ cost	Fixed cost	Variable Cost	Maintenance Cost	Operating Cost	<b>Operating Cost</b>
tyres and tube cost will appear in _____	Fixed cost	Variable Cost	Maintenance Cost	Operating Cost	<b>Maintenance cost</b>
repair cost will appear in _____	Fixed cost	Variable Cost	Maintenance Cost	Operating Cost	<b>Maintenance cost</b>
Tax and insurance will occur in _____	Fixed cost	Variable Cost	Maintenance Cost	Operating Cost	<b>Fixed Cost</b>
general supervision will occur in _____	Fixed cost	Variable Cost	Maintenance Cost	Operating Cost	<b>Fixed Cost</b>
Painting Cost will appear in _____	Fixed cost	Variable Cost	Maintenance Cost	Operating Cost	<b>Maintenance cost</b>
Pertol, oil, grease Cost will incurr in	Fixed cost	Variable Cost	Maintenance Cost	Operating Cost	<b>Operating Cost</b>
_____ costing is generally for long duartion	Job costing	Process costing	unit costing	Contract Costing	<b>contract costing</b>

the contract price is paid in _____ depending on the process of work	monthly	annually	installments	quaterly	<b>Installments</b>
Each contract is treated as a _____ unit	Cost	Sales	Purchase	Supply	<b>Cost</b>
All cost are accumulated and ascertained for _____ contract	All	Each	Single	Multiple	<b>All</b>
_____ is an important economic analysis used in the selection of alternatives that impact both pending and future costs.	Job Costing	Process costing	Life Cycle Costing	unit costing	<b>Life Cycle Costing</b>

Register No.: .....

[17CMP201 & 17CCP201]

**KARPAGAM ACADEMY OF HIGHER EDUCATION**  
**(Deemed University Established Under Section 3 of UGC Act 1956)**  
**COIMBATORE – 641021**

**(For the candidates admitted from 2015 onwards)**  
**I M.Com & I M.Com (CA) – SIXTH SEMESTER**  
**FIRST INTERNAL EXAMINATION – JANUARY 2018**  
**APPLIED COST ACCOUNTING**

**Time : 2 Hours**

**Maximum: 50 Marks**

**Date : 18/01/2018**

**PART – A (20\*1 = 20 Marks)**

**Multiple Choice Questions**

1. Costing is a technique of \_\_\_\_\_  
a) Ascertainment of cost    b) analyzing of cost    c) utilization of cost    d) cost reduction
2. Direct Cost are known as \_\_\_\_\_  
a) Work Cost    b) Cost of Production    c) Cost of Sales    d) Prime Cost
3. The costing system should provide for periodic \_\_\_\_\_ of cost accounts and financial accounts  
a) summarising    b) analysing    c)reconciliation    d) recording
4. ----- is important part of management accounting  
a) Budgeting    b) Fixing standards    c) Inventory control    d) Interpretation of data
5. \_\_\_\_\_ is the sales overhead  
a) Office salaries    b) Advertisement expenses  
c) Factory rent    d) Indirect material
6. \_\_\_\_\_ cost refers to converting of raw material into partly finished goods  
a) conversion cost    b) product cost    c) period cost    d) revenue cost

7. \_\_\_\_\_ Expenses incurred for running the administrative office
- a) administrative                      b) selling                      c) work overhead                      d) direct overhead
8. Cost accounting is a separate \_\_\_\_\_ of accounting.
- a) No branch                      b) Branch                      c) Batch                      d) No Batch
9. \_\_\_\_\_ is ascertainment of cost after they have been incurred.
- a) Marginal costing                      b) Historical costing                      c) Direct costing                      d) Indirect costing
10. \_\_\_\_\_ Cost is partly fixed and partly variable
- a) fixed                      b) variable                      c) semivariable                      d) Keep on changing
11. \_\_\_\_\_ ensures upto date maintenance of stock records
- a) control                      b) usage                      c) material control                      d) wastage
12. Inventory means \_\_\_\_\_
- a) Stock                      b) Material                      c) Stores                      d) Sales
13. BIN card is maintained by \_\_\_\_\_
- a) Storekeeper                      b) Accountant                      c) Auditor                      d) Supervisor
14. \_\_\_\_\_ Method in which materials are issued in order in which they are received in the store
- a) FIFO                      b) LIFO                      c) HIFO                      d) LFIO
15. \_\_\_\_\_ method materials received last are issued first
- a) FIFO                      b) LIFO                      c) FFFO                      d) LFIO
16. Anything which has no value is considered to be \_\_\_\_\_
- a) Wastage                      b) Scarp                      c) Spoilage                      d) materials
17. \_\_\_\_\_ is sold without further treatment are used as raw material for another process
- a) Wastage                      b) Scarp                      c) Spoilage                      d) materials
18. Wage sheets is prepared by-----
- a) Production                      b) Purchase                      c) Sales                      d) Pay roll

a) Two                                  b) Three                                  c) Four                                  d) Five

20. \_\_\_\_\_ is a document which authorises and records the issues of materials for use

a) Material Requisition Note              b) Material transfer note

c) BIN card                                  d) Bill of material

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

You are to ascertain (i) Cost of Raw Materials used, (ii) Cost of output for the period, (iii) Cost of Sales, (iv) Net Profit for the period and (v) Net profit per ton of the commodity.

