



KARPAGAM ACADEMY OF HIGHER EDUCATION

(Deemed to be University)

(Established under section 3 of UGC Act 1956)

Coimbatore-641021

DEPARTMENT OF MANAGEMENT

Subject: **Management Accounting**

Semester: **III**

Subject Code: **17BAU302**

Class- II BBA

SCOPE

Management Accounting represents the nature and scope of management accounting, difference between cost and management accounting and various elements of cost. This paper provides a brief overview in marginal costing, budgetary control, cash flow and fund flow statement.

OBJECTIVES

- To make the students understand the concepts of cost and management accounting
- To Impart the students knowledge in financial statement analysis and budget preparations

UNIT I

Management Accounting - Meaning - Definition - Nature - Scope of Management Accounting - Comparison of Management Accounting with Cost Accounting and Financial Accounting. Cost concepts - Meaning - Scope - Objectives - Importance of Cost Accounting - Cost - Costing - Cost Control, and Cost Reduction - Elements of Cost - Components of total Cost - Classification of Costs - Fixed Variable - Semi Variable - Step Costs - Product - Period Costs - Direct - Indirect Costs - Preparation of Cost Sheet in Lieu with Cost Accounting Standard.

UNIT II

Cost Volume Profit Analysis - Contribution - Profit Volume Ratio - Margin of safety - Cost Break-even Point - Composite Break-even Point - Cash Break-even Point - Key Factor - Break-even Analysis - Relevant Costs - Decision Making - Pricing - Product Profitability - Make or Buy - Exploring new markets - Export Order - Sell or Process Further - Shut down Vs. Continue.

UNIT III

Budgets and Budgetary Control - Meaning - Types of Budgets - Steps in Budgetary Control - Fixed and Flexible Budgeting - Cash Budget - Responsibility Accounting - Concept - Significance - Different responsibility centers - Divisional performance - Financial measures - Transfer pricing.

UNIT IV

Standard Costing and Variance Analysis - Meaning of Standard Cost - Standard Costing, Advantages - Limitations and Applications - Material - Labour - Overhead and Sales variances. Introduction to Target Costing - Life Cycle Costing - Quality Costing - Activity Based Costing.

UNIT V

Funds Flow Statement - Schedule of Changes in Working Capital - Calculation of Funds from Operation - Sources and Applications of Funds. Cash Flow Statement - Cash from Operation -Inflow and Outflow of Funds.

Note: Distribution of marks between problems and theory shall be 80% and 20%.

SUGGESTED READINGS:

TEXT BOOKS

1. Maheswari, S.N. (2017). *Management Accounting*. New Delhi: Sultan Chand & Sons.

REFERENCES

1. Horngren, C.T., Gary, L., Sundem, Jeff, O., Schatzberg, & Dave Burgstahler. (2016). *Introduction to Management Accounting*, (10th ed.). New Delhi: Pearson Prentice Hall.
2. Arora, M.N. (2015). *A Textbook of Cost and Management Accounting* (8th ed.). New Delhi: Vikas Publishing House Pvt Ltd.
3. Khan, M.Y., & Jain, P.K. (2016). *Management Accounting: Text Problems and Cases* (6th ed.). Mumbai: Tata McGraw-Hill Education.
4. Maheshwari, S.N., & Maheshwari, S.K. (2017). *A Textbook of Accounting for Management* (1st ed.). New Delhi: Vikas Publishing House Pvt. Limited.



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Department of Management

Name: **Dr. V.KRISHNAVENI**

Department: **Management**

Subject Code: **17BAU302**

Semester: **V**

Year: **2017-20 Batch**

Subject: **MANAGEMENT ACCOUNTING - Lesson Plan**

UNIT 1			
S.No	Lecture Hours	Contents	References
1	1	Management Accounting – Meaning, Definition, Nature	R1 : Page No : I.3– I.6
2	1	Scope of Management Accounting	R1 :Page No : I.7 – I.12, W1
3	1	Management Accounting Vs Financial Accounting	R1 : Page No : I.13 – I.17
4	1	Management Accounting Vs Cost Accounting	R1 : Page No : 1.20 – 1.23
5	1	Tutorial : Cost Accounting – Meaning, Definition, Scope	R1 : Page No : 1.31 – 1.33
6	1	Objectives of Cost Accounting	T : D.9 – D.11
7	1	Importance of Cost Accounting	T : D.12 – D.13
8	1	Cost Control and Cost Reduction	T : D.14 – D.16
9	1	Elements of Cost – Material, Labour	T : D.21 – D.24
10	1	Elements of Cost – Overheads - Tutorial	T : D.24 – D.26
11	1	Computation of Total Cost - Fixed cost, Variable cost	T : D.26 – D.27
12	1	Computation of Total Cost - Semi Variable cost	T : D.27 – D.28
13	1	Computation of Total Cost - Step cost	T : D.28 – D.29
14	1	Computation of Total Cost –Product cost	T : D.29 – D.30
15	1	Tutorial : Computation of Total Cost – Direct cost, Indirect cost	T : D.30 – D.32
16	1	Preparation of Statement of Cost	T : D.33 – D.34, W1;
17	1	Preparation of Statement of Cost	T : D.35 – D.36
18	1	Preparation of Statement of Cost	T : D.37 – D.40

19	1	Recapitulation and discussion of important Questions	-
UNIT 2			
1	1	Marginal Costing – Meaning, Definition, Features	R2 : 8.1 – 8.3
2	1	Marginal Costing – Assumptions, Merits, Demerits	R2 : 8.4 – 8.7
3	1	Marginal Cost Statement, Contribution, Marginal Cost Equation, Profit/Volume Ratio	R2 : 8.8– 8.10
4	1	Cost-Volume Profit analysis	R2 : 8.12 – 8.17
5	1	Break Even Analysis, Break Even Point, Cash Break Even Point - Tutorial	R2 : 8.18 – 8.23: W2 :
6	1	Advantages and Limitations of Break Even Point	R2 : 8.24 – 8.27
7	1	Margin of Safety, Angle of Incidence	R2 : 8.29 – 8.34
8	1	Calculation of Contribution, P/V ratio	T : C.178 – C.179
9	1	Calculation of Break Even Point, Margin of Safety	T : C.179 – C.181
10	1	Tutorial : Managerial Application of marginal Costing	T : C.182 – C.183
11	1	Pricing Decisions	T : C.183 – C.185
12	1	Profit Planning and maintaining a desired level of profit	T : C.186 – C.187
13	1	Make or Buy Decision	T : C.188 – C.189
14	1	Problems of Key or limiting factor	T : C.189 – C.191
15	1	Tutorial : Selection of a suitable or profitable sales mix	T : C.191 – C.192
16	1	Effect of changes in sales price Alternate methods of production	T : C.192 – C.193
17	1	Determination of optimum level of activity	T : C.194 – C.196
18	1	Evaluation of performance, Capital Investment decisions	T : C.197 – C.204
19	1	Recapitulation and discussion of important Questions	-
Total Number of hours planned for Unit 2			19
UNIT 3			
1	1	Budget – Meaning, Definition	R2 : 10.1 – 10.3
2	1	Budgetary Control – Meaning, Nature, Objectives	R2 : 10.4 – 10.6 : W3 :
3	1	Essentials and Objectives of Budgetary Control	R2 : 10.6 – 10.10
4	1	Characteristics of good budgeting	R2 : 10.11 – 10.13

5	1	Tutorial : Advantages and Limitations of Budgetary Control	R2 : 10.14 – 10.20
6	1	Classification and Types of Budget	T : C.6 – C.7
7	1	Operating and financial Budget	T : C.8 – C.10
8	1	Fixed and Flexible Budget	T : C.11 – C.14
9	1	Sales Budget	T : C.15 – C.17
10	1	Production budget - Tutorial	T : C.18 – C.21
11	1	Cash Budget	T : C.22– C.27
12	1	Master Budget , Zero Base Budgeting	T : C.28 – C.31
13	1	Responsibility Accounting – Meaning, Definition, Features	T : C.32 – C.35
14	1	Steps involved in Responsibility Accounting	T : C.36 – C.42
15	1	Responsibility Centre - Tutorial	T : C.43 – C.46
16	1	Types of Responsibility Accounting	T : C.46 – C.51
17	1	Advantages of Responsibility Accounting	T : C.52– C.57
18	1	Transfer Price – Selection of Transfer price Method	T : C.58 – C.65
19	1	Recapitulation and discussion of important Questions	-
Total Number of hours planned for Unit 3			19
UNIT 4			
1	1	Standard Costing – Meaning, Definition	R3 : 414 – 416
2	1	Steps involved in standard Costing	R3 : 417 – 420 : W4:
3	1	Standard Cost Vs Total Cost	R3 : 421 – 427
4	1	Standard Cost and Estimated Cost	R3 : 428 – 430
5	1	Tutorial : Advantages and Limitations of standard costing	R3 : 431 – 435
6	1	Determination of cost centre	T : C.96 – C.98
7	1	Types of standards	T : C.99 – C.100
8	1	Setting of Standard cost	T : C.101– C.105
9	1	Material Cost Variance, Material price variance, Material usage variance	T : C.106 – C.108
10	1	Material Mix Variance	T : C.109 – C.111

		Material Yield Variance - Tutorial	
11	1	Labour Cost Variance Labour Rate Variance	T : C.112 – C.116
12	1	Labour Efficiency Variance Labour Mix Variance	T : C.117 – C.121
13	1	Overhead Cost Variance Expenditure Variance	T : C.122 – C.125
14	1	Volume Variance, Efficiency Variance	T : C.126 – C.131
15	1	Capacity Variance, Calendar Variance - Tutorial	T : C.131– C.135
16	1	Sales Price Variance, Sales Volume Variance Sales Mix Variance	T : C.136 – C.147
17	1	Target Costing – Life Cycle Costing, Quality Costing	R2 : 39.1 – 39.5
18	1	Activity Based Costing	R2 : 39.6 – 39.15
19	1	Recapitulation and discussion of Important questions	-
Total Number of hours planned for Unit 4			19
UNIT 5			
1	1	Flow of Funds – Meaning, Definition, Current Account and Non Current Account	T :B.131 – B.135
2	1	Fund Flow Statement – Meaning, Definition Uses, Importance, Limitations	T :B.136 – B.140
3	1	Procedure for preparing a Fund Flow Statement	T :B.141 – B.145
4	1	Schedule of changes in working capital	T :B.146 – B.149
5	1	Tutorial : Statement of Sources and Application of funds	T :B.149 – B.152
6	1	Preparation of Schedule of changes in working capital	T :B.152 – B.155
7	1	Preparation of Fund From Operations	T :B.154 – B.157
8	1	Cash Flows – meaning, Definition	R2 : 6.1 – 6.3 : W5:
9	1	Classification of cash flows, Significance, Limitation	R2 : 6.4 – 6.6
10	1	Cash flows from Operating activities - Tutorial	R2 : 6.7 – 6.10
11	1	Cash flows from Investing activities	R2 : 6.11 – 6.13
12	1	Cash flows from Financing activities	R2 : 6.14 – 6.15
13	1	Format of Cash Flow Statement	R2 : 6.16 – 6.25

14	1	Comparison of Funds Flow Statement and Cash Flow Statement	R2 : 6.26 – 6.35
15	1	Preparation of Cash Flow Statement - Tutorial	R2 : 6.36– 6.50
16	1	Preparation of Cash Flow Statement	R2 : 6.51– 6.65
17	1	Recapitulation and discussion of Important questions	-
Total no. of hours planned for Unit - V			17
18	1	Discussion of previous year ESE Question papers	
19	1	Discussion of previous year ESE Question papers	
20	1	Discussion of previous year ESE Question papers	3
Total Number of hours planned for Unit 5 and discussion of previous year ESE Question papers			20
Total Number of hours allotted for all five units			96

SUGGESTED READINGS:**TEXT BOOKS**

T - Maheswari, S.N., (2017). *Management Accounting*, Sultan Chand & Sons., New Delhi.

REFERENCES

R1 – Jain and Narang. (2016). *Cost Accounting: Principles and Practice*. Kalyani Publishers, Ludhiana.

R2 - Shashi K Gupta and Sharma, (2014). *Management Accounting : Principles and Practice*, Kalyani Publishers, Ludhiana.

R3 - Ramachandran R & Srinivasan R, (2012), *Management Accounting*, Sriram publications, Tennur, Trichy.

WEBSITES

W1 - www.tutorialspoint.com

W2 - <http://www.investopedia.com/>

W3 - <http://www.tutorsonnet.com>

W4 - <http://accountingexplained.com>

W5 - <http://www.investopedia.com>

UNIT I : Management Accounting - Meaning - Definition - Nature - Scope of Management Accounting - Comparison of Management Accounting with Cost Accounting and Financial Accounting. Cost concepts - Meaning - Scope - Objectives - Importance of Cost Accounting - Cost - Costing - Cost Control, and Cost Reduction - Elements of Cost - Components of total Cost - Classification of Costs - Fixed Variable - Semi Variable - Step Costs - Product - Period Costs - Direct - Indirect Costs - Preparation of Cost Sheet in Lieu with Cost Accounting Standard.

COST ACCOUNTING

Cost accounting information is designed for managers. Since managers are taking decisions only for their own organization, there is no need for the information to be comparable to similar information from other organizations. Instead, the important criterion is that the information must be relevant for decisions that managers operating in a particular environment of business including strategy make. Cost accounting information is commonly used in financial accounting information, but first we are concentrating in its use by managers to take decisions.

The accountants who handle the cost accounting information generate add value by providing good information to managers who are taking decisions. Among the better decisions, the better performance of your organization, regardless if it is a manufacturing company, a bank, a non-profit organization, a government agency, a school club or even a business school. The cost-accounting system is the result of decisions made by managers of an organization and the environment in which they make them.

The organizations and managers are most of the times interested in and worried for the costs. The control of the costs of the past, present and future is part of the job of all the managers in a company. In the companies that try to have profits, the control of costs affects directly to them. Knowing the costs of the products is essential for decision-making regarding price and mix assignation of products and services.

The cost accounting systems can be important sources of information for the managers of a company. For this reason, the managers understand the forces and weaknesses of the cost accounting systems, and participate in the evaluation and evolution of the cost measurement and administration systems. Unlike the accounting systems that help in the preparation of financial reports periodically, the cost accounting systems and reports are not subject to rules and standards like the Generally Accepted Accounting Principles. As a result, there is a wide variety in the cost accounting systems of the different companies and sometimes even in different parts of the same company or organization.

Cost accounting is a branch of accounting . It can be prepared to avoid the limitations of financial accounting to know the operating efficiency regarding labour, material and overhead of management policies, the costing is prepared.

The work of managers focuses on (1) planning, which includes setting objectives and outlining how to attain these objectives; and (2) control, which includes the steps to take to ensure that objectives are realized. To carry out these planning and control responsibilities, managers need information about the organization. From an accounting point of view, this information often relates to the costs of organization.

The term cost is used in many different ways in managerial accounting. The reason is that there are many types of costs, and these costs are classified differently according to the immediate need of management. For example, managers may want cost data to prepare external financial reports, to prepare planning budgets, or to make decisions. Each different use of cost data demands a different classification and definition of cost. For example, the preparation of external financial reports require historical cost data, whereas decision making may require predictions about future costs. In the following paragraphs we have discussed many of possible use of cost data and how costs are defined and classified for each use.

Origins

Cost accounting has long been used to help managers understand the costs of running a business. Modern cost accounting originated during the industrial revolution, when the complexities of running a large scale business led to the development of systems for recording and tracking costs to help business owners and managers make decisions.

In the early industrial age, most of the costs incurred by a business were what modern accountants call "variable costs" because they varied directly with the amount of production. Money was spent on labor, raw materials, power to run a factory, etc. in direct proportion to production. Managers could simply total the variable costs for a product and use this as a rough guide for decision-making processes.

Some costs tend to remain the same even during busy periods, unlike variable costs, which rise and fall with volume of work. Over time, the importance of these "fixed costs" has become more important to managers. Examples of fixed costs include the depreciation of plant and equipment, and the cost of departments such as maintenance, tooling, production control, purchasing, quality control, storage and handling, plant supervision and engineering. In the early twentieth century, these costs

were of little importance to most businesses. However, in the twenty-first century, these costs are often more important than the variable cost of a product, and allocating them to a broad range of products can lead to bad decision making. Managers must understand fixed costs in order to make decisions about products and pricing.

Definition:

According to Horngren Charles. T. “ Cost accounting is quantitative method that accumulates, Classifies, Summaries and interprets information for 3 major purposes. i) Operational planning and control. ii) Special decisions. iii) Product decisions.”

According to WJ Morse, “ Cost accounting is the processing and evaluation of monetary and non-monetary data to provide information for external reporting, internal planning and control of business operations and special analysis and decisions.”

Scope of Costing:

The scope of cost accounting is very wide. There are lots of techniques, tools, procedures, processes, programs are used in cost accounting for calculating cost and its control. But basically, we divide its scope within three major parts namely a) Cost ascertainment b) Cost accounting c) Cost control .



1. Cost Ascertainment

In this region of cost accounting, cost accounting collects product's material, labor and overhead cost and try to calculate total and per unit cost of product. This total cost calculation will be based on historical or standard or estimated basis. After this, cost accountant will use any method of costing like specific order costing, operation costing, and direct costing technique. These techniques and methods may be used for calculating different nature products in same organization.

2. Cost Records (Cost Accounting)

In this part of cost accounting, cost accountant maintains cost books, vouchers, ledgers, reports and other cost related documents for future comparison and reference. It will also be under the scope of cost accounting.

3. Cost Control:

This is the end boundary of cost accounting scope. In this division, cost accountant used different techniques and methods for controlling the cost. Save One Rupees in the cost of product means we have earned one rupees in the production of goods. So, Cost accountant uses budgetary control, standard costing, break even point analysis and many other techniques for controlling the cost.

Objectives of Costing :

Cost

Cost may be define as the price of any asset when one company purchases it or it may the expenses for getting services . So , we can say that cost is total amount which is sacrificed for getting the goods , services and assets .In general , cost is calculated on production of goods . Total cost represents cost of raw material , cost of labour and cost of overheads after adding above we can find total cost and if we divide total numbers of units, then we can find cost per unit.

Costing

Costing is technique to determine the cost. It involves the process and method to classify and analysis of different expenditures.

Cost Accounting

Cost accounting is science of recording , classify , analyzing and allocation of cost to cost centers or cost unit . It also include cost control .

Cost accounting = Accounting used → { [determine the cost + control the cost] }

Objective of Cost accounting

1. To determine the cost.

It is the objective of cost accounting that cost accountant has to determine the cost because, after this cost per unit, price per unit can be calculated and product can be sold in market

2. To analyze of cost

Under this objective , cost is calculated after analyze which is done in cost sheet by knowing different elements and writing in specific head .

3. To reduce the Wastage

Cost accounting's main objective is to reduce the wastage , Wastage may be in material ,labour cost or overhead cost . Cost accountant makes cost sheet and after this he compares it with standard cost and with this can find at where wastage are incurred and after this he can reduce it by making proper control .

4. Provide cost data

There are large no. of previous records of cost of different products are available, if cost accounting is maintained by accounting department. It can be given to other department for taking decision. It is the another objective of cost accounting .

5. Ascertain the profitability

We know that cost accounting is to determine cost and with this cost we can find profit margin

6. Control the cost

Cost accounting's objective is to control the cost . For example Over stocking and under stocking is loss of money by using cost control techniques in stock maintaining, we can keep optimum level of stock to control the cost of stock .

7. Advising the management

Cost accountant can advice to management for achieving the objectives of cost accounting Alexander Dusty of President of Global Shop Solutions' thought on Objectives of Cost Accounting .

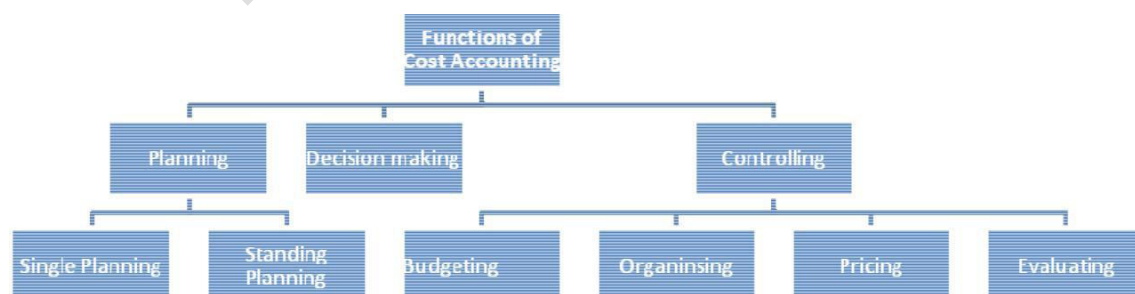
“Cost accounting provides a richer information base for operations management. The collection, classification, and determination of cost through accounting becomes, then, a means by which efficiencies are discovered and implemented. To the extent that these implementations offer a greater return on investment, and perhaps a greater dividend to shareholders, cost accounting can be said to truly help build the bottom-line profit”.

The above should be summarized in the following manner

- ☐ 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 .

Functions of Cost Accounting

Cost accounting analyzes corporate costs related to overhead, products, and manufacturing orders. It provides a variety of costing approaches such as standard, FIFO, LIFO, average, target, and activity-based costing (ABC). The software should support the following functionality: cost data; cost allocation definitions; cost allocation process; cost management; cost and sales price calculation; activity based costing (ABC); and activity based cost tracing and tracking.



Merits and Demerits of Cost Accounting :

Following are the most important advantages of a good cost accounting system:

1)Classification and Subdivision of Costs:

In the contrast to a single profit or loss figure supplied by general accounting, the cost accounting classifies costs and income by every conceivable subdivision of the business enterprise. In a good costing system data regarding costs by departments, processes, functions, products, orders, jobs, contracts and services can easily computed. This detailed cost information for managerial control is one of the most important contributions of cost accounting.

2)Adequacy Of Inadequacy of Selling Prices:

Unit cost of production, administration and sale made possible by cost accounting aids management in deciding the adequacy or inadequacy of selling prices i.e. neither too high detracting business, nor too low resulting in losses to the concern. In period of depressions, slumps, or in case of competition management forced to lower prices even below cost of production and sale. In such circumstances, cost accounting will help management in deciding the proper reduction.

3)Disclosure of profitable Products:

Cost Accounting will disclose activities, departments, products and territories, which bring profit and those that result in losses. Management to determine what products because of profit margin the sales department because of their greater profit margin should emphasize will use this information. What products are unprofitable or less profitable and might be eliminated or lesser sales pressure be given to them. What activities or territories are not producing sufficient profit and should be either further improved or eliminated and what methods of production and distribution are most profitable for the firm. This will increase the overall profit of the concern.

4)Control of Material and Supplies:

In a good costing system materials and supplies must be accounted for in terms of departments, jobs, units of production or service. This will eliminate altogether or reduce to the

minimum misappropriations, embezzlements, deterioration, obsolescence, and losses from defective, spoiled, scrap and out of date materials and supplies.

5) Maintenance of Proper Investment in Inventories:

A costing system will help in the maintenance of various inventory items of materials and supplies in line with production and sale requirements. If these quantities are too small, production may stop or sales may be lost. On the other hand, if quantities of such materials and supplies are in excess of the production and sales requirements, too much working capital may unnecessarily tie up in inventories. The detailed quantity information furnished by the cost accountant at all times will go a long way in reducing or eliminating this possibility.

6) Correct Valuation of Inventories:

Cost Accounting plays a basic role in the correct valuation of inventories of finished goods, work in process, materials and supplies. The book inventory method (as opposed to physical inventory method) made possible by cost accounting system will involve the operation of the various inventory control accounts in such a manner that the balances of these accounts will be inventory valuations required for periodic financial statements. This enables the preparation of monthly financial statements without the trouble and expense of taking monthly physical inventories.

Further, the value of inventories shown by the book inventory will be more accurate than inventory values shown by the physical inventory method. If no cost system is in use and inventory values computed by physical inventory method, then the value of these inventories must either be an estimate of cost or be determined at market values. But in a cost accounting system accurate procedures and techniques are available by which inventory values can be computed in a relatively more exact fashion. The requirements of management, stockholders, creditors, employees and other groups interested in the financial statements of the firm naturally attach more emphasis on this objective of cost accounting. In most cases, this objective of cost accounting dominates the formal cost records and routines.

7) Whether to Manufacture or Purchase from Outsiders:

Cost records furnish information regarding the cost of manufacturing of different finished parts, which assist management in making a decision whether to purchase these parts from outside manufacturers or manufacture them in the factory.

8) Control of Labour Cost:

Orders, jobs, contracts, departments, processes, or services record cost of labour. In many manufacturing enterprises, daily time reports are prepared showing the number of hours and minutes spent and the wage rate for each worker per job or operation. This enables management to compare the current cost of labour per job or operation with some previously incurred or determined cost thus measuring the efficiency or inefficiency of the labour force and assigning the work to employees best suited for it.

9) Use of Company-wide Wage Incentive Plans:

When labour cost is accounted for by jobs and operations, it is possible to use effectively wage incentive plans or bonus schemes for the remuneration of labour force. Carefully planned and administered incentive schemes are an effective means of enforcing superior performance and cost reduction. Workers are more co-operative, responsive and productive when some form of incentive offered to them for surpassing stipulated standards of perfection and performance. Cost of accounting has developed incentive plans, which are applicable not only to factory workers but also to clerks, salespersons, and other executives for above standard performance.

10) Controllable and Uncontrollable Cost:

Cost accounting exhibits at each stage of production and sale the controllable and uncontrollable items in the manufacturing, selling and administrative cost thus enabling management to concentrate attention on those costs, which can be reduced or eliminated. There is very little the management can do to reduce such uncontrollable items as idle time of machines and labour, wastage in the use of materials, supplies and power can be controlled much more effectively.

11) Use of Standards for Measuring Efficiency:

A complete cost accounting system, generally, has a well-developed plan of standards to measure the efficiency of the organization in the use of materials, incurrence of labour and other manufacturing cost. It does this appraisal paring the work of factory workers, office and sales personnel and other

executive with what should have done in manufacturing and selling a given quantity of units in a given period.

12) Reduction of Losses Due to Seasonal Conditions:

Cost accounting provides data for making a complete analysis of losses due to idle plant and equipment or due to the use of plant and equipment beyond normal capacity, irregular employment of labour, wastes in the use of materials. It indicates cost variations between active and inactive periods and seasonal conditions in the business or industry. Seasonal fluctuations in business activity affect profoundly the earnings of the concern. In many industries, seasonal variations are responsible for higher costs and lower profits.

13) Budgeting:

In a good cost accounting system, preparation of various budgets periods in advance of actual production and sale of goods is necessary. These budgets include budgeted statement of profits, budgeted cost of plant improvements, budgeted cost of production, budgeted cash receipts and payments, and so forth. These budgets show the plans of the management for future periods and they reflect the expected results of these plans. They are of great help in getting the sales manager, the works manager, and the treasurer into agreement as to a plan that can sold, manufactured and financed. In fact, the use of budgets has made costing a preventive device for the rectification of inefficiencies before they creep into the business operations or as they occur from day to day. In other words, budgeting, inculcates the habit of thinking and calculations before taking decisions.

14) Reliable Check on General Accounting:

Finally, an efficient and proper system of cost accounting is a most reliable and independent check on the accuracy of the financial accounts. This check made effective through reconciliation of the balance of profit or loss shown by the costing profit and loss account and the balance of profit or loss revealed by the general accounting profit and loss account.

Advantages of Cost Accounting:

- ☐ Profitable and Unprofitable activities are disclosed.
- ☐ It enables a concern to measure the efficiency and then to improve and maintain.
- ☐ It provides information upon which estimates and tenders are based.

- ☐ It guides future production policies.
- ☐ It helps in increasing the profits.
- ☐ It enables the periodical determination of profits or losses.
- ☐ It is also very helpful to the Government.
- ☐ Sound business concern with a good system of cost can attract more investors.
- ☐ It's very helpful to the consumers.
- ☐ The efficiency of public enterprises can also be calculated.

Limitations of Cost Accounting:

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

Distribution between Cost, Management and Financial accounting

IFAC Definition of Enterprise Financial Management embracing three broad areas: Cost Accounting; Performance Evaluation & Analysis; Planning & Decision Support. Copyright July 2009 Professional Accountants in Business Committee. International Good Practice Guidance:

Evaluating and Improving Costing in Organizations

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.

Definition

According to the Chartered Institute of Management Accountants (CIMA), Management Accounting is "the process of identification, measurement, accumulation, analysis, preparation, interpretation and communication of information used by management to plan, evaluate and control within an entity and to assure appropriate use of and accountability for its resources.

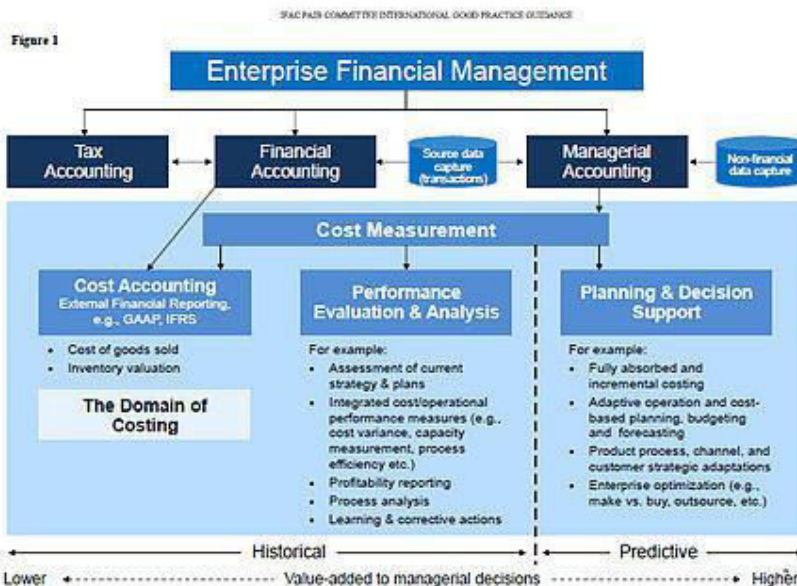
Management accounting also comprises the preparation of financial reports for non-management groups such as shareholders, creditors, regulatory agencies and tax authorities"(CIMA Official Terminology).

The Institute of Management Accountants (IMA)[2] recently updated its definition as follows: "management accounting is a profession that involves partnering in management decision making, devising planning and performance management systems, and providing expertise in financial reporting and control to assist management in the formulation and implementation of an organization's strategy".

The American Institute of Certified Public Accountants (AICPA) states that management accounting as practice extends to the following three areas:

- Strategic Management—Advancing the role of the management accountant as a strategic partner in the organization.
- Performance Management—Developing the practice of business decision-making and managing the performance of the organization.
- Risk Management—Contributing to frameworks and practices for identifying, measuring, managing and reporting risks to the achievement of the objectives of the organization.

The Institute of Certified Management Accountants(ICMA), states "A management accountant applies his or her professional knowledge and skill in the preparation and presentation of financial and other decision oriented information in such a way as to assist management in the formulation of policies and in the planning and control of the operation of the undertaking". Management Accountants therefore are seen as the "value-creators" amongst the accountants. They are much more interested in forward looking and taking decisions that will affect the future of the organization, than in the historical recording and compliance (score keeping) aspects of the profession. Management accounting knowledge and experience can therefore be obtained from varied fields and functions within an organization, such as information management, treasury, efficiency auditing, marketing, valuation, pricing, logistics, etc.



Difference Between Financial and Managerial Accounting :

Financial accounting reports are prepared for the use of external parties such as shareholders and creditors, whereas managerial accounting reports are prepared for managers inside the organization. This contrast in basic orientation results in a number of major differences between financial and managerial accounting, even though both financial and managerial accounting often rely on the same underlying financial data. In addition to the differences in who the reports are prepared for, financial and managerial accounting also differ in their emphasis between the past and the future, in the type of data provided to users, and in several other ways. These differences are discussed in the following paragraphs.

Emphasis on the Future:

Since planning is such an important part of the manager's job, managerial accounting has a strong future orientation. In contrast, financial accounting primarily provides summaries of past financial transactions. These summaries may be useful in planning, but only to a point. The future is not simply a reflection of what has happened in the past. Changes are constantly taking place in economic conditions, and so on. All of these changes demand that the manager's planning be based in large part on estimates of what will happen rather than on summaries of what has already happened.

Relevance of Data:

Financial accounting data are expected to be objective and verifiable. However, for internal use the manager wants information that is relevant even if it is not completely objective or verifiable. By relevant, we mean appropriate for the problem at hand. For example, it is difficult to verify estimated sales volumes for a proposed new store at good Vibrations, Inc., but this is exactly the type of information that is most useful to managers in their decision making.

The managerial accounting information system should be flexible enough to provide whatever data are relevant for a particular decision.

Less Emphasis on Precision:

Timeliness is often more important than precision to managers. If a decision must be made, a manager would rather have a good estimate now than wait a week for a more precise answer. A decision involving tens of millions of dollars does not have to be based on estimates that are precise down to the penny, or even to the dollar. In fact, one authoritative source recommends that, "as a general rule, no one need more than three significant digits. this means, for example, that if a company's sales are in the hundreds of millions of dollars, then nothing on an income statement needs to be more accurate than the nearest million dollars. Estimates that accurate to the nearest million dollars may be precise enough to make a good decision. Since precision is costly in terms of both time and resources, managerial accounting places less emphasis on precision than does financial accounting. In addition, managerial accounting places considerable weight on non monetary data, for example, information about customer satisfaction is tremendous importance even though it would be difficult to express such data in monetary form.

Segments of an Organization:

Financial accounting is primarily concerned with reporting for the company as a whole. By contrast, managerial accounting forces much more on the parts, or segments, of a company. These segments may be product lines, sales territories divisions, departments, or any other categorizations of the company's activities that management finds useful. Financial accounting does require breakdowns of revenues and cost by major segments in external reports, but this is secondary emphasis. In managerial accounting segment reporting is the primary emphasis.

Generally Accepted Accounting Principles (GAAP):

Financial accounting statements prepared for external users must be prepared in accordance with generally accepted accounting principles (GAAP). External users must have some assurance that the reports have been prepared in accordance with some common set of ground rules. These common ground rules enhance comparability and help reduce fraud and misrepresentations, but they do not necessarily lead to the type of reports that would be most useful in internal decision making.

For example, GAAP requires that land be stated at its historical cost on financial reports. However if, management is considering moving a store to a new location and then selling the land the store currently sits on, management would like to know the current market value of the land, a vital piece of information that is ignored under generally accepted accounting principles (GAAP).

Managerial Accounting Not Mandatory:

Financial accounting is mandatory; that is, it must be done. Various outside parties such as Securities and Exchange Commission (SEC) and the tax authorities require periodic financial statements. Managerial accounting, on the other hand, is not mandatory. A company is completely free to do as much or as little as it wishes. No regulatory bodies or other outside agencies specify what is to be done, for that matter, whether anything is to be done at all. Since managerial accounting is completely optional, the important question is always, "Is the information useful?" rather than, "Is the information required?"

Summary:

Financial Accounting

- Reports to those outside the organization owners, lenders, tax authorities and regulators.

Managerial Accounting

- Reports to those inside the organization for planning, directing and motivating, controlling and performance evaluation.

- | | |
|---|---|
| <input type="checkbox"/> Emphasis is on summaries of financial consequences of past activities. | <input type="checkbox"/> Emphasis is on decisions affecting the future. |
| <input type="checkbox"/> Objectivity and verifiability of data are emphasized. | <input type="checkbox"/> Relevance of items relating to decision making is emphasized. |
| <input type="checkbox"/> Precision of information is required. | <input type="checkbox"/> Timeliness of information is required. |
| <input type="checkbox"/> Only summarized data for the entire organization is prepared. | <input type="checkbox"/> Detailed segment reports about departments, products, customers, and employees are prepared. |
| <input type="checkbox"/> Must follow Generally Accepted Accounting Principles (GAAP). | <input type="checkbox"/> Need not follow Generally Accepted Accounting Principles (GAAP). |
| <input type="checkbox"/> Mandatory for external reports. | <input type="checkbox"/> Not mandatory. |

Elements of cost

- ☐ Material (Material is a very important part of business)
 - Direct material
- ☐ Labor
 - Direct labor
- ☐ Overhead (Variable/Fixed)
 - Indirect material
 - Indirect labor
 - Maintenance & Repair
 - Supplies
 - Utilities

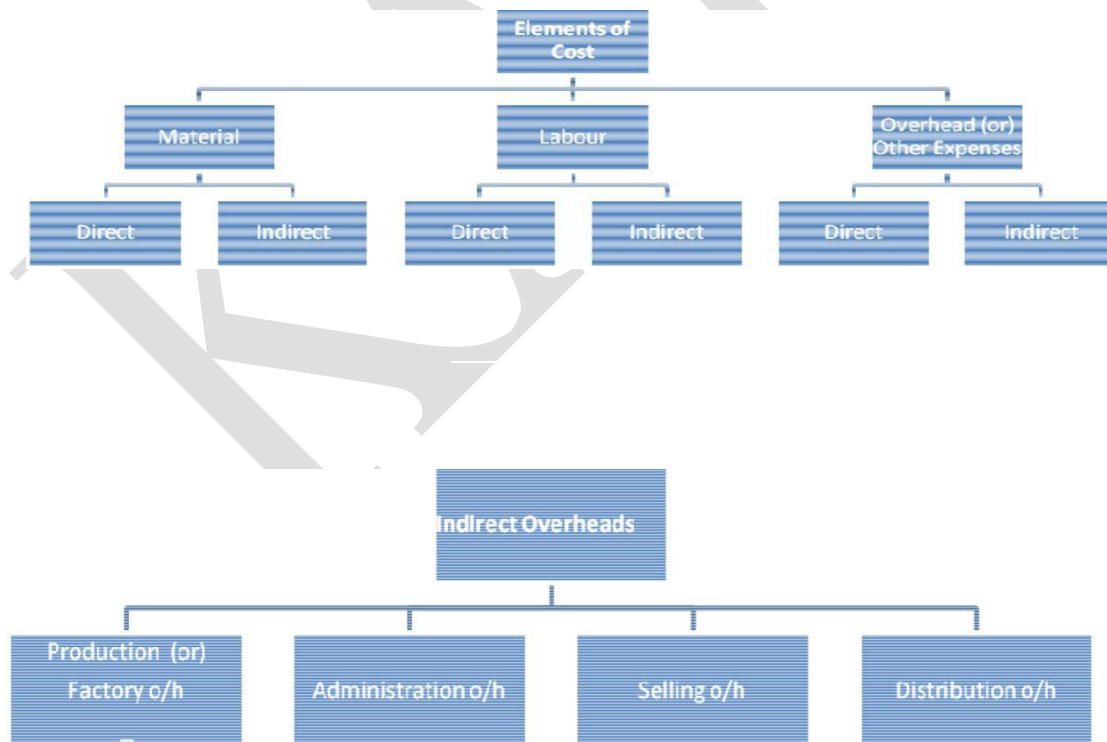
- Other Variable Expenses
- Salaries
- Occupancy (Rent)
- Depreciation
- Other Fixed Expenses

(In some companies, machine cost is segregated from overhead and reported as a separate element)

They are grouped further based on their functions as,

- Production or works overheads
- Administration overheads
- Selling overheads
- Distribution overheads
- Financial Expenses

Elements of Cost



Cost Classification:

- ☐ By Nature (materials, labor, expenses)
- ☐ By Function (production, selling, distribution, administration, R&D, development etc)
- ☐ By Degree of traceability to the product.(direct and indirect)
- ☐ By Changes in activity (fixed, variable, semi-variable)
- ☐ By Controllability (controllable, uncontrollable)
- ☐ By Normality (normal, abnormal)
- ☐ By Relationship with accounting Period
- ☐ By Time
- ☐ By Planning and Control
- ☐ By Association with the product
- ☐ By Management decisions.

Cost Object

Costs are assigned to objects for a variety of purposes including pricing, profitability studies, and control of spending. A cost object is anything for which cost data are desired including products, product lines, customers, jobs, and organizational subunits. For the purpose of assigning costs to cost objects, costs are classified as direct cost and indirect cost.

Direct Cost:

A direct cost is a cost that can be easily and conveniently traced to the particular cost object under consideration. A cost object is anything for which cost data is required including products, customer's jobs and organizational subunits. For example, if a company is assigning costs to its various regional and national sales offices, then the salary of the sales manager in its Tokyo office would be a direct cost of that office.

Indirect Cost:

An indirect cost is a cost that cannot be easily and conveniently traced to the particular cost

object under consideration. For example a soup factory may produce dozens of varieties of canned

soups. The factory manager's salary would be an indirect cost of a particular variety such as chicken noodle soup. The reason is that the factory manager's salary is not caused by any one

variety of soup. To be traced to a cost object such as a particular product, the cost must be caused by the cost object.

This salary of manger is called common cost of producing the various products of the factory. A common cost is a cost that is incurred to support a number of costing objects but cannot be traced to them individually. A common cost is a particular type of indirect cost.

A particular cost may be direct or indirect, depending on the cost object. While, in the above example, the soup factory manager's salary is an indirect cost of manufacturing chicken noodle soup, it is a direct cost of the manufacturing division. In the first case, the cost object is the chicken noodle soup product. In the second case, the cost object is the entire manufacturing division.

Cost Classification as Manufacturing and Non-manufacturing:

Manufacturing firms are involved in acquiring raw materials producing finished goods and then administrative, marketing and selling activities. All these activities require costs to be incurred. These costs are normally classified by manufacturing companies as manufacturing and non-manufacturing costs. In the following paragraphs we will see how these costs are classified as manufacturing and non-manufacturing.

Manufacturing Costs:

Manufacturing costs are those costs that are directly involved in manufacturing of products and services. Examples of manufacturing costs include raw materials costs and salary of labor workers. Manufacturing cost is divided into three broad categories by most companies.

- ☐ Direct materials cost
- ☐ Direct labor cost
- ☐ Manufacturing overhead cost.