(or)

b) Define Cost Accounting and Management Accounting. How Cost Accounting differs from Management Accounting ?

25.a) The “Received” side of the Stores Ledger Account shows the following particulars:

Jan. 1	Opening balance	500 units @ Rs.4
Jan. 5	Received from vendor:	200 units @ Rs. 4.25
Jan.12	Received from vendor:	150units @ Rs. 4.10
Jan.20	Received from vendor:	300 units @ Rs. 4.50
Jan.25	Received from vendor:	400 units @ Rs. 4.00

Issues of material were as follows:

Jan. 4 – 200 units: Jan.10- 400 units: Jan 15 -100 units; Jan.19- 100 units: Jan.26-200 units; Jan. 30- 250 units.

Issues are to be priced on the principle of “FIFO”. Write out the Stores Ledger Account in respect of the materials for the month of January.

b) The following particulars have been extracted in respect of Material X. Prepare Ledger account showing the receipts and issues, pricing the materials issued on the basis of Simple Average and Weighted Average Method.

#### **Receipts**

3 <sup>rd</sup> Oct.	Purchased 500 units @ Rs. 4.00 per unit
13 <sup>th</sup> Oct.	Purchased 900 units @ Rs. 4.30 per unit
23 <sup>rd</sup> Oct.	Purchased 600 units @ Rs. 3.80 per unit

#### **Issues**

5 <sup>th</sup> Oct.	Issued 400 units
15 <sup>th</sup> Oct.	Issued 600 units
25 <sup>th</sup> Oct.	Issued 600 units.

26.a) Explain the meaning of absorption of overheads. Describe the various methods of absorption of factory overheads.

b) The Sumithra Company has five departments P, Q, R, S are producing departments and T is a service department. The actual costs for a period are as follows :

<b>Particulars</b>	<b>Rs.</b>
Repairs to plant	1,200
Rent	1,000
Depreciation	1,200



Supervision	4,000
Insurance	1,500
Employer's Liability of employees Insurance	600
Light	1,800

The following data are also available in respect of the five departments :

<b>Particulars</b>	<b>Dept. P</b>	<b>Dept. Q</b>	<b>Dept. R</b>	<b>Dept. S</b>	<b>Dept. T</b>
Area Sq. Ft.	140	120	110	90	40
No. of workers	25	20	10	10	5
Total Wages	Rs. 10,000	Rs. 8,000	Rs. 5,000	Rs. 5,000	Rs. 2,000
Value of Plant	Rs. 20,000	Rs. 18,000	Rs. 16,000	Rs. 10,000	Rs. 6,000
Value of Stock	Rs. 15,000	Rs. 10,000	Rs. 5,000	Rs. 2,000	-

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

**KARPAGAM ACADEMY OF HIGHER EDUCATION**  
(Deemed to be University Established Under Section 3 of UGC Act, 1956)  
**COIMBATORE- 641021**  
(For the candidates admitted from 2017 onwards)  
**M.Com & M.Com CA - SECOND SEMESTER**  
**SECOND INTERNAL EXAMINATION – MARCH 2018**  
**APPLIED COST ACCOUNTING**