Direct Materials Cost:

The materials that go into final product are called raw materials. This term is somewhat misleading, since it seems to imply unprocessed natural resources like wood pulp or iron ore. Actually raw materials refer to any materials that are used in the final product; and the finished product of one company can become raw material of another company. For

example plastic produced by manufacturers of plastic is a finished product for them but is a raw material for Compaq Computers for its personal computers.

Direct Materials are those material that become an integral part of the finished product and that can be physically and conveniently traced to it. Examples include tiny electric motor that Panasonic uses in its CD players to make the CD spin. According to a study of 37 manufacturing industries material costs averaged about 55% of sales revenue.

Sometimes it is not worth the effort to trace the costs of relatively insignificant materials to the end products. Such minor items would include the solder used to make electrical connection in a Sony TV or the glue used to assemble a chair. Materials such as solder or glue are called indirect materials and are included as part of manufacturing overhead, which is discussed later on this page.

Direct Labor Cost:

The term direct labor is reserved for those labor costs that can be essentially traced to individual units of products. Direct labor is sometime called touch labor, since direct labor workers typically touch the product while it is being made. The labor cost of assembly line workers, for example, is a direct labor cost, as would the labor cost of carpenter, bricklayer and machine operator. Labor costs that cannot be physically traced to the creation of products, or that can be traced only at a great cost and inconvenience, are termed indirect labor and treated as part of manufacturing overhead, along with indirect materials. Indirect labor includes the labor costs of janitors, supervisors, materials handlers, and night security guards. Although the efforts of these workers are essential to production, it would be either impractical or impossible to accurately trace their costs to specific units of product. Hence, such labor costs are treated as indirect labor. In some industries, major shifts are taking place in the structure of labor costs. Sophisticated automated equipment, run and maintained by skilled workers, is increasingly replacing direct labor. In a few companies, direct labor has become such a minor element of cost that it has disappeared altogether as a separate cost category. However the vast majority of manufacturing and service companies throughout the world continue to recognize direct labor as a separate cost category.

Direct Materials cost combined with direct labor cost is called prime cost.

In equation form:

Prime Cost = Direct Materials Cost + Direct Labor Cost

For example total direct materials cost incurred by the company is Rs.4,500 and direct labor cost is Rs.3,000 then prime cost is Rs.7,500 (Rs.4,500 + Rs.3,000).

Fixed Cost

A fixed cost is a cost that remains constant, in total, regardless of changes in the level of activity. Unlike variable costs, fixed costs are not affected by changes in activity. Consequently, as the activity level rises and falls, the fixed costs remain constant in total amount unless influenced by some outside forces, such as price changes. Rent is a good example of fixed cost. Fixed cost can create confusion if they are expressed on per unit basis. This is because average fixed cost per unit increases and decreases inversely with changes in activity. Examples of fixed cost include straight line depreciation, insurance property taxes, rent, supervisory salary etc.

Manufacturing Overhead Cost:

Manufacturing overhead, the third element of manufacturing cost, includes all costs of manufacturing except direct material and direct labor. Examples of manufacturing overhead include items such as indirect material, indirect labor, maintenance and repairs on production equipment and heat and light, property taxes, depreciation, and insurance on manufacturing facilities. Indirect materials are minor items such as solder and glue in manufacturing industries. These are not included in direct materials costs. Indirect labor is a labor cost that cannot be trace to the creation of products or that can be traced only at great cost and inconvenience. Indirect labor includes the labor cost of janitors, supervisors, materials handlers and night security guards. Costs incurred for heat and light, property taxes, insurance, depreciation and so forth associated with selling and administrative functions are not included in manufacturing overhead. Studies have found that manufacturing overhead averages about 16% of sales revenue. Manufacturing overhead is known by various names, such as indirect manufacturing cost, factory overhead, and factory burden. All of these terms are synonymous with manufacturing overhead. Manufacturing overhead cost combined with direct labor is called conversion cost.

Formula:

Prime cost = Direct Materials + Direct Labour + Direct Expenses
Works cost (or) Factory Cost = Prime Cost + Factory Overhead
Cost of Production = Works cost + Administration overhead

Total Cost (or) Cost of Sales = Cost of production + Selling and distribution overhead.

In equation form:

Conversion Cost = Direct Labor Cost + Manufacturing Overhead Cost

For example if total direct labor cost is Rs. 3,000 and total manufacturing overhead cost is Rs. 2,000 then conversion cost is Rs. 5,000 (Rs. 3,000 + Rs. 2,000).

Non-manufacturing Costs:

Non-manufacturing costs are those costs that are not incurred to manufacture a product. Examples of such costs are salary of sales person and advertising expenses. Generally non-manufacturing costs are further classified into two categories.

1. Marketing and Selling Costs
2. Administrative Costs

Marketing or Selling Costs:

Marketing or selling costs include all costs necessary to secure customer orders and get the finished product into the hands of the customers.

These costs are often called order getting or order filling costs. Examples of marketing or selling **costs** include advertising costs, shipping costs, sales commission and sales salary.

Administrative Costs:

Administrative costs include all executive, organizational, and clerical costs associated with general management of an organization rather than with manufacturing, marketing, or selling. Examples of administrative costs include executive compensation, general accounting, secretarial, public relations, and similar costs involved in the overall, general administration of the organization as a whole.

Cost Concepts:

- ☐ Cost
- ☐ Cost Centre

- ☐ Profit Centre
- ☐ Conversion Cost
- ☐ Contribution margin
- ☐ Carrying cost
- ☐ Out of stock cost
- ☐ Ordering cost
- ☐ Development cost
- ☐ Policy cost
- ☐ Idle facilities cost
- ☐ Expired cost
- ☐ Incremental revenue
- ☐ Added Value cost

The work of managers focuses on (1) planning, which includes setting objectives and outlining how to attain these objectives; and (2) control, which includes the steps to take to ensure that objectives are realized. To carry out these planning and control responsibilities, managers need information about the organization. From an accounting point of view, this information often relates to the costs of organization.

Formula:

Prime cost = Direct Materials + Direct Labour + Direct
Expenses
Works cost (or) Factory Cost = Prime Cost +
Factory Overhead
Cost of Production = Works cost +
Administration overhead

Total Cost (or) Cost of Sales = Cost of production + Selling and distribution
overhead. Conversion Cost

(Direct Labor +Overhead Cost)

Manufacturing Costs

Direct Materials:

Materials that can be physically and conveniently traced to a product, such as wood in a table.

Direct Labor:

Labor costs that can be physically and conveniently traced to a product such as assembly line workers in a plant. Direct labor is also called touch labor cost.

Manufacturing Overhead:

All costs of manufacturing a product other than direct materials and direct labor, such as indirect materials, indirect labor, factory utilities, and depreciation of factory equipment.

Non-manufacturing Costs **Marketing or selling costs:**

All costs necessary to secure customer orders and get the finished product or service into the hands of the customer, such as sales commission, advertising, and depreciation of delivery equipment and finished goods warehouse.

Administrative Costs:

All costs associated with the general management of the company as a whole, such as executive compensation, executive travel costs, secretarial salaries, and depreciation of office building and equipment. Manufacturing overhead cost combined with direct labor is called conversion cost.

Cost Sheet

Cost sheet is a statement presenting the items entering into cost of products or services. It shows the total cost components by stages and cost per unit of output during a period. It is usually prepared to meet three objectives: to provide the classification of costs in a summarised form, to prepare estimates of costs for future use and to facilitate a comparative study of costs with previous cost sheets to know the cost trends.

The layout of a typical cost sheet is provided below:

Specimen cost sheet

	Total cost	Cost per Unit
Direct materials		
opening stock of materials		
add purchases of materials		
less closing stock of materials		
(a) materials consumed	_____	_____
Direct wages		
Direct expenses		
Prime cost		
Add Factory Overheads		
Factory Rent, Rates, Taxes		
Fuel-Power And Water		
Lighting And Heating		
Indirect Wages		
Salaries Of Works Manager Etc.	_____	
Indirect Materials		
Drawing Office And Works Office Expenses		
Depreciation On Factory Land And Building		
Less Scrap Value		
Defective Work		
Add Work In Progress (Opening)	_____	
Less Work In Progress (Closing)		
Works cost		
Add Office/Administration Overheads	_____	
Office Rent, Insurance, Lighting, Cleaning		
Office Salaries, Telephone, Law And Audit Expenses		
General Manager's Salary		
Printing And Stationery		
Maintenance, Repairs, Upkeep Of Office bldg		
bank charges and miscellaneous expenses		

Cost Of Production

Add opening stock of finished goods

Less closing stock of finished goods

Cost of goods sold

Add selling and distribution overheads
showroom expenses, salesmen's salaries
& commission, bad debts, discounts,
warehouse rent, carriage outwards,
advertising, delivery expenses, samples
and free gifts etc.

ost of sales

add net profit or deduct net loss:

Sales

Treatment of certain items in the cost sheet:

- (a) **Computation Of Profit:** profit may be calculated either as a Percentage of cost or selling price.

Example: profit as a percentage of cost:

Factory cost	5,700
Administration overhead	600
 Total cost	 6,300
 Profit 10% on cost	 630
 Selling price	 6,930

So profit = cost $\frac{\text{percent}}{100}$

Example: Profit as a percentage of selling price. Here the percentage is on Selling price. Selling price includes Cost + Profit.

This profit of rs.10 is on rs.90 which is the cost price. So it is 1/9th of cost price. In the above example,

Total cost = 6,300

Profit on 10% on SP = 700

Selling price 7,000

$$\begin{aligned}\text{Cost x percent} \\ \text{So sale price} &= \frac{\text{100 - percent}}{\text{6,300 x 100}} \\ &= \frac{\text{100 - 10}}{\text{6,300}} \\ &= 7,000\end{aligned}$$

(b) Treatment Of Stock: the term 'stock' includes three items: raw materials, work in progress and finished goods. The value of raw materials is arrived at in the following manner:

Opening stock of raw material

Add purchases

Add expenses involved in the purchases of raw material

Less closing stock of raw materials

Work-in-progress represents the quantity of semi-finished goods at the time of the preparation of the cost sheet. It represents cost of materials, labour and manufacturing expenses to-date. Work-in-progress may be shown in the cost sheet either immediately after the prime cost or after the calculation of the factory overheads, as shown in the specimen cost sheet. Finally, in respect of stock of finished goods, adjustments have to be made where opening and closing stock of finished goods are given. This is done, as shown in the specimen cost sheet, by adding opening stock of finished goods to the cost of production arrived at on the basis of current figures and reducing the closing stock of finished goods from this total. Let's explore these aspects more clearly through the following illustrations:

Tenders And Quotations:

While preparing tenders or quotations, manufacturers or contractors have to look into the figures pertaining to the previous year as shown in the cost sheet for that period. These figures have to be suitably

modified in the light of changes expected in the prices of materials, labour, etc., and submit the tender or quotation accordingly.

Illustrations

Illustration 1:

Prepare the cost sheet to show the total cost of production and cost per unit of goods manufactured by a company for the month of July 2012. Also find out the cost of sales.

Stock of raw materials 1-7-2012	3,000
Raw materials purchased	28,000
Stock of raw materials 31-7-2012	4,500
Manufacturing wages	7,000
Depreciation of plant	1,500
Loss on sale of a part of plant	300
Factory rent and rates	3,000
Office rent	500
General expenses	400
Discount on sales	300
Advertisement expenses to be fully charged	600
Income-tax paid	2,000

The number of units produced during July, 2012 was 3,000.

The stock of finished goods was 200 and 400 units on 1-7-2012 and 31-7-2012 respectively. The total cost of units on hand on 1-7-2012 was Rs.2,800.

All these have been sold during the month.

Output 3,000 units.

Cost sheet for the year ended 31-7-2012

Particulars	Total Cost	Per Unit cost
	Rs.	Rs.
Raw materials consumed		
Opening stock	3,000	
Add purchases	28,000	
	31,000	
Less closing stock	4,500	
	26,500	8.83

Direct wages		7,000	2.33
Prime cost		33,500	11.16
Factory overheads:			
Depreciation	1,500		
Factory rent	3,000	4,500	1.50
Factory cost		38,000	12.66
Office and administrative Overheads:			
Office rent	500		
General expenses	400	900	0.30
Cost of production		38,900	12.96
Statement of cost of sales			
Cost of production		38,900	
Add: opening stock of Finished goods		2,800	
		41,700	
Less: closing stock of finished Goods (400 x rs.12.96)		5,184	
Cost of production of goods sold		36,516	
Add: selling and distribution overhead:			
Discount on sales	300		
Advertisement expenses	600	900	
Cost of sales		37,416	

Illustration 2:

From the following particulars, prepare a cost sheet for the year ending 31-12-2011.

Opening stock of raw materials (1-1-2011)	50,000
Purchases of raw materials	1,60,000
Closing stock of raw materials (31-12-2011)	80,000

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Wages - productive	1,50,000
general	20,000
Chargeable expenses	40,000
Rent, rates and taxes - factory	10,000
Rent, rates and taxes - office	1,000
Depreciation on plant and machinery	3,000
Salary - office	5,000
Salary - travellers	4,000
Printing and stationery	1,000
Office cleaning and lighting	800
Repairs and renewals (factory)	6,400
Other factory expenses	5,000
Management expenses (including managing Director's fees)	24,000
Travelling expenses of salesmen	2,200
Showroom expenses and samples	2,000
Carriage and freight - outwards	2,000
Carriage and freight - inwards	9,000
Octroi on purchases	1,000
Advertisement	30,000
Sales	4,60,000

Management expenses should be allocated in the ratio of 2:1:3 on factory, office and sales departments.

Solution:

Statement of cost and profit for 2011

	Rupees	Rupees
Materials consumed		
Opening stock		50,000
Add purchases		1,60,000
Add carriages freight inwards		9,000
Add octroi on purchases		1,000
		2,20,000
Less closing stock		80,000
Cost of materials used		1,40,000

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Productive wages		1,50,000	
Chargeable expenses		40,000	
Prime cost		3,30,000	
Factory expenses			
General wages	20,000		
Rent, rates and taxes	10,000		
Depreciation on plant and Machinery	3,000		
Repairs and renewals	6,400		
Other factory expenses	5,000		
Management expenses: 1/6 of Rs.24,000	8,000	52,400	
Factory cost		3,82,400	
Administrative expenses			
Rent, rates and taxes	1,000		
Salary	5,000		
Printing and stationery	1,000		
Cleaning and lighting	800		
Management expenses: 1/6 of Rs.24,000	4,000	11,800	
Cost of production		3,94,200	
Selling and distribution expenses			
Advertising	4,000		
Show-room expenses and samples	2,000		
Traveller's salary	4,000		
Salesmen's travelling expense	2,200		
Carriage outwards and freight	2,000		
Management expenses: 3/6 of Rs.24,000	12,000	26,200	
Cost of sales		4,20,400	
Sales		4,60,000	
Profit		39,600	

Illustration 3:

the following particulars relate to a company for a period of

Three months:

Raw materials (1-1-2012)	55,000
Raw materials (31-3-2012)	35,000
Factory wages	80,000
Materials purchased	60,000
Sales	1,54,000
Indirect expenses	10,000
Stock of finished goods (1-1-2012)	NIL
Stock of finished goods (31-3-2012)	30,000

No. Of units produced during the period was 2,000.

Prepare a statement of cost for the period and compute the price to be quoted for 500 units in order to realise the same profit as for the period under review, assuming no alternation in wages and cost of materials.

Solution:**Statement of cost for the period ending 31-3-2012**

Particulars	Output 2,000 Units	
	Rs.	Rs.
Opening stock of raw materials	55,000	
Add: purchases	60,000	
	1,15,000	
Less: closing stock of raw materials	35,000	
Raw materials consumed	80,000	
Factory wages	80,000	
Prime cost	1,60,000	
Indirect expenses	10,000	
Cost of production	1,70,000	
Less: closing stock of finished goods	30,000	

Cost of goods sold

1,40,000

 $14,000 \times 100$

Profit (-----) = 10% of cost

1,40,000

14,000

Sales

1,54,000

Tender statement showing quotations for 500 units

Particulars

Amount
Rupees $80,000 \times 500$

Materials consumed (-----)

2,000

20,000

 $80,000 \times 500$

Wages (-----)

2,000

20,000

Prime cost

40,000

 $10,000 \times 500$

Add: indirect expenses (-----) 2,500

2,000

Cost of production

42,500

Add: profit (10% of cost of production)

4,250

Price to be quoted

46,750

Part – A

Online Examination from Qn. No. 1 – Qn No.20

Each Question Carry One Mark

POSSIBLE QUESTIONS - PART B

1. Define Management accounting
2. Write any two importance of management accounting?
3. Give the meaning for the term cost accounting?
4. List out the functions of management accounting?
5. Write any two advantages of management accounting?
6. Draw a chart showing the classification of accounting?
7. What is meant by financial accounting?
8. Give any two limitations of management accounting?
9. Write the relationship between management accounting and cost accounting?
10. Distinguish between management accounting and financial accounting?
11. Give the relationship between management accounting and financial accounting?
12. What is meant by cost centre?
13. Distinguish between management accounting and cost accounting?
14. List out the features of management accounting?
15. Write the objectives of management accounting?

***CIA- 3 X 2 = 6 (ANSWER ALL THE QUESTIONS)**

****ESE – 5 X 2 = 10 (ANSWER ALL THE QUESTIONS)**

PART C

1. Explain the concept management accounting and also discuss the features of management accounting in detail?
2. Define Management accounting. Explain the functional areas of management accounting?
3. “Management accounting helps in decision making of a concern” Elaborate
4. Discuss the objectives, advantages and limitations of management accounting?
5. Explain the relationship between Financial Accounting, Cost Accounting and Management Accounting in detail?
6. Distinguish between Financial Accounting, Cost Accounting and Management Accounting?
7. Define the term costing and explain its nature and scope?
8. Define cost accounting. How does it differ from management accounting and financial accounting?
9. Determine the various types of costs?
10. Enumerate the term elements of cost?
11. Distinguish between ‘Management Accounting’ and ‘Financial Accounting’. How does management accounting help in decision-making?
12. “Costing is an aid to the management” - Discuss.
13. Calculate Prime Cost, Factory Cost, Cost of Production, Cost of Sales and profit from the following particulars:

	Rs.		Rs.
Direct Materials	1,00,000	Consumable stores	2,500
Direct Wages	30,000	Manager's Salary	5,000
Wages of Foreman	2,500	Directors' fees	1,250
Electric power	500	Office Stationery	500
Lighting: Factory	1,500	Telephone Charges	125

KARPAGAM ACADEMY OF HIGHER EDUCATION, COIMBATORE

Class: II BBA

Course Name: Management Accounting

Course Code: 17BAU302 Unit I – Introduction to Cost and Management Accounting BATCH: 2018-21

Office	500	Postage and Telegrams	250
Storekeeper's wages	1,000	Salesmen's salary	1,250
Oil and water	500	Travelling expenses	500
Rent: Factory	5,000	Advertising	1,250
Office	2,500	Warehouse charges	500
Repairs and Renewals:		Sales	1,89,500
Factory plant	3,500	Carriage outward	375
Transfer to Reserves	1,000	Dividend	2,000
Discount on shares written off	500		
Depreciation: Factory Plant	500		
Office Premises	1,250		

14. The following extract of costing information relates to commodity 'A' for the half year ending 31st December, 2015

	Rs.		Rs.
Purchases of Raw Materials	1,20,000	Stock (31st Dec., 2015) :	22,240
Works Overheads	48,000	Raw Materials	32,000
Direct Wages	1,00,000	Finished Products (2,000 tons)	4,800
Carriage on Purchases	1,440	Work-in-Progress	4,800
Stock (1st July, 2015) :			
Raw Materials	20,000	Work-in-Progress (31 st Dec., 2015)	16,000
Finished Products (1,000 tons)	16,000	Sales – Finished Products	3,00,000

Selling and distribution overheads are Re. 1 per ton sold. 16,000 tons of commodities 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 (v) Net profit per ton of the commodity

***CIA- 3 X 8 = 24 (EITHER OR TYPE)**

****ESE – 5 X 6 = 30 (EITHER OR TYPE)**

KARPAGAM ACADEMY OF HIGHER EDUCATION**(Deemed to be University)****(Established Under Sec 3 of UGC Act 1956)****DEPARTMENT OF MANAGEMENT****II BBA - THIRD SEMESTER****MANAGEMENT ACCOUNTING****UNIT - I : Multiple Choice Questions- Each Question carries ONE Mark**

Question	Option - I	Option - II	Option - III	Option - IV	Answer
Costing is a technique of _____	Ascertainment of cost	analyzing of cost	utilization of cost	cost reduction	Ascertainment of cost
Cost accounting provide data for managerial _____	Planning	Organizing	Decision making	Decision Making and cost	Decision Making and
Cost accounting is a separate _____ of accounting.	No branch	Branch	Batch	No Batch	Branch
Cost accounting serves the information needs of _____	Management	Financial	Marketing	Owners	Management
Cost accounting has been developed because of	Advantages	Limitations	Importance	Cost	Limitations
Management accounting is concerned with accounting	Financial	Cost	Management	Auditing	Management
_____ accounting deals with monetary as well as non-	Cost	Financial	Management	Auditing	Management
Historical costing is also known as _____	Uniform costing	Standard costing	Traditional costing	Job costing	Traditional costing
_____ is a technique / process of ascertaining cost	Costing	Cost	Cost accounting	Management accounting	Costing
_____ is ascertainment of cost after they have been	Marginal costing	Historical costing	Direct costing	Indirect costing	Historical costing
_____ is used of same costing principle or practices	Uniform costing	Marginal costing	Standard costing	Job Costing	Uniform costing
_____ methods has been dropped from the latest CIMA	Multiple costing	Farm costing	Operating costing	Job Costing	Farm costing