**Time : 2 HOURS**  
**Date : 19.03.2018**

**Maximum: 60 Marks**

**PART – A (20 X 1 =20 MARKS)**  
**Multiple Choice Questions**

1. \_\_\_\_\_ is the process of grouping of cost according to their common characteristics
  - a. Cost Classification
  - b. Cost Allocation
  - c. Cost Apportionment
  - d. Cost absorption
2. \_\_\_\_\_ absorption means that the overhead absorbed in production are more than that of actual overhead
  - a. under
  - b. Over
  - c. Variable
  - d. Fixed
3. ABC means \_\_\_\_\_
  - a. always better control
  - b. always best cost
  - c. analysis of best cost
  - d. always best cost
4. Canteen expenses is apportionmet based on
  - a. No. of Employees
  - b. value of plant
  - c. value of stock
  - d. value of materials
5. \_\_\_\_\_ is a method of costing to findout the cost of a product at a each stage or process of production
  - a. Process costing
  - b. Job costing
  - c. Unit costing
  - d. Contract costing
6. \_\_\_\_\_ are collected for each process and debited to the process account
  - a. Overheads
  - b. Direct wages
  - c. Direct labour
  - d. Indirect wages
7. \_\_\_\_\_ can be estimated in advance
  - a. Abnormal Loss
  - b. Normal Loss
  - c. Avoidable Loss
  - d. Unavoidable loss
8. Inter process profit is the difference between transfer price and \_\_\_\_\_
  - a. unit price
  - b. cost price
  - c. abnormal price
  - d. normal price

9. The cost data provided by job costing helps in \_\_\_\_\_
- Planning
  - Cost control
  - Cost Reduction
  - Decision making
10. Value of closing stock of \_\_\_\_\_ is considered as zero for the purpose of balance sheet
- Substitute
  - Joint
  - By product
  - Related product
11. Inter process profit is the difference between transfer price and \_\_\_\_\_
- unit price
  - cost price
  - abnormal price
  - normal price
12. \_\_\_\_\_ expenses are incurred for setting the by products
- selling & distribution
  - production
  - purchase
  - raw material expenses
13. Life Cycle Costing adds \_\_\_\_\_.
- All the costs of alternatives
  - one cost
  - three cost alternatives
  - none
14. Product costs are irrelevant under -----
- target costing
  - LCC
  - ABC
  - none
15. Implementation of Activity Based Costing
- Resources
  - Cost
  - Products
  - Services
16. -----wants to minimize capital costs as the only criteria.
- Project Engineering
  - Maintenance Engineering
  - Reliability Engineering
  - none
17. Example of external services \_\_\_\_\_
- hospital
  - manufacturing industry
  - service outlet
  - distributors
18. Service rendered in the same organization is known as \_\_\_\_\_
- Internal Service
  - External Service
  - Both Costing Service
  - None
19. In \_\_\_\_\_ case more than one variable is combined
- composite costing
  - multiple costing
  - single unit costing
  - operating costing
20. Industries using \_\_\_\_\_ costing do not produce goods but render service
- Operating Costing
  - Job costing
  - Contract costing
  - Service costing

**PART – B (3X 2 =6 MARKS)**

21. Write a short note on 'Manufacturing Overheads'.

22. Define – Process Costing.

23. What is Target Costing?

**PART – C (3X 8 =24 MARKS)**

24.a. How does Activity Based Costing differs from Traditional Costing?

(or)

b. An engineering firm has three departments. The budgeted expenses for the current year are :

Particulars	Dept. A (Rs.)	Dept. B (Rs.)	Dept. C (Rs.)
Materials	1,00,000	1,00,000	79,700
Direct Wages	1,36,640	87,840	79,300
Direct Expenses	1,760	2,280	900
Works Expenses	97,600	65,880	61,100
Administration Expenses	26,880	25,600	19,890
Direct Labour Hours	78,080	57,645	48,880

Works expenses are charged to output at a man-hour rate and administration expenses as a percentage on works cost.

Compute man-hour rate and percentage of administration overhead on works cost.

25.a. The product of a company passes through three distinct process. The following information is obtained from the accounts for the month ending January 31, 2016.

Particulars	Process – A	Process – B	Process – C
Direct Material	7800	5940	8886
Direct Wages	6000	9000	12000
Production Overheads	6000	9000	12000

3000 units @ Rs.3 each were introduced to process – I. There was no stock of materials or work in progress. The output of each process passes directly to the next process and finally to finished stock A/c.

The following additional data is obtained:

Process	Output	Percentage of Normal Loss to Input	Value of Scrap per Unit (Rs.)
Process – I	2,850	5 %	2
Process – II	2,520	10 %	4
Process – III	2,250	15 %	5

Prepare Process Cost Account and Abnormal Gain or Loss Account.

(or)

- b. A product passes through two distinct processes, A and B and thereafter to finished stock.

From the following information, you are required to prepare Process Cost Account

	<b>Process A</b>	<b>Process B</b>
Materials Consumed	Rs. 12,000	Rs. 6,000
Direct Labour	Rs. 14,000	Rs. 8,000
Manufacturing expenses	Rs. 4,000	Rs. 4,000
Input in Process 'A' (units)	10,000	
Input in Process 'A' (Value)	Rs. 10,000	-
Output (units)	9,400	units 8,300
Normal Wastage	5 %	10 %
Value of Normal Wastage (per 100 units)	Rs. 8	Rs. 10

- 26.a. Discuss the advantages and disadvantages of Activity Based Costing.