Cost accounting can be used only by _____ concerns	Big	Small	Big and Small	Trading	Big and Small
Many theories can be proved or disproved in the light of basic	Cost accounting	Management accounting	Financial accounting.	Financial management	Financial accounting.
_____ cost are those costs incurred to maintain the	Capital	Revenue	Direct	Indirect	Capital
The chief objective of management accounting is to	Public	Employees	Management	Government	Management
The term management accounting was first coined by	USA	China	India	Japan	USA
Management accounting involves_____	Recording of costs	Recording of transaction	Preparation of accounts	Analysis and interpretation of	Analysis and interpretation of
Management accounting is also known as_____	Cost accounting	Financial accounting	Corporate accounting	Decision accounting.	Decision accounting.
Management accounting functions are_____	Complementary in nature	Contradictory in nature	Neutral effect	Opposite effect	Complementary in nature
Management accounting provides valuable services to	Planning functions	Controlling functions	Co-ordinating functions	All managerial functions.	All managerial functions.
Management accounting is _____	An extension of	An extension of cost	An extension of auditing	An extension of cost accounting	An extension of cost accounting
Management accounting is concerned with formulation of	Plans	Cost	Purchase	Sales	Plans
Installation of management accounting is purely_____	Compulsory	Optional	Optimum	Fixed	Optional
The term of appointment of financial controller may be	Board of Directors	Articles of association	Memorandum of Association	Chairman	Board of Directors and
Financial accounting deals with _____	Determination of costs	Determination of profits	Determination of prices	Determination of production	Determination of profits
The term management accounting was first used in the	1910	1939	1950	1970	1950
Preparation of financial accounts is compulsory for	Sole trader business	Partnership firm	Joint stock companies	Co-operative society	Joint stock companies

_____ is the oldest branch of accounting.	Management accounting	Cost accounting	Financial accounting	Corporate accounting.	Financial accounting
Management accounting also comprises the preparation of	Shareholders	Creditors	Tax authorities	Tax authorities, Shareholders and	Tax authorities, Shareholders
Management accounting and cost accounting are _____	Supplementary to each	Complementary to each	Independent to each other	Opposite to each other	Complementary to each other
_____ is also known as Management oriented	Management accounting	Cost accounting	Financial accounting	Corporate accounting	Management accounting
_____ is concerned with accounting information which	Management accounting	Cost accounting	Financial accounting	Corporate accounting	Management accounting
_____ is the general accounting which relates to the	Financial accounting	Cost accounting	Management accounting	Budgeting.	Financial accounting
_____ is the process and techniques of ascertaining	Management accounting	Financial accounting	Cost accounting	Budgeting	Cost accounting
_____ is important part of management accounting	Budgeting	Fixing standards	Inventory control	Interpretation of data	Interpretation of data
The primary objective of _____ is to enable the	Cost accounting	Financial accounting	Management accounting	Auditing	Management accounting
The main objective of management accounting is to	Cost	Financial	Auditing	Sales	Financial
Management accounting makes _____ process more	Forecasting	Planning	Decision making	Budgeting	Decision making
Management accounting is a useful advice of managerial	Planning	Control	Motivation	Forecasting	Control
Return on capital employed is one of the tools of _____	Financial accounting	Cost accounting	Corporate accounting	Management accounting	Management accounting
_____ of data are considered as back bone of management	Modification of data	Analysis and interpretation	Communication	Co-ordination	Analysis and interpretation
Management accounting is an important medium of _____	Motivation	Co-ordination	Communication	Delegation	Communication
_____ supplies analytical information regarding various	Financial accounting	Management accounting	Cost accounting	Corporate accounting	Management accounting

_____ is the essence of managerial activity	Co-ordination	Control	Motivation	Decision making	Co-ordination
Incremental cost is a type of _____	Differential cost	Out-of-pocket cost	Conversion cost	Factory	Differential cost
Fixed cost per unit increases when _____	Production volume	Production volume	Variable cost per unit	Sales Increases	Production volume
Opportunity cost helps in _____	Ascertainment of cost	Controlling cost	Making managerial	Sales Decisions	Making managerial
Closing stock are valued at cost price or market price whichever	Financial accounting	Cost accounting	Management accounting	Corporate Accounting	Financial accounting
Direct material+ Direct labour+ Direct expenses =	Fixed cost	Prime cost	Factory cost	Total cost	Prime cost
Salary of general manager is generally treated as	Factory overhead	Administrative overhead	Selling overhead	Distribution overhead	Administrative overhead
_____ of any product comprises of all direct cost	Work cost	Prime cost	Total cost	Factory Cost	Prime cost
_____ means and represents the factory cost plus	Prime cost	Work cost	Cost of production	Cost of sales	Cost of production
Indirect material + indirect labour + _____ =	Indirect expenses	Direct labour	Direct expenses	Factory overhead	Indirect expenses
_____ is the sales overhead	Office salaries	Advertisement expenses	Factory rent	Indirect material	Advertisement expenses
Prime cost =	Direct material+dir	Direct material+labo	Indirect materials	Indirect materials +Indirect	Direct material+direct
Works cost =	Prime cost+factory	Prime cost+Selling	Prime cost+administr	Prime cost+Selling overhead	Prime cost+factory
Cost of production =	Work cost + factory cost	Work cost + prime cost	Work cost x prime cost	Work cost + administrative	Work cost + administrative
Which of the following is equal to total cost?	Cost of production+	Cost of sales+	Cost of production +	Cost of sales	Cost of production+Selli
The work cost is also known _____	Factory cost	Prime Cost	cost of production	cost of sales	Factory cost

UNIT II : Cost Volume Profit Analysis - Contribution - Profit Volume Ratio - Margin of safety - Cost Break-even Point - Composite Break-even Point - Cash Break-even Point - Key Factor - Break-even Analysis - Relevant Costs - Decision Making - Pricing - Product Profitability - Make or Buy - Exploring new markets - Export Order - Sell or Process

MARGINAL COSTING

The costs that vary with a decision should only be included in decision analysis. For many decisions that involve relatively small variations from existing practice and/or are for relatively limited periods of time, fixed costs are not relevant to the decision. This is because either fixed costs tend to be impossible to alter in the short term or managers are reluctant to alter them in the short term. Marginal costing distinguishes between fixed costs and variable costs as conventionally classified. The marginal cost of a product –“is its variable cost”. This is normally taken to be; direct labor, direct material, direct expenses and the variable part of overheads.

Definition of marginal costing

Marginal costing is formally defined as:

‘the accounting system in which variable costs are charged to cost units and the fixed costs of the period are written-off in full against the aggregate contribution. Its special value is in decision making’. The term ‘contribution’ mentioned in the formal definition is the term given to the difference between Sales and Marginal cost. Thus

$$\begin{aligned}
 \text{MARGINAL COST} = & \text{VARIABLE COST DIRECT LABOUR} \\
 & + \\
 & \text{DIRECT MATERIAL} \\
 & + \\
 & \text{DIRECT EXPENSE} \\
 & + \\
 & \text{VARIABLE OVERHEADS} \\
 & \text{CONTRIBUTION SALES - MARGINAL COST}
 \end{aligned}$$

The term marginal cost sometimes refers to the marginal cost per unit and sometimes to the total marginal costs of a department or batch or operation. The meaning is usually clear from the context.

Theory of Marginal Costing

The theory of marginal costing as set out is as follows:

In relation to a given volume of output, additional output can normally be obtained at less than proportionate cost because within limits, the aggregate of certain items of cost will tend to remain fixed and only the aggregate of the remainder will tend to rise proportionately with an increase in output. Conversely, a decrease in the volume of output will normally be accompanied by less than proportionate fall in the aggregate cost.

The ascertainment of marginal cost is based on the classification and segregation of cost into fixed and variable cost. In order to understand the marginal costing technique, it is essential to understand the meaning of marginal cost.

Marginal cost means the cost of the marginal or last unit produced. It is also defined as the cost of one more or one less unit produced besides existing level of production. In this connection, a unit may mean a single commodity, a dozen, a gross or any other measure of goods.

The marginal cost varies directly with the volume of production and marginal cost per unit remains the same. It consists of prime cost, i.e. cost of direct materials, direct labor and all variable overheads. It does not contain any element of fixed cost which is kept separate under marginal cost technique.

Marginal costing may be defined as the technique of presenting cost data wherein variable costs and fixed costs are shown separately for managerial decision-making. It should be clearly understood that marginal costing is not a method of costing like process costing or job costing.

Rather it is simply a method or technique of the analysis of cost information for the guidance of management which tries to find out an effect on profit due to changes in the volume of output. Variable costing is another name of marginal costing. Marginal costing technique has given birth to a very useful concept of contribution where contribution is given by: Sales revenue less variable cost (marginal cost)

Contribution may be defined as the profit before the recovery of fixed costs. Thus, contribution goes toward the recovery of fixed cost and profit, and is equal to fixed cost plus profit ($C = F + P$). In case a firm neither makes profit nor suffers loss, contribution will be just equal to fixed cost ($C = F$). This is known as breakeven point.

The concept of contribution is very useful in marginal costing. It has a fixed relation with sales. The proportion of contribution to sales is known as P/V ratio which remains the same under given conditions of production and sales.

The principles of marginal costing

The principles of marginal costing are as follows:

a) For any given period of time, fixed costs will be the same, for any volume of sales and production (provided that the level of activity is within the 'relevant range'). Therefore, by selling an extra item of product or service the following will happen.

- ☐ Revenue will increase by the sales value of the item sold.
- ☐ Costs will increase by the variable cost per unit.
- ☐ Profit will increase by the amount of contribution earned from the extra item.

b) Similarly, if the volume of sales falls by one item, the profit will fall by the amount of contribution earned from the item.

c) Profit measurement should therefore be based on an analysis of total contribution. Since fixed costs relate to a period of time, and do not change with increases or decreases in sales volume, it is misleading to charge units of sale with a share of fixed costs.

d) When a unit of product is made, the extra costs incurred in its manufacture are the variable production costs. Fixed costs are unaffected, and no extra fixed costs are incurred when output is increased.

Features of Marginal Costing

The main features of marginal costing are as follows:

1. Cost Classification

The marginal costing technique makes a sharp distinction between variable costs and fixed costs. It is the variable cost on the basis of which production and sales policies are designed by a firm following the marginal costing technique.

2. Stock/Inventory Valuation

Under marginal costing, inventory/stock for profit measurement is valued at marginal cost. It is in sharp contrast to the total unit cost under absorption costing method.

3. Marginal Contribution

Marginal costing technique makes use of marginal contribution for marking various decisions. Marginal contribution is the difference between sales and marginal cost. It forms the basis for judging the profitability of different products or departments.

Utility of Marginal Costing:

Marginal costing is a special technique used for managerial decision making. The technique of marginal costing is used to provide a basis for the interpretation of cost data to measure the profitability of different products, processes and cost centers in the course of decision making. It can, therefore, be used in conjunction with the different methods of costing such as job costing,

process costing etc., or even with other techniques such as standard costing or budgetary control. The technique of marginal costing has become more relevant and useful in today's business environment of globalization. This is because in marginal costing the cost of a product or a service is computed only on the basis of variable costs. Global companies want to take advantage of cheap labor in developing or backward countries.

Marginal costing techniques help management in several ways in the present day context of global business environment. These are listed below:

Volume of production: Marginal costing helps in determining the level of output which is most profitable for running concern. The production capacity, therefore, can be utilized to the maximum possible extent. It helps in determining the most profitable relationship between cost, price, and volume in the business which helps the management in fixing best selling prices for its products.

Selecting product lines: The marginal costing technique helps in determining the most profitable production line by comparing the profitability of different products.

Produce or procure: The decision whether a particular product should be manufactured in the factory or procured from outside source can be taken comparing the price at which it can be had from outside. In case the procurement price is lower than the marginal cost of production, it will be advisable to procure the product from outside source.

Method of manufacturing: If a product can be manufactured by two or more methods, ascertaining the marginal cost of manufacturing the product by each method will be helpful in deciding as to which method should be adopted.

Shut down or continue: marginal costing, particularly in the times of depression, helps in deciding whether the production in the plant should be suspended temporarily or continued in spite of low demand for the firm's products.

Advantages and Disadvantages of Marginal Costing

Technique Advantages

1. Marginal costing is simple to understand.
2. By not charging fixed overhead to cost of production, the effect of varying charges per unit is avoided.
3. It prevents the illogical carry forward in stock valuation of some proportion of current year's fixed overhead.

4. The effects of alternative sales or production policies can be more readily available and assessed, and decisions taken would yield the maximum return to business.
5. It eliminates large balances left in overhead control accounts which indicate the difficulty of ascertaining an accurate overhead recovery rate.
6. Practical cost control is greatly facilitated. By avoiding arbitrary allocation of fixed overhead, efforts can be concentrated on maintaining a uniform and consistent marginal cost. It is useful to various levels of management.
7. It helps in short-term profit planning by breakeven and profitability analysis, both in terms of quantity and graphs. Comparative profitability and performance between two or more products and divisions can easily be assessed and brought to the notice of management for decision making.

Disadvantages

1. The separation of costs into fixed and variable is difficult and sometimes gives misleading results.
2. Normal costing systems also apply overhead under normal operating volume and this shows that no advantage is gained by marginal costing.
3. Under marginal costing, stocks and work in progress are understated. The exclusion of fixed costs from inventories affect profit and true and fair view of financial affairs of an organization may not be clearly transparent.
4. Volume variance in standard costing also discloses the effect of fluctuating output on fixed overhead. Marginal cost data becomes unrealistic in case of highly fluctuating levels of production, e.g., in case of seasonal factories.
5. Application of fixed overhead depends on estimates and not on the actuals and as such there may be under or over absorption of the same.
6. Control affected by means of budgetary control is also accepted by many. In order to know the net profit, we should not be satisfied with contribution and hence, fixed overhead is also a valuable item. A system which ignores fixed costs is less effective since a major portion of fixed cost is not taken care of under marginal costing.
7. In practice, sales price, fixed cost and variable cost per unit may vary. Thus, the assumptions underlying the theory of marginal costing sometimes becomes unrealistic.

ABSORPTION COSTING

Definition of Absorption Costing:

Absorption costing is a method of calculating the full cost of a product. As a result, absorption costing is also known as full costing. Under absorption costing, the entire cost of production is apportioned to products. These costs could be direct costs or indirect costs (variable and fixed overheads). Fixed overheads are usually applied based on a predetermined overhead absorption rate. One or more overhead absorption rates could be employed.

Difference Between Marginal Costing and Absorption Costing

There are two alternative approaches for the valuation of inventory; they are Marginal Costing and Absorption Costing. **Marginal Costing** excludes fixed cost of production, whereas **Absorption Costing** includes the same. There are instances, when people have doubts regarding which costing method will be better for valuing the inventory whether the former or the latter one. So we have compiled a detailed article, which might be helpful for you to know the differences between Marginal Costing and Absorption Costing.

Key Differences Between Marginal Costing and Absorption Costing

The following are the major differences between marginal costing and absorption costing.

1. The costing method in which variable cost is apportioned exclusively, to the products is known as Marginal Costing. Absorption Costing is a costing system in which all the costs are absorbed and apportioned to products.
2. In Marginal Costing, Product related costs will include only variable cost while in the case of Absorption costing, fixed cost is also included in product related cost apart from variable cost.
3. Marginal Costing divides overheads into two broad categories, i.e. Fixed Overheads and Variable Overheads. Look at the other term Absorption costing, which classifies overheads in the following three categories Production, Administration and Selling & Distribution.
4. In marginal costing profit can be ascertained through the help of Profit Volume Ratio $[(\text{Contribution} / \text{Sales}) * 100]$. On the other hand, Net Profit shows the profit in case of Absorption Costing.
5. In Marginal Costing variances in the opening and closing stock will not influence the per unit cost. Unlike Absorption Costing, where the variances between the stock at the beginning and the end will show its effect by increasing/decreasing per unit cost.
6. In marginal costing, the cost data is presented to outline total cost of each product. On the contrary, in absorption costing, the cost data is presented in traditional way, net profit of each product is ascertained after deducting fixed cost along with their variable cost.

Cost-Volume-Profit Analysis.

Cost-volume-profit(CVP) analysis is used to determine how changes in costs and volume affect a company's operating income and net income. In performing this analysis, there are several assumptions made, including: Sales price per unit is constant.

Overview

A critical part of CVP analysis is the point where total revenues equal total costs (both fixed and variable costs). At this break-even point, a company will experience no income or loss. This break-even point can be an initial examination that precedes more detailed CVP analysis.

CVP analysis employs the same basic assumptions as in breakeven analysis. The assumptions underlying CVP analysis are:

- ☐ The behavior of both costs and revenues are linear throughout the relevant range of activity. (This assumption precludes the concept of volume discounts on either purchased materials or sales.)
- ☐ Costs can be classified accurately as either fixed or variable.
- ☐ Changes in activity are the only factors that affect costs.
- ☐ All units produced are sold (there is no ending finished goods inventory).
- ☐ When a company sells more than one type of product, the product mix (the ratio of each product to total sales) will remain constant.

The components of CVP analysis are:

- ☐ Level or volume of activity
- ☐ Unit selling prices
- ☐ Variable cost per unit
- ☐ Total fixed costs

Cost-Volume-Profit Analysis: Subject Matter, Factors, Techniques and Objectives

Let us make an in-depth study of the subject matter, factors, techniques and objectives of cost-volume-profit analysis.

Subject Matter:

The Cost-Volume-Profit (CVP) analysis helps management in finding out the relationship of costs and revenues to output.

The aim of an undertaking is to earn profit. Profit depends upon a large number of factors, the most important of which are the cost of manufacture, selling price, and the volume of sales effected.

The three factors cost, volume and profit are interdependent—profit depends upon sales, selling price to a large extent depends upon cost, volume of sales depends upon the volume of production which, in turn, is related to costs. Cost, again, is the resultant of the operation of a number of varying factors.

Factors Affecting Cost-Volume-Profit Analysis:

Such factors affecting cost are:

- (i) Volume of production,
- (ii) Product mix,
- (iii) Internal efficiency,
- iv) Methods of production, and
- (v) Size of plant etc.

Of all these, volume is perhaps the largest single factor which influence cost. Often, outside factors, over which the management has no control, necessitate changes in volume, and costs do not always vary in proportion to changes in levels of output. This type of situation poses special problems for the management.

Thus, cost-volume-profit analysis furnishes a complete picture of the profit structure which enables the management to distinguish between the effect of sales volume fluctuations and the results of selling price or cost changes upon profits.

This analysis helps in understanding the behaviour of profits in relation to Output. Fixed costs do not change with production, the amount per unit declines as output rises. On the other hand, variable costs react proportionately with production changes.

Technique of Cost-Volume-Profit Analysis:

The amount per unit is constant with output; under normal circumstances cost-volume-profit analysis uses the technique of:

- (i) Break-even analysis, and
- (ii) Profit-Volume (P/V) analysis.

Objectives of Cost-Volume-Profit Analysis:

The objectives of cost-volume-profit analysis are:

- (i) Cost-volume-profit analysis is very much useful for profit planning, cost control and decision-making.
- (ii) It is useful in setting up flexible budgets which indicate cost and profit at various levels of activities.
- (iii) It helps to determine the maximum sales volume required to avoid losses.
- (iv) It helps to determine the sales volume at which the profit goal of the firm will be achieved.
- (v) It helps management to find the most profitable combination of costs and volume.
- (vi) It helps in evaluating the effect of change in selling price on profitability.
- (vii) It provides a means for assessing the profitability of each product so that the optimum product mix may be determined.
- (viii) The study of cost-volume relationship is necessary in order to know the amount of overhead costs which could be charged to product costs at various levels of operation.
- (ix) It helps in evaluating performance of an organisation for the purpose of control.

Difference Between Profit and Contribution

Profit

All organisations that are run with the objective of making a profit will complete a profit and loss report at the end of each financial period. This will show the revenue they have received, the amount that has been paid out in expenses, and the remaining amount of profit that has been made.

The profit and loss report takes into consideration all types of sales for all products and services. It also takes into account all the expenses of running the business, including both variable and fixed costs.

Variable costs are those that vary with the amount of output by the business. This includes the wages of staff involved in production, as well as the materials used to make products.

Fixed costs are those that remain the same regardless of the amount of product that is made. This includes things like rent, rates, salaries, fuel, and depreciation.

Contribution

As well as overall profit, organisations are often interested in the contribution of specific products towards paying fixed costs and making a profit.

It's possible to calculate contribution per unit, or for the total number of units that are expected to sell. To calculate contribution per unit, you use the sales price per unit, minus variable cost per unit.

Application of Marginal Costing: 4 Purposes

Article shared by Pranav Kumar

Read this article to learn about the following four purposes for application of marginal costing, i.e., (a) Profit Planning, (b) Level of Activity Planning, (c) Profitable Mix of Sales, (d) Marginal Costing and Pricing.