(or)

- b. Indo Gulf Fertilizers Ltd. supports the concept of the life cycle costing for new investment decisions covering its engineering activities.

The company is to replace a number of its machines and the Production Manager is to run between the "X" machine, a more expensive machine with a life of 12 years, and the "W" machine with an estimated life of 6 years. If the "W" machine chosen it is likely that it would be replaced at the end of 6 years by another "W" machine. The pattern of maintenance and running costs differs between the two types of machine and relevant data are shown below:

<b>Particulars</b>	<b>X (Rs.)</b>	<b>W (Rs.)</b>
Purchase price	19,000	13,000
Trade-in-value	3,000	3,000
Annual repair costs	2,000	2,600
Overhead costs (in 8th & 4th year respectively)	4,000	2,000
Estimated financing costs averaged over machine life (p.a.)	10%	10%

You are required to recommend, with supporting figures, which machine to purchase, stating any assumptions made.

Register No.: \_\_\_\_\_  
[17CMP201 / 17CCP201]

**KARPAGAM ACADEMY OF HIGHER EDUCATION**  
(Deemed to be University Established Under Section 3 of UGC Act, 1956)  
**COIMBATORE- 641021**  
(For the candidates admitted from 2017 onwards)  
**M.Com & M.Com CA - SECOND SEMESTER**  
**SECOND INTERNAL EXAMINATION – MARCH 2018**  
**APPLIED COST ACCOUNTING**

**Time : 2 HOURS**

**Maximum: 60 Marks**

**Date :**

**PART – A (20 X 1 =20 MARKS)**  
**Multiple Choice Questions**

1. Cost Classification
2. Over
3. always better control
4. No.of Employees
5. Process costing
6. Overheads
7. Abnormal
8. unit price
9. Planning
10. By product
11. unit price
12. selling& distribution
13. All the costs of alternatives
14. target costing
15. Resources
16. Project Engineering
17. hospital
18. Internal Service
19. composite costing
20. Operating Costing

**PART – B(3 X 2 =6 MARKS)**

**21.Manufacturing Overheads:**

Manufacturing overhead (also referred to as factory overhead, factory burden, and manufacturing support costs) refers to indirect factory-related costs that are incurred when a product is manufactured.

**22.Process Costing**

Process costing is a method of costing under which all costs are accumulated for each stage of production or process, and the cost per unit of product is ascertained at each stage of production by dividing the cost of each process by the normal output of that process.

**23.Target Costing**

Target cost means an estimation of total cost to win in the competition in terms of quality, cost and productivity. It is not a method or technique of costing. But, it is a management technique used to survive under the increasing competitive environment.

**PART – C (3X 8 =24 MARKS)**

**24.a. Activity Based Costing Differs from Traditional Costing**

Activity based costing system is used to determine product costs for special management reports. This system is ordinarily used as a supplement to the company's usual costing system. Most organizations that use ABC system have two costing systems - the official costing system that is used for preparing external financial reports and the activity based costing system that is used for internal decision making and for managing activities.

In traditional cost accounting systems, the objective is to value inventories and cost of goods sold for external financial reports in accordance with the generally accepted accounting principles (GAAP). In activity based costing (ABC) system the objective is to understand overhead and the profitability of products and customers and to manage overhead. As a consequence of these differences in objectives, "best practice" activity based costing system differs in a number of ways from traditional cost accounting.

**24. man-hour rate and percentage of administration overhead on works cost is**

For Dept A – 1.25%

For Dept B – 1.14%

For Dept C – 1.25%

25. Process A A/c – Output transferred to B – Units 9400 ; Amount - Rs.39,539

Process B A/c – Output transferred to Finished Stock – Units 8300 ; Amount - Rs.56,766.

26. i. The total cost is divided into two types i.e. fixed cost and variable cost which is necessary to provide quality information to design a suitable cost system in a manufacturing concern.
- ii. The proper distinction is made between the cost behavior patterns.
- iii. The cost behavior patterns are volume related, diversity related, events related and time related.
- iv. The appropriate cost driver has to be identified for tracing the overhead to a product.
- v. The cost drivers dictate the cost behavior pattern.

26. Annualized equivalent =  $\text{Rs. } 33,540 / 6.81 = \text{Rs. } 4,925$

Machine W – Life 6 years

Annualised equivalent =  $\text{Rs. } 24,016 / 4.36 = \text{Rs. } 5,508$ .

Recommendation – Purchase Machine “X”

**Assumptions :**

- (a) Same performance, capacity and speed
- (b) No inflation
- (c) 12 year-estimates are as accurate as 6-years estimates
- (d) Cash flow at the year end.