(a) Profit Planning:

A business concern exists with the objective of making profits, and profits are the yardstick of its success. Profit planning is therefore a part of operations planning. It is the basis of planning cash, capital expenditure, and pricing.

If growth and survival of a business are to be ensured, planning becomes an absolute necessity. Marginal costing assists profit planning through computation of contribution ratio.

It enables planning of future operations in such a way as to either maximize profits or maintain specified levels of profits. Normally, profits are affected by several factors such as the volume of sales, marginal cost per unit, total fixed costs, selling price, sales mix, etc. Hence, management can achieve their profit goals by varying one or more of the above variables.

Basic marginal costing equations, which are useful in profit planning, are as follows:

Profit/Volume Ratio [P/V Ratio]:

This is the ratio of contribution to sales. Symbolically, it is expressed as follows:

$$P/V \text{ Ratio} = \frac{\text{Contribution (C)}}{\text{Sales (S)}} \times 100$$

From the above equation, we may derive the following equations:

$$\text{Sales} = \frac{\text{Contribution}}{\frac{P}{V} \text{ ratio}}$$

Break-Even Point [BEP]:

BEP may be defined as that level or point of sales volume at which the total revenue is equal to total costs. It is a no-profit, no-loss point.

It may be expressed as follows:

$$\text{BEP (in rupees)} = \frac{\text{Fixed cost}}{\frac{P}{V} \text{ ratio}}$$

$$\text{BEP (in units)} = \frac{\text{Fixed cost}}{\text{Contribution per unit}}$$

Margin of Safety [MS]:

MS may be defined as the excess of actual sales or production at the selected activity over break-even sales or production.

Margin of Safety = Actual sales – Break-even sales or point It may be calculated as follows:

$$\text{Margin of Safety (in rupees)} = \frac{\text{Profit (P)}}{P/V \text{ Ratio}}$$

$$\text{Margin of Safety (in units)} = \frac{\text{Profit}}{\text{Contribution per unit}}$$

Margin of safety may also be expressed as a percentage on actual sales as follows:

$$\text{Margin of Safety Sales Ratio} = \frac{\text{Margin of Safety (Sales)}}{\text{Actual Sales at Selected activity}} \times 100$$

Example 1:

From the following information, calculate BEP and determine the net profit if sales are 25% above BEP.

Margin of Safety [MS]: MS may be defined as the excess of actual sales or production at the selected activity over break-even sales or production.

Margin of Safety = Actual sales – Break-even sales or point

It may be calculated as follows:

$$\text{Margin of Safety (in rupees)} = \frac{\text{Profit (P)}}{\text{P/V Ratio}}$$

$$\text{Margin of Safety (in units)} = \frac{\text{Profit}}{\text{Contribution per unit}}$$

Margin of safety may also be expressed as a percentage on actual sales as follows:

$$\text{Margin of Safety Sales Ratio} = \frac{\text{Margin of Safety (Sales)}}{\text{Actual Sales at Selected activity}} \times 100$$

Solution:

Marginal Cost Statement

	Rs.	Rs.
Selling price per unit:		50.00
Less: Marginal cost per unit		
Materials	20.00	
Wages	10.00	
Variable overheads	7.50	37.50
Contribution		12.50

$$\text{P/V ratio} = \frac{C}{S} \times 100 = \frac{12.50}{50} \times 100 = 25\%$$

$$\text{BEP} = \frac{F}{\text{P/V ratio}} = \frac{\text{Rs. } 50,000}{25} \times 100 = \text{Rs. } 2,00,000$$

BEP	=	Rs. 2,00,000
25% of BEP	=	Rs. 50,000
Total Sales	=	Rs. 2,50,000
Contribution	=	Sales × P/V ratio
Contribution at Rs. 2,50,000 sales	=	Rs. 2,50,000 × 25%
Contribution	=	Rs. 62,500
Less: Fixed cost	=	Rs. 50,000
Net Profit	=	Rs. 12,500

(b) Level of Activity Planning:

Business concerns may have plans to expand or contract the level of activities depending upon the conditions prevailing in the market. Such planning is to be considered before the events overtake the business. Marginal costing is very useful for taking such decisions by enabling management to compare the contribution at different levels of activities.

Example 2:

Following is the Cost Structure of JB Limited:

	Level of Activity		
	60%	70%	80%
Output (in unit)	2,400	2,800	3,200
Costs (Rs.)			
Materials	48,000	56,000	64,000
Wages	14,400	16,800	19,200
Factory overheads	25,600	27,200	28,800
Factory cost	88,000	1,00,000	1,12,000

The factory is considering an increase of production to 90% level of activity. No increase in fixed overheads is expected at this level. The management requires a statement showing all details of factory costs at 90% level of activity.

Solution:

Selection of Sales Alternatives

	Products		
	Z Rs.	Y Rs.	Total Rs.
(a) 450 units of Z and 300 units of Y contribution (450 × Rs.40) + (300 × Rs.90)	18,000	27,000	45,000
Less: Fixed overheads			20,000
Profit			25,000
(b) 900 units of Z only contribution (900 × Rs.40)	36,000		36,000

Note:

Factory overheads increase by Rs. 1,600 at each level of activity. Therefore, variable overheads must be Rs. 1,600/400 units = Rs. 4 per unit. At 80% level of activity, factory overheads are Rs. 28,000, of which variable cost are Rs.12,800 (Rs.4 x 3,200), resulting in fixed overheads of Rs. 16,000 (Rs.28,800 – 12,800)

(c) Profitable Mix of Sales:

A company, which has a variety of product lines, can employ marginal costing in order to determine the most profitable sales mix from a number of selected alternatives.

Example 3:

The directors of AB Ltd. are considering the sales budget for the next budget period.

The following information has been made available from the cost records:

Direct materials

Selling price

Direct wages @ Rs.2 per hour

Product Z (per unit)	Product Y (per unit)
Rs.40	Rs.50
Rs.120	Rs.200
10 hours	15 hours

Variable overheads: 100% of direct wages.

Fixed overheads: Rs.20,000 p.a.

You are required to present to the management a statement showing the marginal cost of each product, and to recommend which of the following sales mix should be adopted:

- 450 units of Z and 300 units of Y
- 900 units of Z only
- 600 units of Y only
- 600 units of Z and 200 units of Y

Solution:**Marginal cost Statement**

	Per unit			
	Product Z		Product Y	
	Rs.	Rs.	Rs.	Rs.
Selling Price		120		200
Less: Marginal cost				
Direct Materials	40		50	
Direct wages	20		30	
Variable overheads	20	80	30	110
Contribution		40		90

Selection of Sales Alternatives

	Products		
	Z Rs.	Y Rs.	Total Rs.
(a) 450 units of Z and 300 units of Y contribution (450 × Rs.40) + (300 × Rs.90)	18,000	27,000	45,000
Less: Fixed overheads			20,000
Profit			25,000
(b) 900 units of Z only contribution (900 × Rs.40)	36,000		36,000

Less: Fixed cost			20,000
Profit:			16,000
(c) 600 units of Y only contribution (600 × Rs.90)		54,000	54,000
Less: Fixed cost			20,000
Profit			34,000
(d) 600 units of Z and 200 units of Y Contribution (600 × Rs.40) + (200 × Rs.90)	24,000	18,000	42,000
Less: Fixed cost			20,000
Profit			22,000

Thus, alternative (c) is the one recommended.

(d) Marginal Costing and Pricing:

Pricing is a very difficult problem and the basic problem involved in pricing is the matching of demand and supply. Marginal costing is sometimes used to determine prices, a simple and familiar example being the railway ticket.

The normal fare will usually be more than the charge collected for excursion fare [concession fare], for the normal fare is calculated to cover all the railway costs including fixed overheads, which is a considerable item; whereas the excursion fare will probably cover only marginal cost (which is relatively small) and some contribution towards profit. The marginal costing technique can help management in fixing prices in such special circumstances as

1. A trade depression in the industry;
2. Spare capacity in the factory;
3. A seasonal fluctuation in demand; and
4. When it is desired to obtain a special contract.

Example 4:

M. Ltd manufactures and sells light engineering goods. Due to competitions, the company proposes to reduce its selling price. If the present level of profit is to be maintained, indicate the number of units to be sold if the proposed reduction in selling price is 5%, 10% and 15%

The following additional information is available:

	Rs.	Rs.
Present sales (60,000 units)	-	1,50,000
Variable cost (60,000 units)	90,000	
Fixed cost	35,000	1,25,000
Net Profit		25,000

Solution:

Marginal Cost Statement

	Present price	No. of units: 60,000 Price Reductions		
	Rs.	5% Rs.	10% Rs.	15% Rs.
Sales	1,50,000	1,42,500	1,35,000	1,27,500
Less: Marginal cost	90,000	90,000	90,000	90,000
Contribution	60,000	52,500	45,000	37,500
Less: Fixed cost	35,000	35,000	35,000	35,000
Profit	25,000	17,500	10,000	2,500
Contribution per unit	Rs.1.00	Rs.0.875	Rs.0.75	Rs.0.625

Profit to be maintained = Rs.25,000

Contribution to be earned = Profit to be earned + Fixed cost
 = Rs.25,000 + Rs.35,000 = Rs.60,000

$$\text{reduction} = \frac{\text{Total contribution to be earned}}{\text{Contribution per unit}}$$

Hence,

$$\text{At 5\% Reduction} = \frac{\text{Rs.60,000}}{\text{Rs.0.875}} = 68,572 \text{ units (app)}$$

$$\text{At 10\% Reduction} = \frac{\text{Rs.60,000}}{\text{Rs.0.75}} = 80,000 \text{ units}$$

$$\text{At 15\% Reduction} = \frac{\text{Rs.60,000}}{\text{Rs.0.625}} = 96,000 \text{ units}$$

The Make or Buy Decision**Introduction**

Are you outsourcing enough? This was one of the main questions asked by management consultants during the outsourcing boom. Outsourcing was viewed as one of the best ways of getting things done for a fraction of the original cost.

Outsourcing is closely related to make or buy decision. The corporations made decisions on what to make internally and what to buy from outside in order to maximize the profit margins.

As a result of this, the organizational functions were divided into segments and some of those functions were outsourced to expert companies, who can do the same job for much less cost.

Make or buy decision is always a valid concept in business. No organization should attempt to make something by their own, when they stand the opportunity to buy the same for much less price.

This is why most of the electronic items manufactured and software systems developed in the Asia, on behalf of the organizations in the USA and Europe.

Four Numbers You Should Know

When you are supposed to make a make-or-buy decision, there are four numbers you need to be aware of. Your decision will be based on the values of these four numbers. Let's have a look at the numbers now. They are quite self-explanatory.

- ☐ The volume
- ☐ The fixed cost of making
- ☐ Per-unit direct cost when making
- ☐ Per-unit cost when buying

Now, there are two formulas that use the above numbers. They are 'Cost to Buy' and 'Cost to Make'. The higher value loses and the decision maker can go ahead with the less costly solution.

Cost to Buy (CTB) = Volume x Per-unit cost when buying

Cost to Make (CTM) = Fixed costs + (Per-unit direct cost x volume)

Reasons for Making

There are number of reasons a company would consider when it comes to making in-house.

Following are a few:

- ☐ Cost concerns
- ☐ Desire to expand the manufacturing focus
- ☐ Need of direct control over the product
- ☐ Intellectual property concerns
- ☐ Quality control concerns
- ☐ Supplier unreliability
- ☐ Lack of competent suppliers

- ☐ Volume too small to get a supplier attracted
- ☐ Reduction of logistic costs (shipping etc.)
- ☐ To maintain a backup source
- ☐ Political and environment reasons
- ☐ Organizational pride

Reasons for Buying

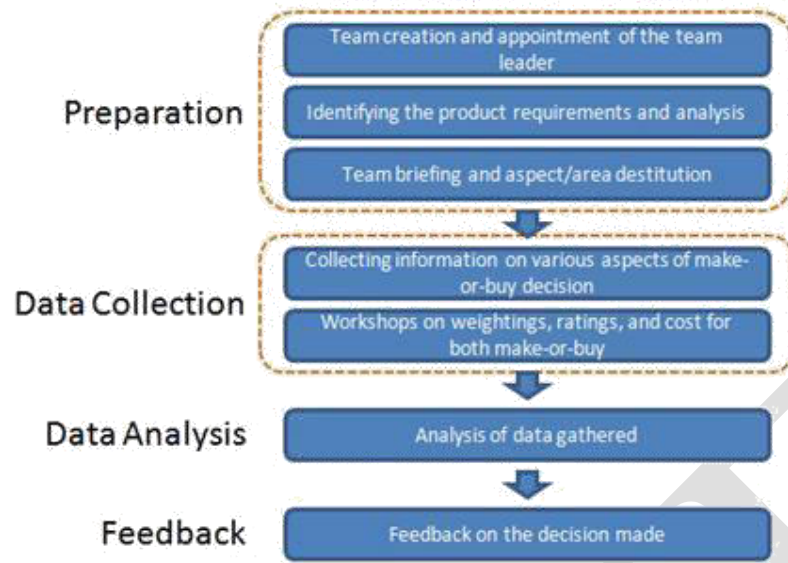
Following are some of the reasons companies may consider when it comes to buying from a supplier:

- ☐ Lack of technical experience
- ☐ Supplier's expertise on the technical areas and the domain
- ☐ Cost considerations
- ☐ Need of small volume
- ☐ Insufficient capacity to produce in-house
- ☐ Brand preferences
- ☐ Strategic partnerships

The Process

The make or buy decision can be in many scales. If the decision is small in nature and has less impact on the business, then even one person can make the decision. The person can consider the pros and cons between making and buying and finally arrive at a decision.

When it comes to larger and high impact decisions, usually organizations follow a standard method to arrive at a decision. This method can be divided into four main stages as below.



1. Preparation

- ☐ Team creation and appointment of the team leader
- ☐ Identifying the product requirements and analysis
- ☐ Team briefing and aspect/area destitution

2. Data Collection

- ☐ Collecting information on various aspects of make-or-buy decision
- ☐ Workshops on weightings, ratings, and cost for both make-or-buy

3. Data Analysis

- ☐ Analysis of data gathered

4. Feedback

- ☐ Feedback on the decision made

By following the above structured process, the organization can make an informed decision on make-or-buy. Although this is a standard process for making the make-or-buy decision, the organizations can have their own varieties.

Make-or-buy decision is one of the key techniques for management practice. Due to the global outsourcing, make-or-buy decision making has become popular and frequent.

Since the manufacturing and services industries have been diversified across the globe, there are a number of suppliers offering products and services for a fraction of the original price. This has enhanced the global product and service markets by giving the consumer the eventual advantage.

If you make a make-or-buy decision that can create a high impact, always use a process for doing that. When such a process is followed, the activities are transparent and the decisions are made for the best interest of the company.

Break-even point analysis

Explanation of break-even point:

The point at which total of fixed and variable costs of a business becomes equal to its total revenue is known as **break-even point (BEP)**. At this point, a business neither earns any profit nor suffers any loss. Break-even point is therefore also known as no-profit, no-loss point or zero profit point. Calculation of break-even point is important for every business because it tells business owners and managers how much sales are needed to cover all fixed as well as variable expenses of the business or the sales volume after which the business will start generating profit. The computation of sales volume required to break-even is known as **break-even analysis**. The concept explained above can also be presented as follows:

When there is a profit:

$$\text{Revenues} > \text{Variable cost} + \text{fixed cost}$$

At break-even point (BEP):

$$\text{Revenues} = \text{Variable cost} + \text{fixed cost}$$

When there is a loss:

$$\text{Revenues} < \text{Variable cost} + \text{fixed cost}$$

After reading this article you will be able to compute the break-even point of a single product company using two popular methods – *equation method* and *contribution margin method*. First we shall compute break-even point using these two methods and then present the information graphically (*preparation of break-even chart*).

Computation of break-even point:**(1). Use of equation method:**

The application of equation method facilitates the computation of break-even point both in units and in dollars. As we have already described that the sales are equal to total variable and fixed expenses at break-even point, the equation can therefore be written as follows:

$$Sp \times Q = Ve \times Q + Fe$$

Or

$$SpQ = VeQ + Fe$$

Where;

Sp = Sales price per unit.

Q = Number (quantity) of units to be manufactured and sold during the period.

Ve = Variable expenses to manufacture and sell a single unit of product.

Fe = Total fixed expenses for the period.

Notice that the left hand side of the equation represents the total sales in dollars and the right hand side of the equation represents the total cost. If the information about sales price per unit, variable expenses per unit and the total fixed expenses is available, we can solve the equation for 'Q' to find the number of units to break-even. The break-even point in units can then be multiplied by the sales price per unit to calculate the break-even point in dollars. Suppose, for example, you run a manufacturing business that is involved in manufacturing and selling a single product. The annual fixed expenses to run the business are \$15,000 and variable expenses are \$7.50 per unit. The sale price of your product is \$15 per unit. The number of units to be sold to break even can be easily calculated using

equation method: $Sp \times Q = Ve \times Q + Fe$

$$15 \times Q = 7.5 \times Q + 15,000$$

$$15Q = 7.5Q + 15,000$$

$$15Q - 7.5Q = 15,000$$

$$7.5Q = 15,000$$

$$Q = 15,000 / 7.5$$

$$Q = 2,000 \text{ units}$$

The break-even point in units is 2,000 units and the break-even point in dollars can be computed as follows:

$$= (2,000 \text{ units}) \times (\$15)$$

$$= \$30,000$$

(2). Use of contribution margin method:

The method described above is known as **equation method of calculating break-even point**. Some people use another method called **contribution margin method** (read about contribution margin and its calculation). Under this method, the total fixed expenses are divided by contribution margin per unit. Consider the following computations: Total fixed expenses / Contribution margin per unit

$$= 15,000 / 7.5^*$$

$$= 2,000 \text{ units}$$

or

$$= (2,000 \text{ units}) \times (\$15)$$

$$= \$30,000$$

$$*\$15 - \$7.5$$

A little variation of this method is to divide the total fixed expenses by the contribution margin ratio (CM ratio). Doing so results in break-even point in dollars. It is shown below: Total fixed expenses / Contribution margin ratio

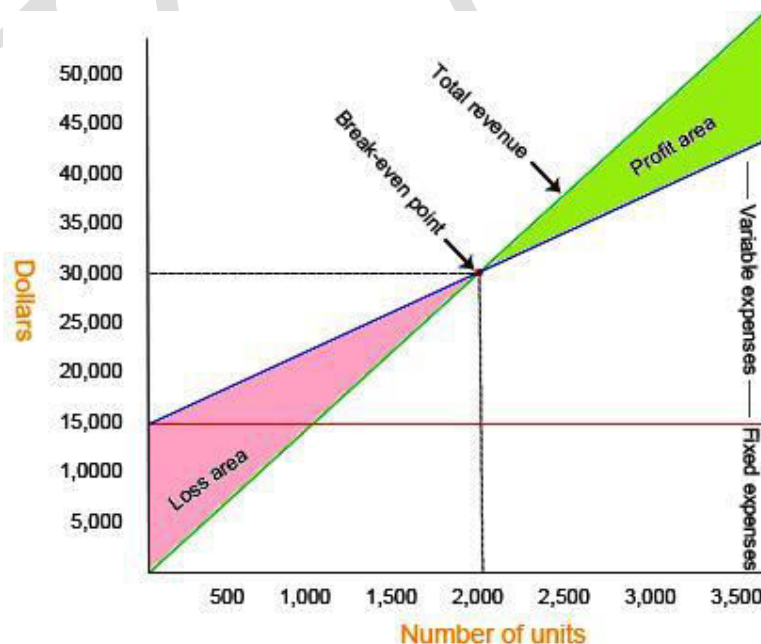
$$= \$15,000 / 0.5^*$$

$$= \$30,000$$

$$*(\$15 - \$7.5)/\$15$$

Graphical presentation (Preparation of break-even chart or CVP graph):

The graphical presentation of dollar and unit sales needed to break-even is known as **break-even chart** or **CVP graph**:



Explanation of the graph:

1. The number of units have been presented on the X-axis (horizontally) where as dollars have been presented on Y-axis (vertically).
2. The straight line in red color represents the total annual fixed expenses of \$15,000.
3. The blue line represents the total expenses. Notice that the line has a positive or upward slop that indicates the effect of increasing variable expenses with the increase in production.
4. The green line with positive or upward slop indicates that every unit sold increases the total sales revenue.
5. The total revenue line and the total expenses line cross each other. The point at which they cross each other is the *break-even point*. Notice that the total expenses line is above the total revenue line before the point of intersection and below after the point of intersection. It tells us that the business suffers a loss before the point of intersection and makes a profit after this point. The break-even point in the above graph is 2,000 units or \$30,000 that agrees with the break-even point computed using equation and contribution margin methods above.
6. The difference between the total expenses line and the total revenue line before the point of intersection (BE point) is the *loss area*. The loss area has been filled with pink color. Notice that this area reduces as the number of units sold increases. It means every additional unit sold before the break-even point reduces the loss.
7. The difference between the total expenses line and the total revenue line after the point of intersection (BE point) is the profit area. The profit area has been filled with green color. Notice that this area increases as the number of units sold increases. It means every additional unit sold after the break-even point increases the profit of the business.

The method of calculating break-even point of a single product company has been discussed in the break-even point analysis article. In this article, I would explain the procedure of calculating break-even point of a multi product company. A multi-product company means a company that sells two or more products.

The procedure of computing break-even point of a multi product company is a little more complicated than that of a single product company.

Formula:

A multi product company can compute its break-even point using the following formula:

$$\text{Break-even point} = \frac{\text{Total fixed expenses}}{\text{Weighted average selling price} - \text{Weighted average variable expenses}}$$

Break-Even Analysis (With Solution)by : Ashok M | category : **Break-Even Analysis**

Here is a compilation of top eight problems on break-even analysis with their relevant solutions.

Break-Even Analysis: Problem with Solution # 1.

From the following particulars, calculate:

- (i) Break-even point in terms of sales value and in units.
- (ii) Number of units that must be sold to earn a profit of Rs. 90,000.

Fixed Factory Overheads Cost	₹ 60,000
Fixed Selling Overheads Cost	12,000
Variable Manufacturing Cost per unit	12
Variable Selling Cost per unit	3
Selling Price per unit	24

Solution:

$$\begin{aligned}
 \text{(i) Break-even point} &= \frac{\text{Fixed Cost}}{\text{Selling Price per unit} - \text{Variable Cost per unit}} \\
 \text{Variable Cost per unit} &= ₹ 12 + 3 = ₹ 15 \\
 \text{Total Fixed Cost} &= ₹ 60,000 + 12,000 = ₹ 72,000 \\
 \text{B.E.P.} &= \frac{72,000}{24 - 15} = 8,000 \text{ units} \\
 \text{B.E.P. (in sales values)} &= 8,000 \times 24 = ₹ 1,92,000 \\
 \text{(ii) Number of units that must be sold to earn profit of ₹ 90,000} &= \frac{\text{Fixed Cost} + \text{Profit}}{\text{Selling Price per unit} - \text{Variable Cost per unit}} \\
 &= \frac{72,000 + 90,000}{24 - 15} = \frac{1,62,000}{9} = 18,000 \text{ units.}
 \end{aligned}$$

Break-Even Analysis: Problem with Solution # 2.

From the following data, you are required to calculate:

- (a) P/V ratio
- (b) Break-even sales with the help of P/V ratio.
- (c) Sales required to earn a profit of Rs.

4,50,000 Fixed Expenses = Rs. 90,000

Variable Cost per unit:

Direct Material = Rs. 5

Direct Labour = Rs. 2

Direct Overheads = 100% of Direct Labour

Selling Price per unit = Rs. 12.

Solution:

Selling Price per unit		₹ 12
Less : Variable Cost per unit :		
Direct Material	5	
Direct Labour	2	
Direct Overheads	<u>2</u>	
Contribution per unit		<u>3</u>
(a) P/V ratio	$= \frac{\text{Contribution}}{\text{Sales}} \times 100$ $= \frac{3}{12} \times 100 = 25\%$	
(b) Break-even Sales	$= \frac{\text{Fixed Expenses}}{\text{P/V ratio}}$ $= \frac{90,000}{25} = \frac{90,000 \times 100}{25} = \text{Rs. } 3,60,000.$	
(c) Sales required to earn a profit of ₹4,50,000	$= \frac{\text{Fixed Expenses} + \text{Desired Profit}}{\text{P/V ratio}}$ $= \frac{90,000 + 4,50,000}{25\%} = \frac{5,40,000}{25} \times \frac{100}{100}$ $= \frac{5,40,000 \times 100}{25} = \text{Rs. } 21,60,000$	

Break-Even Analysis: Problem with Solution # 3.

From the following data, you are required to calculate break-even point and net sales value at this point:

	₹
Direct material cost per unit	10
Direct labour cost per unit	5
Fixed overhead	50,000
Variable overheads @ 60% on direct labour	
Selling price per unit	25
Trade discount	4%

If sales are 10% and 25% above the break even volume, determine the net profits.

Solution:

Selling price per unit		₹ 25
Less : Trade discount (25 × 4/100)		1
Net selling price per unit		24
Less : Variable cost per unit		
Direct material	₹ 10	
Direct labour	5	
Variable overheads (5 × 60/100)	3	18
Contribution per unit		6

$$\text{Break-even point (in units)} = \frac{\text{Fixed Cost}}{\text{Contribution Per Unit}}$$

$$= \frac{50,000}{6} = 8,333 \text{ units}$$

$\text{Break - even Point (in sales value)} = \frac{\text{Fixed Cost}}{\text{P/V Ratio}}$ $\text{P/V Ratio} = \frac{\text{Contribution}}{\text{Sales}} \times 100$ $= \frac{6}{24} \times 100 = 25\%$ $\text{Hence, B.E.P. (in sales value)} = \frac{50,000}{25\%} = 50,000 \times \frac{100}{25}$ $= ₹ 2,00,000$
Profit when sales are 10% above the break even volume Sales = 2,00,000 + 10% of 2,00,000 = ₹ 2,20,000 Contribution = Sales × P/V Ratio = 2,20,000 × 25/100 = ₹ 55,000 Contribution = Fixed Cost + Profit ₹ 55,000 = 50,000 + Profit Profit = ₹ 5,000
Profit when sales are 25% above the break even volume Sales = 2,00,000 + 25% of 2,00,000 = ₹ 2,50,000 Contribution = 2,50,000 × 25/100 = ₹ 62,500 Contribution = Fixed Cost + Profit 62,500 = 50,000 + Profit Profit = ₹ 12,500

Break-Even Analysis: Problem with Solution # 4.

From the following particulars, find out the break-even-point:

Variable Cost per unit	₹ 15
Fixed Expenses	54,000
Selling Price per unit	20

What should be the selling price per unit, if the break-even point should be brought down to 6,000 units?

Solution:

$$\begin{aligned}
 \text{Contribution per unit} &= \text{Selling Price} - \text{Variable cost per unit} \\
 &= ₹ 20 - 15 = ₹ 5 \\
 (a) \text{ B.E.P.} &= \frac{\text{Fixed Expenses}}{\text{Contribution per unit}} \\
 &= \frac{54,000}{5} = 10,800 \text{ units} \\
 (b) \text{ What should be the selling price per unit, if the break-even-point should be brought down to 6000 units:} \\
 \text{B.E.P.} &= \frac{\text{Fixed Expenses}}{\text{Contribution per unit}} \\
 \text{Or, } 6,000 &= \frac{54,000}{\text{Contribution per unit}} \\
 \text{Or, Contribution per unit} &= \frac{54,000}{6,000} = \text{Rs. } 9 \\
 \text{Contribution} &= \text{S.P.} - \text{V.C.} \\
 \text{Or, } 9 &= \text{SP} - 15 \\
 \text{Or, Selling Price} &= ₹ 24.
 \end{aligned}$$

Break-Even Analysis: Problem with Solution # 5.

The fixed costs amount to Rs. 50,000 and the percentage of variable costs to sales is given to be 66 $\frac{2}{3}$ %.

If 100% capacity sales are Rs. 3,00,000, find out the break-even point and the percentage sales when it occurred. Determine profit at 80% capacity: Solution:

Percentage of Variable Cost to Sales is $66\frac{2}{3}\%$ i.e., $\frac{200}{3}$

\therefore Percentage of Contribution to Sales is $100 - \frac{200}{3} = \frac{100}{3}$

$$\text{P/V ratio} = \frac{\text{Contribution}}{\text{Sales}} \times 100$$

$$= \frac{100}{3} \times \frac{1}{100} \times 100 = \frac{100}{3} = 33\frac{1}{3}\%$$

$$\text{Break-even Sales} = \frac{\text{Fixed Cost}}{\text{P/V Ratio}}$$

$$= \frac{50,000}{33\frac{1}{3}\%} = \frac{50,000}{100} \times 300 = \text{Rs. } 1,50,000.$$

100% Capacity Sales = ₹ 3,00,000

Hence, B.E.P. occurs at $\frac{1,50,000}{3,00,000} \times 100 = 50\%$ capacity.

Profit at 80% Capacity

At 100% Capacity Sales are ₹ 3,00,000

\therefore 80% Capacity Sales $3,00,000 \times \frac{80}{100} = \text{Rs. } 2,40,000$

Total Contribution at 80% capacity $= 2,40,000 \times \frac{100}{3} \times \frac{1}{100}$

$$= ₹ 80,000$$

Fixed Expenses $= ₹ 50,000$

Profit at 80% capacity $= ₹ 30,000$

Break-Even Analysis: Problem with Solution # 6.

From the following information, ascertain by how much the value of sales must be increased by the company to break-even:

Sales	₹ 3,00,000
Fixed Cost	1,50,000
Variable Cost	2,00,000

Solution:

$$\text{Break-even point} = \frac{\text{Fixed Cost} \times \text{Sales}}{\text{Sales} - \text{Variable Cost}}$$

$$= \frac{1,50,000 \times 3,00,000}{3,00,000 - 2,00,000}$$

$$= \frac{1,50,000 \times 3,00,000}{1,00,000} = \text{Rs. } 4,50,000.$$

Hence, Sales to be increased by the company to break-even are $= ₹ 4,50,000 - 3,00,000 = ₹ 1,50,000.$

Break-Even Analysis: Problem with Solution # 7.

Calculate:

- (i) The amount of fixed expenses.

(ii) The number of units to break-even.

(iii) The number of units to earn a profit of Rs. 40,000.

The selling price per unit can be assumed at Rs. 100.

The company sold in two successive periods 7,000 units and 9,000 units and has incurred a loss of Rs. 10,000 and earned Rs. 10,000 as profit respectively.

Solution:

	Period I	Period II
Sales	₹ 7,00,000	₹ 9,00,000
Profit/Loss (—)	(—) ₹ 10,000	₹ 10,000

Thus for an additional sales of ₹ 2,00,000 there is an additional contribution of ₹ 20,000 which has wiped off the loss or ₹ 10,000 of period I and earned a profit of ₹ 10,000 in period II.

$$\text{P/V Ratio} = \frac{\text{Change in Contribution}}{\text{Change in Sales}} \times 100$$

$$= \frac{20,000}{2,00,000} \times 100 = 10\%$$

$$\text{Contribution of Period I} = 7,00,000 \times \frac{10}{100} = \text{Rs. } 70,000$$

$$\text{Loss of period I (given)} = ₹ 10,000$$

$$\text{(i) Fixed Cost} = ₹ 80,000$$

$$\text{Contribution} = \text{Fixed Cost} \pm \text{Profit/Loss}$$

$$\text{Fixed Cost} = \text{Contribution} \pm \text{Loss/Profit}$$

$$\text{(ii) Break-Even Point} = \frac{\text{Fixed Cost}}{\text{P/V Ratio}}$$

$$= \frac{80,000}{10\%} = \frac{80,000 \times 100}{10} = \text{Rs. } 8,00,000$$

$$\text{Number of units to break-even} = \frac{\text{Break-Even Sales}}{\text{Selling Price per unit}}$$

$$= \frac{8,00,000}{100} = 8,000 \text{ units.}$$

$$\text{(iii) Number of units required to earn a profit of ₹ 40,000.}$$

$$= \frac{\text{Fixed Cost} + \text{Desired Profit}}{\text{P/V Ratio}}$$

$$= \frac{80,000 + 40,000}{10\%}$$

$$= \frac{1,20,000 \times 100}{10} = \text{Rs. } 12,00,000$$

Break-Even Analysis: Problem with Solution # 8.

A company is making a loss of Rs. 40,000 and relevant information is as follows:

Sales Rs. 1,20,000; Variable Costs Rs. 60,000; Fixed costs Rs. 1,00,000.

Loss can be made good either by increasing the sales price or by increasing sales volume. What are Break even sales if

(a) Present sales level is maintained and the selling price is increased.

(b) If present selling price is maintained and the sales volume is increased. What would be sales if a profit of Rs. 1,00,000 is required ?

Solution:

$$\begin{aligned}
 (a) \quad & \text{Break-even sales} = \text{Variable Cost} + \text{Fixed Cost} = ₹ 60,000 + 1,00,000 = ₹ 1,60,000. \\
 (b) \quad & \text{Sales} = ₹ 1,20,000 \\
 & \text{Variable cost} = ₹ 60,000 \\
 & \text{Contribution} = ₹ 1,20,000 - 60,000 = ₹ 60,000 \\
 & \text{P/V Ratio} = \frac{\text{Contribution}}{\text{Sales}} \times 100 \\
 & = \frac{60,000}{1,20,000} \times 100 = 50\% \\
 & \text{Break-even sales} = \frac{\text{Fixed Costs}}{\text{P/V Ratio}} \\
 & = \frac{1,00,000}{50} \times 100 = \text{Rs. } 2,00,000 \\
 & \text{Desired sales to earn a profit of ₹ 1,00,000 :} \\
 & \text{Desired Sales} = \frac{\text{Fixed Cost} + \text{Desired Profit}}{\text{P/V Ratio}} \\
 & = \frac{1,00,000 + 1,00,000}{50\%} \\
 & = \frac{2,00,000 \times 100}{50} = \text{Rs. } 4,00,000
 \end{aligned}$$

Profit-Volume Chart

Definition: A profit-volume chart is a graphical representation of the relationship between the sales and profits of a business. The concept is especially useful for determining the breakeven point of a business, where the sales level generates a profit of exactly zero. Breakeven information is critical for adjusting the expenditure and margin levels of a business to improve the probability that it will earn a profit. A profit-volume chart can also be used to estimate the profit that will likely be earned based on a certain sales level.

The managers of a business should have an especially high familiarity with the entity's profit-volume chart when the firm has a high fixed cost level. The reason is that the company must attain a high sales volume just to earn enough money to cover fixed costs. If sales drop below this breakeven level, a high fixed-cost business could lose a substantial amount of money.

Profit Volume Analysis (Explained With Diagram)

Article shared by Rohit Agarwal

Read this article to learn about Profit Volume Analysis!

A P/V graph is sometimes used in place of or along with a break-even chart. Profits and losses are given on a vertical scale, and units of products, sales revenue or percentage of activity are given on a horizontal line. The horizontal line is drawn on the graph to separate profits from losses.

The profits and losses at various sales levels are plotted and connected by the profit line. The break-even point is measured at the point where the profit line intersects the horizontal line. The PV graph may be preferred to the break-even chart because profit and losses at any point can be read directly from the vertical scale, but the P/V graph does not clearly show how costs vary with activity.

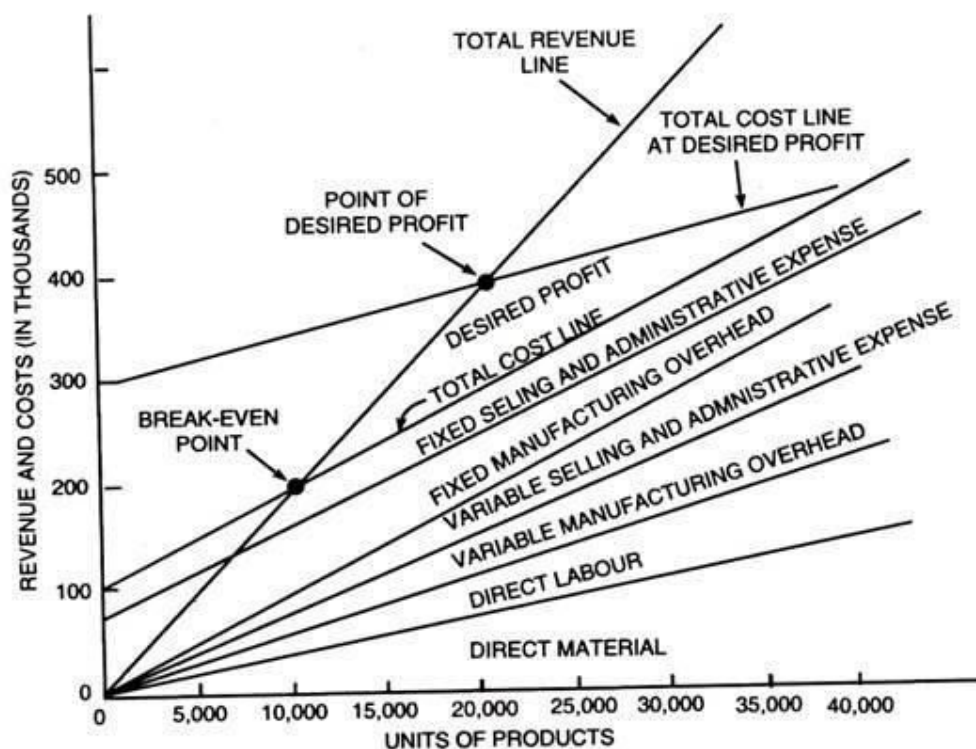


Exhibit. 6.2: Break-even chart showing cost and profit details

Data used earlier to prepare the break-even chart are also used in preparing the P/V graph (see Exhibit. 6.3):

Basic Assumption in CVP Analysis:

CVP analysis is based on several assumptions.

Whether income is computed under the absorption or marginal (variable) costing concept, these assumptions include the following:

1. Selling prices and pricing policy will remain constant at all sales levels; no quantity discounts are assumed to be available. If this is not true, sales revenue cannot be plotted as a straight line.
2. All costs and expenses can be separated into fixed and variable components.
3. The total of the fixed costs is constant at all sales levels; the unit variable costs remain the same and there is a direct relationship between costs and volume. If this is not true, straight lines cannot be drawn.
4. Production and sales quantities are equal.
5. Managerial policies, technological methods, and efficiency of men and machines will not change and cost control will be neither strengthened nor weakened.
6. Volume is assumed to be the only important factor affecting cost behaviour; other influencing factors such as unit prices, sales-mix, labour-strikes, and production methodology are ignored. Any change in cost behaviour will need the break-even point to be modified.
7. In case of multiple products being manufactured by the enterprises, the sales-mix should remain unchanged. That is, the calculation of the break-even point in the case of multiple products predetermines the number of units to be sold in respect of each product. This multiproduct sales-mix should remain unchanged.

Method of Constructing P/V Graph:

- (a) Determine an appropriate scale for sales volume on the horizontal axis (which forms the sales line) and this line must be drawn up in the middle portion of the graph so that profit can be shown on the side above the sales line and loss or fixed cost below the sales line.
- (b) Then select a scale for profit and loss (fixed cost) on the vertical axis. Thus, the total fixed costs are shown below the sales line on the left hand side of the vertical axis and profits are shown on the right hand side above the sales line of the graph.

(c) Now, points are plotted for profits and fixed costs which are connected by a straight line which again intersects the sales line at the horizontal axis. And BEP is the point of intersection.

The following illustration will make the above principle clear:

Illustration:

From following data prepare a P/V Graph:

	Rs.	
Fixed Costs	25,000	
Variable Cost	60,000	(Rs. 6 per unit)
Units produced	10,000	
Selling Price	1,00,000	(Rs. 10 per unit)

Solution:

Before constructing a P/V graph, it becomes necessary to determine the amount of profit at the present activity level which is as under:

	Rs.
Sales	1,00,000
Less : Variable Costs	60,000
Contribution	40,000
Less : Fixed Costs	25,000
Profit	15,000

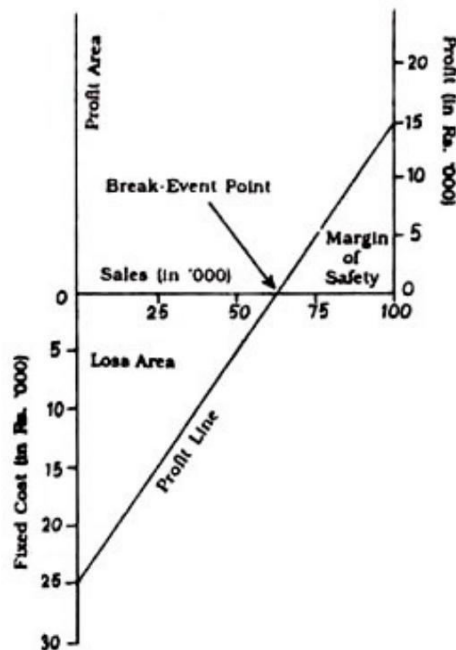


Fig. 4.3 Profit/Volume Graph.

From the above, it becomes clear that the BEP is Rs. 62,500 and Margin of Safety is Rs. 37,500. From the discussion we have made so far about the P/V Graph, we have found that a P/V Graph helps us to determine the BEP and its impact on profits at various levels of activity. It also highlights relative profitability under conditions of high or low demand for a product, for different product prices etc.

Some of them are discussed below:

(i) Relative Profitability under conditions of high or low demands: In order to show the relative profitability, the position of two separate firms can be taken into consideration.

Illustration:

Two business X Ltd. and Y Ltd. sell the same type of product in the same type of market.

Their budgeted Profit and Loss Account for the year ending 1994 are as follows:

		X Ltd. Rs.	Y Ltd. Rs.
Sales		1,50,000	1,50,000
Less : Variable Cost	1,20,000		1,00,000
Fixed Cost	<u>15,000</u>	<u>35,000</u>	
		1,35,000	1,35,000
Net Budgeted profit		<u>15,000</u>	<u>15,000</u>

You are required to:

- Calculate the BEP of each business; and
- State which business is likely to earn greater profits in conditions of; Heavy demand for the product;

Low demand for the product

Solution:

(i)		X Ltd.	Y Ltd.
		Rs.	Rs.
Sales		1,50,000	1,50,000
Less : Variable cost		1,20,000	1,00,000
Contribution		30,000	50,000
∴ P/V Ratio		20%	33 ¹ / ₃ %
BES = $\left(\frac{F}{P/V \text{ Ratio}} \right)$		= $\left(\frac{\text{Rs. 15,000}}{20\%} \right)$	= Rs 35,000
		= Rs. 75,000	= Rs. 1,05,000
MS = (Actual Sales – BES)		= Rs. 75,000	= Rs. 45,000

(ii) From the above, we find that the total cost of both the firms X Ltd. and Y Ltd. are the same but fixed cost of X Ltd is comparatively low than the firm Y Ltd. As such, BEP of X Ltd. will come sooner which can be shown with the help of the following P/V Graph.

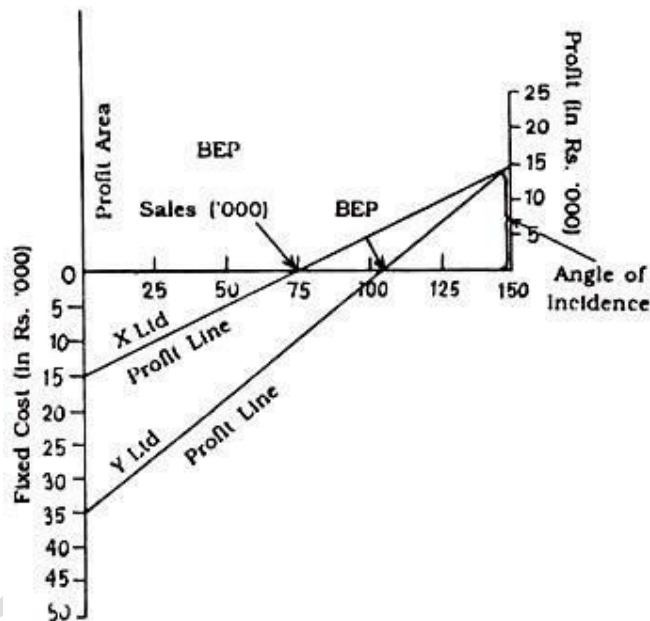


Fig. 4.4 Comparative Profit-Volume Graph.

From the above graph, it becomes crystal clear that X Ltd. will earn more profits than Y Ltd. against a demand below Rs 1, 50,000 sales since the BEP has been reached sooner in case of X Ltd. Moreover, at volume of Rs. 1, 50,000 both the firms will earn equal amount of profit.

But as the rate of earning profit in case of Y Ltd. is more in comparison with X Ltd (which is proved by Angle of Incidence) for a Volume above Rs. 1,50,000 Y Ltd. will earn more profit than X Ltd.

Thus:

(i) In case of heavy demand Y Ltd. will earn more profit, and

(ii) In case of low demand, X Ltd. will earn more profit.

(b) For various product prices:

Under the circumstance, a profit chart depicts the effect on BEP for charging different prices for a product. One is to remember that the use of units is needed as different prices are compared. The following illustration will explain the principals clearly with the help of a profit chart.

Illustration:

Maximum Units sold 3,000
Variable Cost Rs. 2 per unit
Fixed Cost Rs. 5,000 (total)
Alternative Selling Price of a product Rs. 4, Rs. 5 and Rs. 6.

Solution:

First Calculate BEP

$$\begin{aligned}
 \text{(i) BEP (in units)} &= \frac{F}{C} = \frac{\text{Rs. 5,000}}{\text{Rs. 2}} = 2,500 \text{ units } [C = S - V] \\
 \text{.. (in Sales)} &= 2,500 \times \text{Rs. 4} = \text{Rs. 10,000} \\
 \text{(ii) BEP (in units)} &= \frac{F}{C} = \frac{\text{Rs. 5,000}}{\text{Rs. 3}} = 1,667 \text{ units} \\
 \text{.. (in Sales)} &= 1,667 \times \text{Rs. 5} = \text{Rs. 8,335 units} \\
 \text{(iii) BEP (in units)} &= \frac{F}{C} = \frac{\text{Rs. 5,000}}{\text{Rs. 4}} = 1,250 \text{ units} \\
 \text{.. (in Sales)} &= 1,250 \times \text{Rs. 6} = \text{Rs. 7,500}
 \end{aligned}$$

Profit is Calculated as under :

S. P. per unit	Rs. 4	Rs. 5	Rs. 6
Sales	12,000	15,000	18,000
Less : V. C.	6,000	6,000	6,000
Contribution	6,000	9,000	12,000
Less : F. C.	5,000	5,000	5,000
Net Profit	1,000	4,000	7,000

Now, the following P/V

Graph for different price may be constructed:

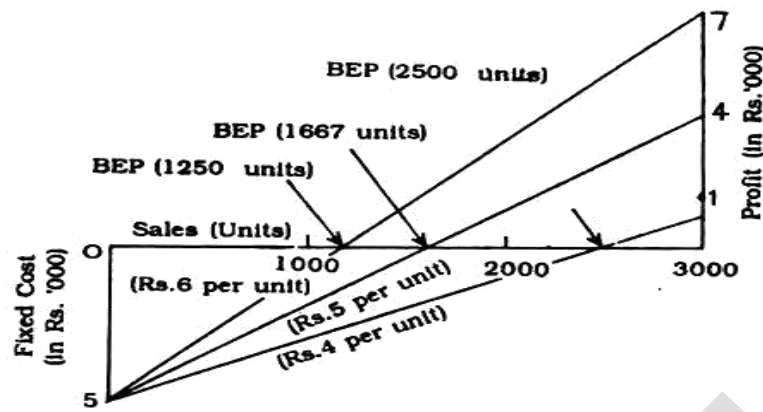


Fig. 4.5 P/V Graph for various Prices.

Part – A**Online Examination from Qn. No. 1 – Qn No.20****Each Question Carry One Mark****POSSIBLE QUESTIONS****PART B**

1. Write any two features of marginal costing?
2. From the following information, calculate the break-even point in units and in sales value:

Output	-	3,000 units
Selling price per unit	-	Rs.30
Variable cost per unit	-	Rs.20
Total fixed cost	-	Rs.20,000

3. You are given the following information relating to a company for the year 2012 output 20000 units Selling price per unit Rs.12 Direct materials per unit Rs.5 Direct Labour per unit Rs.2 Variable overheads per unit Rs.1 Fixed cost per year Rs.60000

From the following information calculate

1. P/V Ratio
 2. Breakeven point in Units
 3. Breakeven point in Value
- Selling price per unit Rs.20
Variable cost per unit Rs.12
Fixed costs Rs.32000

1. The number of units to be produced to break even
 2. The number of units to be sold to earn a profit of Rs.10000
5. Define Marginal costing
 6. Calculate BEP and Margin of safety from the following? Sales 50000 units @ Rs.6 per unit Prime cost Rs. 3 per unit Variable overhead Rs. 1 per unit Fixed costs Rs.75000 per annum
 7. What is meant by angle of incidence?
 8. Write the formula for calculating breakeven point?
 9. Calculate BEP in units and value for the following:
 10. A Ltd. has two factories X and Y producing same article whose selling price is Rs. 150 per unit. Other details are:

	X	Y
Capacity in units	10000	15000
Variable cost per unit (Rs)	100	120
Fixed expenses (Rs)	300000	210000

— Determine the BEP for the two factories assuming constant sales mix also composite BEP.

11. From the following data calculate

Break even point (Units)

If sales are 10% and 15% above the break even sales volume determine the net profit

Selling price per unit - Rs. 10

Direct material per unit - Rs. 3

Fixed overheads - Rs. 10000

12. Write a short note on profit volume ratio?

13. How will you calculate margin of safety?

14. Sales for the year 20000 units Rs. 2000000

Variable Costs Rs. 1600000

Fixed costs for the year Rs. 200000

Find BEP

What would be the profits when the output is 22000 units?

15. What is the formula for calculating profit volume ratio?

***CIA- 3 X 2 = 6 (ANSWER ALL THE QUESTIONS)**

****ESE – 5 X 2 = 10 (ANSWER ALL THE QUESTIONS)**

PART C

1. “Marginal costing is a valuable aid for managerial decision” Discuss?
2. From the following particulars, calculate:
 - (i) Break-even point in terms of sales value and in units.
 - (ii) Number of units that must be sold to earn a profit of Rs.90,000.

		Rs.
Fixed factory overheads cost	-	60,000
Fixed selling overheads cost	-	12,000
Variable manufacturing cost per unit	-	12
Variable selling cost per unit	-	3
Selling price per unit	-	24

3. following data have been obtained from the records of a manufacturing firm.

	Period I	Period II
Sales	300000	320000
Total cost	260000	272000

Calculate

1. Break even sales
 2. Profit when sales are Rs.360000.
 3. Sales required to earn a profit of Rs.50000
4. MNP Ltd is working at 60% of capacity producing 6000 units of output. The following details are available from its cost records.

Direct materials	Rs.24000
Direct labour	Rs.12000
Variable overheads	Rs.6000
Fixed overheads	Rs.15000

The output is sold at a price of Rs 10 per unit. The company receives an offer to export 4000 units @Rs.8.50 per unit. Should the export order be accepted
 5. ABC Ltd produces and sells two products A and B. the cost and sales data are given as

	Product A	product B
Selling price	20	30
Direct material	10	15
Direct labour	4	5
Fixed overheads Rs.1200		

Variable overheads are absorbed at 50% of direct labour. The proposed sales mix are

- 100 units of A and 200 units of B
- 150 units of A and 150 units of B
- 200 units of A and 100 units of B

Recommend which of the above sales mix the company should adopt

- A television manufacturing company finds that while the cost of making component part No.Xo5 is Rs.4 per unit, the same is available in the market at rs. 350 per unit with assured supply. The cost details are

Material	1.50
Labour	1.00
Variable OH	0.50
Fixed cost allocated	1.00
Total	4.00

Should the component part be made or bought ?what would be your suggestion if the component part is available at 2.50 in the market ?

- A toy manufacturing company produces two type of toys. The skilled labour required for the production of these toys is in short supply. You are given the following details of cost :-

	Toy A	Toy B
Direct materials	20	16
Standard time required		
For one unit [hrs.]	4 Hrs	16 Hrs
Direct labour cost @2/Hr	8	6
Variable overhead	4	3
Selling price	50	40

Which type of toy is more profitable to produce and why?

The skilled labour available during a month is only 1200 Hrs. and maximum sales possible of each toy are only 200 units per month. In such a case what would be the optimum product mix of toys?

8. Discuss the assumptions of marginal cost?
9. Explain the features of marginal cost?
10. Discuss the advantages and limitations of marginal cost?

***CIA- 3 X 8 = 24 (EITHER OR TYPE)**

****ESE – 5 X 6 = 30 (EITHER OR TYPE)**

KARPAGAM ACADEMY OF HIGHER EDUCATION**(Deemed to be University)****(Established Under Sec 3 of UGC Act 1956)****DEPARTMENT OF MANAGEMENT****II BBA - THIRD SEMESTER****MANAGEMENT ACCOUNTING****UNIT - II : Multiple Choice Questions- Each Question carries ONE Mark**

QUESTION	Option - I	Option - II	Option - III	Option - IV	ANSWER
For _____ marginal costing is more helpful to the management.	Planning	co-ordinating	Decision making	Planning and Decision Making	Planning and Decision Making
In _____ costing, only variable items of costs are taken into account.	Standard	Marginal	Working capital	Budgetary control	Marginal
_____ is not allocated to cost unit	Fixed costs	Variable cost	semi- variable cost	semi fixed cost	Variable cost
Marginal cost is _____ as variable cost	Same	Different	Variable	Fixed	Same
The accountant's concept of _____ different from economist's concept of marginal cost.	Total cost	Average cost	Additional cost	Marginal cost	Marginal cost
Economists define marginal cost as the _____ cost of producing one additional unit.	Total cost	Average cost	Additional cost	Marginal cost	Additional cost
Additional unit shall include an element of _____	Fixed cost	Variable cost	Total cost	semi variable cost	Fixed cost
Marginal cost = _____	prime cost – total variable	cost – prime cost	total variable cost	Prime cost + total fixed cost	Prime cost + total variable cost
Marginal cost = _____	Total cost – fixed cost	Total cost – variable cost	Total cost + fixed cost	Total cost + variable cost	Total cost – fixed cost
Total cost Rs.400, fixed cost Rs. 200 marginal cost = _____	Rs.600	Rs.200	Rs.500	Rs.100	Rs.200
Marginal cost = _____	prime cost	variable cost	work cost	cost of production	variable cost

Total cost Rs. 600 fixed cost Rs. 200 marginal cost _____	Rs.100	Rs.200	Rs.800	Rs.400	Rs.400
Total cost Rs.800 fixed cost Rs. 200 marginal cost = _____	Rs.600	Rs.800	Rs.1000	Rs.200	Rs.600
_____ is one which tends to be unaffected by variation in volume of output.	Total cost	Average cost	Marginal cost	Fixed cost	Fixed cost
Marginal income or marginal contribution known as the _____	Income or expenses	Income or profit	Income or loss	Expenses or profit	Income or profit
The difference between the contribution and fixed costs is the _____	Net profit or loss	Net profit	Gross profit	Net loss	Net profit or loss
Fixed costs remain constant _____ of level of activity.	Respective	Irrespective	Contribution	Variable	Irrespective
Sales price and variation cost per unit remain the _____	same	Different	Equal	no change	same
_____ reveal the state of _____ at various level of activity.	Assets	Liability	Profitability	turnover	Profitability
_____ fluctuates from time to time but in the long run marginal cost are stable.	Fixed cost	Variable cost	Total cost	semi fixed cost	Variable cost
_____ remains the same, irrespective of the volume of production.	Total costs	Average costs	Marginal cost	cost of production	Marginal cost
not the full production cost we will be using _____	Activity based costing	Absorption costing	Full costing	Marginal costing	Marginal costing
The management can take decision regarding _____ and tendering.	Pricing	Planning	co-ordinating	Controlling	Pricing
_____ expenses remain unchanged at any level of operation	Fixed	Variable	semi- variable	loss	Fixed
_____ expenses are those expenses which vary according to the units of production.	Fixed	Variable	semi- variable	loss	Variable
_____ expenses are those which are partly constant and partly variable.	Fixed	Variable	semi- variable	semi fixed cost	semi- variable
The difference between sales value and variable cost is known as	Profit	Contribution	BEP	Fixed cost	Contribution

Contribution=_____	Sales – variable cost	Sales – fixed cost	Sales + variable cost	Sales + Fixed cost	Sales – variable cost
Marginal cost is also known as _____	Period cost	Fixed cost	Volume cost	Prime cost	Volume cost
Fixed cost is also known as _____	Period cost	Total cost	Volume cost	Prime cost	Period cost
_____ indicates the relation ship of contribution to sales	P/V ratio	Contribution	Profit	Sales.	P/V ratio
P/v ratio can be improved by _____	Increasing the selling price	Decreasing selling price	Increasing the variable cost	Increasing the value of sale	Increasing the selling price
_____ = sales X P/V ratio.	Sales	Profit	Contribution	Fixed cost	Contribution
Contribution minus profit is equal to_____	Sales	Loss	Variable	Fixed cost	Fixed cost
P/V ratio=_____	Profit volume ratio	Profit variable ratio	Production volume ratio	Price of production	Profit volume ratio
Limiting factor is also known as _____	Key factor	Production factors	purchase factor	cost factor	Key factor
The criteria to select a suitable limiting factor is _____	contribution per unit of	Highest profit	Highest reduction	Highest cost	per unit of limited factor
_____ is the point at which sales revenue is equal to total cost.	Margin of safety	Break even	Fixed cost	sales	Break even
Break even point in unit can be ascertained by dividing the break even sales value by _____	Profit	P/V ratio	Selling price	Fixed expenses	Selling price
Increase in fixed cost =_____	No effect in BEP	Higher BEP	No effect in P/V ratio	Lower profit	No effect in P/V ratio
Decrease in sales volume = _____	No effect in BEP	Higher BEP	No effect in P/V ratio	Lower profit	Lower profit
Increase in variable cost = _____	No effect in BEP	Higher BEP	No effect in P/Vratio	Lower profit	No effect in P/V ratio
Decrease in selling price = _____	No effect in BEP	Higher BEP	No effect in P/V ratio	Lower profit	Higher BEP

Decrease in sales volume = _____	No effect in BEP	Higher BEP	No effect in P/V ratio	Lower profit	No effect in BEP
Is the angle at which sales line cuts the total cost line	BEP	Angle of incidence	Contribution	Variable cost	Angle of incidence
If the angle of incidence is _____ it indicates that the profits are being made at higher rate	Large	Small	curve	bend	Large
_____ is the difference between the total sales revenue and the sales at breakeven point.	Actual sales	Margin of safety	Reducing the fixed costs	Increasing fixed cost	Margin of safety
Margin of safety can be improved by _____	volume of sales	Decreasing the selling price	Reducing the fixed costs	Reducing the sales	Reducing he fixed costs
_____ margin safety indicates a favorable position of the business.	Large	high sales	Small	Lower profit	Large
Cost volume profit analysis may be applied for _____	Profit planning	ascertaining loss	calculating cost	calculating sales	Profit planning
Marginal cost is the sum of prime cost plus	Fixed cost	Variable cost	Variable overhead	Total cost	Variable overhead
At BEP contribution is equal to _____	Profit	Variable cost	Fixed cost	Sales	Fixed cost
At BEP, profit will be _____	High	Low	Zero	Medium	Zero
; variable cost per unit is Rs.7 and its selling price per unit is Rs10. BEP in units is equal to _____	3000	2100	7000	10,000	7000
50% state which company is likely to earn greater profits when the company have heavy demand for	Company A	Company B	Can be determined	Question is vague	Company B
Margin of safety ratio = _____	safety/ actual sales	safety X actual sales	Margin of safety	Margin of safety + actual sales	Margin of safety/ actual sales
What will be the selling price per unit, when variable cost per unit Rs.5.60 p/v ratio 60%?	6	8	14	10	14
changes in sales for the above periods rs.40,000 p/v ratio is _____	25%	40%	10%	7%	25%
_____ is the difference between the sales and marginal cost.	Fixed cost	Contribution	Profit	Cost	Contribution

When fixed cost is Rs 10,000 and p/v ratio is 50% the break even point will be Rs._____	20,000	40,000	50,000	90,000	20,000
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In _____ costing, only variable items of costs are taken into account.	Standard	Marginal	Working capital	Budgetary control	Marginal
_____ is not allocated to cost unit	Fixed costs	Variable cost	semi- variable cost	semi fixed cost	Variable cost
Marginal cost is _____ as variable cost	Same	Different	Variable	Fixed	Same
The accountant's concept of _____ different from economist's concept of marginal cost.	Total cost	Average cost	Additional cost	Marginal cost	Marginal cost
Economists define marginal cost as the _____ cost of producing one additional unit.	Total cost	Average cost	Additional cost	Marginal cost	Additional cost
Additional unit shall include an element of _____	Fixed cost	Variable cost	Total cost	semi variable cost	Fixed cost
Marginal cost = _____	prime cost – total variable	cost – prime cost	total variable cost	Prime cost + total fixed cost	Prime cost + total variable cost
Marginal cost = _____	Total cost – fixed cost	Total cost – variable cost	Total cost + fixed cost	Total cost + variable cost	Total cost – fixed cost
Total cost Rs.400, fixed cost Rs. 200 marginal cost = _____	Rs.600	Rs.200	Rs.500	Rs.100	Rs.200
Marginal cost = _____	prime cost	variable cost	work cost	cost of production	variable cost

Total cost Rs. 600 fixed cost Rs. 200 marginal cost _____	Rs.100	Rs.200	Rs.800	Rs.400	Rs.400
Total cost Rs.800 fixed cost Rs. 200 marginal cost = _____	Rs.600	Rs.800	Rs.1000	Rs.200	Rs.600
_____ is one which tends to be unaffected by variation in volume of output.	Total cost	Average cost	Marginal cost	Fixed cost	Fixed cost
Marginal income or marginal contribution known as the _____	Income or expenses	Income or profit	Income or loss	Expenses or profit	Income or profit
The difference between the contribution and fixed costs is the _____	Net profit or loss	Net profit	Gross profit	Net loss	Net profit or loss
Fixed costs remain constant _____ of level of activity.	Respective	Irrespective	Contribution	Variable	Irrespective
Sales price and variation cost per unit remain the _____	same	Different	Equal	no change	same
_____ reveal the state of _____ at various level of activity.	Assets	Liability	Profitability	turnover	Profitability
_____ fluctuates from time to time but in the long run marginal cost are stable.	Fixed cost	Variable cost	Total cost	semi fixed cost	Variable cost
_____ remains the same, irrespective of the volume of production.	Total costs	Average costs	Marginal cost	cost of production	Marginal cost
not the full production cost we will be using _____	Activity based costing	Absorption costing	Full costing	Marginal costing	Marginal costing
The management can take decision regarding _____ and tendering.	Pricing	Planning	co-ordinating	Controlling	Pricing
_____ expenses remain unchanged at any level of operation	Fixed	Variable	semi- variable	loss	Fixed
_____ expenses are those expenses which vary according to the units of production.	Fixed	Variable	semi- variable	loss	Variable
_____ expenses are those which are partly constant and partly variable.	Fixed	Variable	semi- variable	semi fixed cost	semi- variable
The difference between sales value and variable cost is known as	Profit	Contribution	BEP	Fixed cost	Contribution

Contribution=_____	Sales – variable cost	Sales – fixed cost	Sales + variable cost	Sales + Fixed cost	Sales – variable cost
Marginal cost is also known as _____	Period cost	Fixed cost	Volume cost	Prime cost	Volume cost
Fixed cost is also known as _____	Period cost	Total cost	Volume cost	Prime cost	Period cost
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P/v ratio can be improved by _____	Increasing the selling price	Decreasing selling price	Increasing the variable cost	Increasing the value of sale	Increasing the selling price
_____ = sales X P/V ratio.	Sales	Profit	Contribution	Fixed cost	Contribution
Contribution minus profit is equal to_____	Sales	Loss	Variable	Fixed cost	Fixed cost
P/V ratio=_____	Profit volume ratio	Profit variable ratio	Production volume ratio	Price of production	Profit volume ratio
Limiting factor is also known as _____	Key factor	Production factors	purchase factor	cost factor	Key factor
The criteria to select a suitable limiting factor is _____	contribution per unit of	Highest profit	Highest reduction	Highest cost	per unit of limited factor
_____ is the point at which sales revenue is equal to total cost.	Margin of safety	Break even	Fixed cost	sales	Break even
Break even point in unit can be ascertained by dividing the break even sales value by _____	Profit	P/V ratio	Selling price	Fixed expenses	Selling price
Increase in fixed cost =_____	No effect in BEP	Higher BEP	No effect in P/V ratio	Lower profit	No effect in P/V ratio
Decrease in sales volume = _____	No effect in BEP	Higher BEP	No effect in P/V ratio	Lower profit	Lower profit
Increase in variable cost = _____	No effect in BEP	Higher BEP	No effect in P/Vratio	Lower profit	No effect in P/V ratio
Decrease in selling price = _____	No effect in BEP	Higher BEP	No effect in P/V ratio	Lower profit	Higher BEP

Decrease in sales volume = _____	No effect in BEP	Higher BEP	No effect in P/V ratio	Lower profit	No effect in BEP
Is the angle at which sales line cuts the total cost line	BEP	Angle of incidence	Contribution	Variable cost	Angle of incidence
If the angle of incidence is _____ it indicates that the profits are being made at higher rate	Large	Small	curve	bend	Large
_____ is the difference between the total sales revenue and the sales at breakeven point.	Actual sales	Margin of safety	Reducing the fixed costs	Increasing fixed cost	Margin of safety
Margin of safety can be improved by _____	volume of sales	Decreasing the selling price	Reducing the fixed costs	Reducing the sales	Reducing the fixed costs
_____ margin safety indicates a favorable position of the business.	Large	high sales	Small	Lower profit	Large
Cost volume profit analysis may be applied for _____	Profit planning	ascertaining loss	calculating cost	calculating sales	Profit planning
Marginal cost is the sum of prime cost plus	Fixed cost	Variable cost	Variable overhead	Total cost	Variable overhead
At BEP contribution is equal to _____	Profit	Variable cost	Fixed cost	Sales	Fixed cost
At BEP, profit will be _____	High	Low	Zero	Medium	Zero
; variable cost per unit is Rs.7 and its selling price per unit is Rs10. BEP in units is equal to _____	3000	2100	7000	10,000	7000
50% state which company is likely to earn greater profits when the company have heavy demand for	Company A	Company B	Can be determined	Question is vague	Company B
Margin of safety ratio = _____	safety/ actual sales	safety X actual sales	Margin of safety	Margin of safety + actual sales	Margin of safety/ actual sales
What will be the selling price per unit, when variable cost per unit Rs.5.60 p/v ratio 60%?	6	8	14	10	14
changes in sales for the above periods rs.40,000 p/v ratio is _____	25%	40%	10%	7%	25%
_____ is the difference between the sales and marginal cost.	Fixed cost	Contribution	Profit	Cost	Contribution

When fixed cost is Rs 10,000 and p/v ratio is 50% the break even point will be Rs._____	20,000	40,000	50,000	90,000	20,000
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UNIT III : Budgets and Budgetary Control - Meaning - Types of Budgets - Steps in Budgetary Control - Fixed and Flexible Budgeting - Cash Budget - Responsibility Accounting - Concept - Significance - Different responsibility centers - Divisional performance - Financial measures - Transfer pricing.

Budgetary Control

Budget

According to ICMA England, A Budget is , “A Financial and /or quantitative statements, prepared and approved prior to a defined period of time, of the policy, to be purchased during the period for the purpose of attaining a given objective .

It is also defined as, “ A blue print of a projected plan of action of a business for a definite period of time.”

Budgetary Control

According to J. Vatty, “Budgetary Control is a system which uses budgets as a means of planning and controlling all aspects o producing and /or selling commodities and services.”

TYPES OF BUDGETS

- ☐ Production Budget
- ☐ Production Cost Budget
- ☐ Sales Budget
- ☐ Sales Overhead Budget
- ☐ Cash Budget
- ☐ Flexible Budget
- ☐ Zero – Base Budget

By analyzing the behaviour of costs in relation to changes in volume of output it becomes evident that there are some items of costs which tend to vary directly with the volume of output,

whereas there are others which tend to vary with volume of output, are called variable cost and those remain unaffected by change in volume of output are fixed cost or period costs.

BUDGETING AND PREPARATION OF VARIOUS BUDGETS

BUDGET

Budget is a financial and/or quantitative statement, prepared and approved prior to a defined period of time, of the policy to be pursued during that period for the purpose of attaining a given objective.

CIMA Official Terminology

It is a plan quantified in monetary terms, prepared and approved prior to a defined period of time, usually showing planned income to be generated and/or expenditure to be incurred during that period and the capital to be employed to attain a given objective. It is a plan of future activities for an organisation. It is expressed mainly in financial terms, but also usually incorporates many non-official quantitative measures as well.

BUDGETING

Budgeting is the whole process of designing, implementing and operating budgets. The main emphasis in this is short-term budgeting process involving the provision of resources to support plans which are being implemented.

BUDGETARY CONTROL

Budgetary control is the establishment of budgets relating the responsibilities of executives to the requirements of a policy, and the continuous comparison of actual with budgeted results, either to secure by individual action the objective of that policy or to provide a basis for its revision.

- CMA Official Terminology

FORECAST Vs. BUDGET

A forecast is a prediction of the future state of world, in connection with those aspects of the world, which are relevant to and likely to affect on future activities. Forecast is calculation of probable events. Both forecasting and planning involve recognition of the relevant factors in a given situation and understanding of what each factor has contributed to it and how each is likely to affect the future. Any organised business cannot avoid anticipating or calculating future conditions and trends for the framing of its future policy and decision. Forecast is concerned with 'probable events' and the budgeting relates to 'planned events' Budgeting should be preceded by forecasting, but forecasts may be made for purpose other than budgeting.

Requirements of a Sound Budgeting System

The following are the essential requirements of a sound budgeting system:

Clear lines of authority and responsibility have to be established throughout the organisation and the authority and responsibility of different levels of management and departmental executives are clearly defined.

The organisational goal should be quantified and clearly stated. These goals should be within the framework of organisation's strategic and long range plans. The setting of budgets is not a process detached from planning of the company's overall policy. A well defined business policy and objective is a prerequisite for budgeting.

The budget system should be established on the highest possible level of motivation. All levels of management should participate in setting budgets. Since this can produce more realistic targets, lead to better understanding of corporate objectives and the constraints within which organisation works. Participation in budgeting process will motivate the personnel to achieve budget levels of efficiency and activity.

The budget control system should provide for a degree of flexibility designed to change in relation to the level of activity attained and the impact of changes in sales and production levels on revenue, expenses are known. It enables more accurate assessment of managerial and organisational performance.

Proper communication systems should be established for management reporting and information service so that information relating to actual performance is presented to the manager responsible for it promptly to enable the manager to know the nature of variations so that remedial action is taken wherever necessary.

Educating the budget process and creation of cost awareness atmosphere will lead to effective implementation of budgets.

The top management's involvement in budget process is essential for successful implementation of the budgets. It should take interest not only in setting the budgets and targets but also to check upon the actual attainment, motivating the personnel, rewarding for achievements, investigation into reasons for any deviation of actuals from budgeted results, taking punitive action wherever necessary. A sound system for generating accurate and reliable and prompt accounting information is basic for successful implementation of budget system in an organisation.

Advantages of Budgeting

- Budgetary control establishes a basis for internal audit by regularly evaluating departmental results.
- Only reporting information which has not gone according to plan, it economises on managerial time and maximizes efficiency. This is called 'Management by Exception reporting.
- Scarce resources should be allocated in an optimal way, thus controlling expenditure
- It forces management to plan ahead so that long-term goals are achieved.
- Communication is increased throughout the firm and coordination should be improved.
- An effective budgetary control system will allow people to participate in the setting of budgets, and thereby have a motivational impact on the work force. Individual and corporate goals are aligned.
- Areas of efficiency and inefficiency are identified. Variance analysis will prompt remedial action where necessary
- The budget provides a yardstick against which the performance of the firm can be evaluated. It is better to compare actual with budget rather than with the past, since the latter may no longer be suitable for current and expected conditions.

- People are made responsible for items of cost and revenue, i.e. areas of responsibility are clearly delineate.

Problems in Budgeting

- Budgets are perceived by the work force as pressure devices imposed by top management. This can have an adverse effect on labour relations.
- It can be difficult to motivate an apathetic work force.
- The pressure in the budgeting system may result in inaccurate record keeping. :
- Managers may over-estimate costs in order that they will not be held responsible in the future for over spending. The difference between the minimum necessary costs and the costs built into the budget is called slack.
- Departmental conflict arises because of competition for resource allocation. Departments blame each other if targets are not achieved.
- Uncertainties can occur in the system,' e.g. uncertainty over demand, inflation, technological change, competition, weather etc. ;
- It may be difficult to align individual and corporate goals. Individual goals often change and may be much lower than the firm's goals.
- It is important to match responsibility with control, otherwise, a manager will be demotivated. Costs can only be controlled by a manager if they occur within a certain time span and can be influenced by that manager. A problem arises when a cost can be influenced by more than one person.
- Managers are often accused of wasting expenditure when they either
demand a greater budget allowance than is really needed, or
unnecessary spending in order to fully utilise their allowance through fear of future cut-backs. Zero base budgeting can overcome this problem.
- Sub-optimal decisions may arise when a manager tries to enhance his short-run performance in a way which is detrimental to the organisation as a whole, e.g. delaying expenditure urgently needed repairs.
- They are based on assumed conditions (e.g. rates of interest) and relationship (e.g. product-wise held constant) that are not varied to reflect the actual circumstances that come about.
- They make allowance for tasks to be performed only in relation to volume rather than time.
- They compare current costs with estimates "based only on historical analysis.

- Their short-term horizon limits the perspective, so short-term results may be sought at the expense of longer term stability or success.
- They have a built-in bias that tends to perpetuate inefficiencies. For example, next year's budget is determined by increasing last year's by 15 per cent, irrespective of the efficiency factor in last year.
- As with all types of budgets the game of 'beating the system' may take more energy factor in last year.
- The fragile internal logic of static budget will be destroyed if top management reacts to draft budgets by requiring changes to be made to particular items, which are then not reflected through the whole budget.

BUDGETING PROCESS

The method by which the annual budget is prepared will differ from organisation to organisation. In some organisations budgeting may be a well organised, well documented procedures while in others the budget may be prepared in a rather ad hoc and disorganised manner. The budget process is shown in the following figure. The steps in budgeting process representative to all organisations is given below:

1. Specification and Communication of Organisational Objectives :

Budget is a medium through which organisation's objectives and policies are reflected. Budgeting is used as a tool for implementing the organisational objectives. It is essential to understand, specification and documentation of organisational objectives before the managers start for budgeting the organisational activities. Following from a statement of objectives, a corporate long-range or strategic plan can be built up. Distinction may be drawn between current operating activities and future strategic activities. Budgeting is a management tool used for shorter term planning and control. This classification of activities into short-term and strategic long-term and communication to the managers will lay down a sort of guide for budgeting the activities within the specified objectives and activity

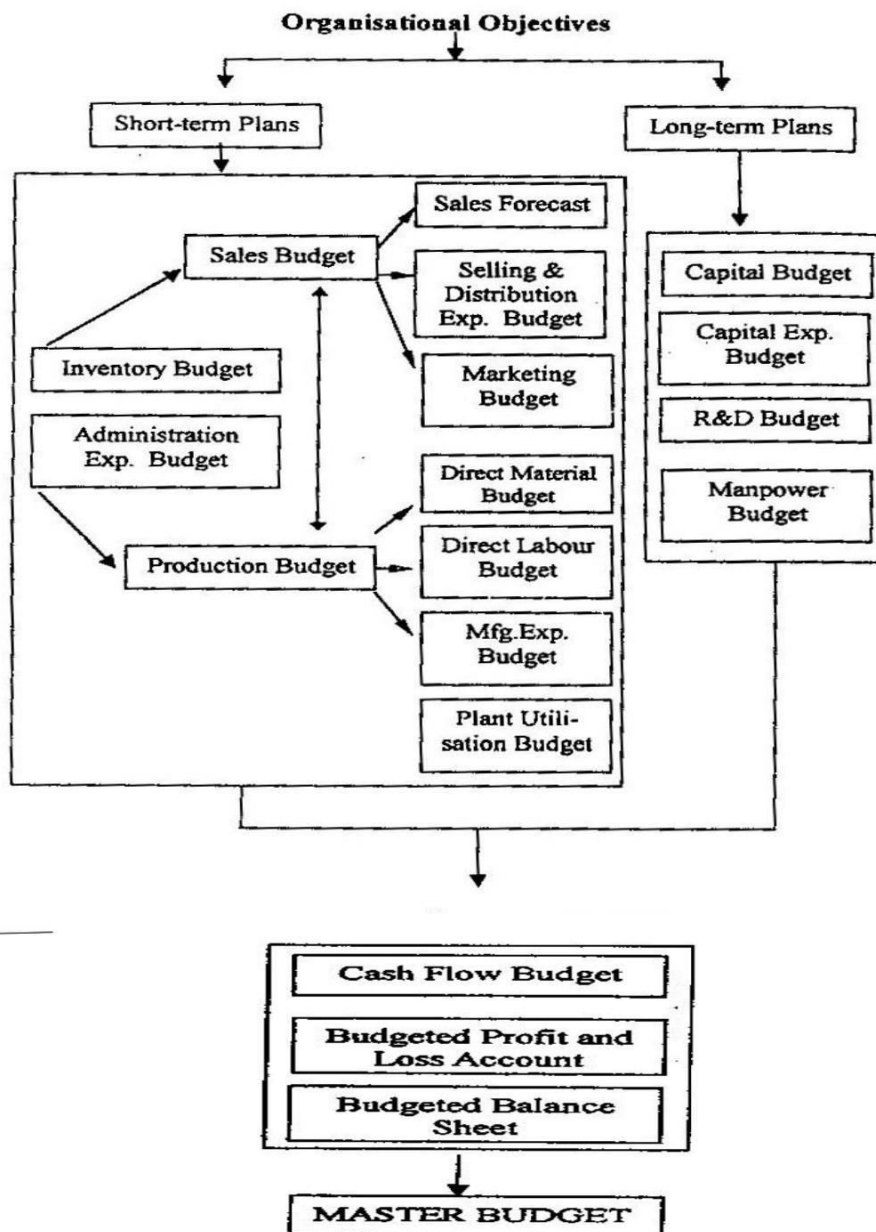


Figure: Budgeting Process

2. Determination of Key Success Factors :

The performance of every organisation will be particularly influenced by certain critical success factors, key factor will influence the activities of an undertaking and it will limit the volume of output and will have direct impact on the profitability of the organisation. Critical success factors may consist of a specified raw material, a specific type of labour skill, a tool, a service facility, floor space, cash resources etc. The limitation or shortage of such critical factors may result in restricting capacity utilisation. The limiting factors may shift from time to time due to external and internal circumstances,. In organisations which are already operating at maximum capacity, the most critical success factor is likely to be productive capacity. In majority of organisation the most critical factor is likely to be consumer demand or the expected level of revenues or funds. Because of this, the sales or funds budget is usually the first budget to be prepared. It will determine the content of other related budgets.

3. Establishment of Clear Ones of Authority and Responsibility:

An organisational chart defining the lines of authority and responsibility of the managers responsible for accomplishment of organisational objectives is to be prepared. The organisational chart should define the following:

- ☐ The responsibility of individual functional managers
- ☐ Delegation of authority to the concerned functional managers
- ☐ Inter-functional relationship of the organisation.

4.Establishment of Budget Centres :

Budget centre is a section of an organisation for which separate budgets can be prepared and control exercised (CMA official terminology). The entire organisation is divided into different segments, which are clearly defined for the purpose of budgetary control according to responsibilities of departmental heads. These segments of an organisation defined for the purpose of budgetary control are technically referred to as budget centers.

5. Determination of Budget Period :

Budget period is a period for which the budget is prepared. A budget can; be a long-term budget or short-term budget. A short term budget is generally prepared for one year or lesser period. Quarterly, monthly or even weekly budget can be prepared for certain operations of the company. The short-term budget will generally not exceed the full accounting year. The long-term budget which extend to five or even more years. This long-term budget will agree with long-term forecast of sales, organisational schemes for expansion modernisation, diversification etc. The long-term budgets are used for planning whereas short-term budget is used for implementation of long range plans, activities, objectives and also for control purposes. Capital expenditure budget and Research and development expenditure budget are the examples of long-term budgets. Annual sales budget, Income and expenditure budget are the examples of short-term budgets.

6. Establishment of Budget Committee :

In small organisations, the person incharge of finance and accounting functions will involve in preparation of budgets. The setting up of a budget Committee is necessary in case of large and complex organisations. As the budget involves the various functional activities, the closest association of functional managers is essential for satisfactory formulation and

implementation of the budget. The budget committee will be composed of major functional heads. It can be effective medium for coordination and review of the budget programme. The main functions of budget committee are as follows:

To review the functional budget estimates.

To recommend the functional budgets for revision.

To review and advise on the general policies affecting more than one function.

To review, approval and adoption of revised budgets.

To receive and analyse the-periodic performance reports from budget centers.

To examine the budget reports showing actuals compared with budget.

To locate the responsibility for discrepancies between actuals and budgets, and recommends the corrective action.

To participate in decision making in strategic issue like, expansion, modernisation, diversification and revision of organisational activities, which have direct relationship to the company's budgets.

7.Appointment of Budget Controller :

Proper budget administration is facilitated by the budget controller who is made responsible for the preparation of the budget and coordinating activities of the individual departments. His functions and responsibilities will include the following:

Generation and dissemination of information needed for decision-making and planning to each person in the organisation having such responsibilities. The information may include, but is not limited to, forecasts of economic and social conditions, governmental influences, organisation goals and standards for decision making, economic and financial guidelines, performance data, performance standards and the prerequisite plans of others in the enterprise.

Establishing and maintaining a planning system which:

- ☐ Channels of information to each of persons responsible for planning,
- ☐ Schedules the formulation of plans,
- ☐ Structures the plans of sub-sections of the enterprise into composites at which points, tests are made for significant deviations from economic and financial guidelines and from goal achievement and repeats the process for larger segments to and including the enterprises as a whole, and

- ☐ Disseminates advice of approval, disapproval or revision of plans to affected individuals in accordance with established lines of authority and organisational responsibilities.

Construction and using models of the enterprise both in total and by sub-sections, to test the effect of internal and external variables upon the achievement of organisation goals.

Ensuring the accumulation of performance data related to responsibility centers within the organisation, measured against the plans, whether period or project, for each centre, transmitted to each centre, and the analysis of deviations of actual from planned performance.

The budget controller is responsible for the final preparation, presentation and interpretation of the financial plan of the company. He is responsible for development of budget procedures. He will act as a staff manager coordinating all budget functions.

8. Preparation of Budget Manual:

Budget manual is the documentation of policies and procedures involved in implementation of budgetary control system. A budget manual will normally set out the following:

- ☐ Responsibility and authority of different levels of management.
- ☐ Establishment of organisational hierarchy.
- ☐ Definition and clarification of various terms used in budgets.
- ☐ Fixation of responsibility for preparation and implementation of budgets and budgetary system.
- ☐ Specification and timing of statements and reports.
- ☐ Procedures in management information system in the organisation.
- ☐ Procedures in feed-back and feed-forward control systems.
- ☐ Exhaustive programme of budget preparation.

The budget manual contains the standardised form which become information generation for preparation of budgets. It contains a complete programme of activities involved in budget preparation. The budget' manual should provide detailed procedure for preparation and development and control of each budget like Sales budget, Production budget, Direct material budget, Direct labour budget, Overhead budget, Capital expenditure budget, R&D expenses budget etc.

PREPARATION OF SALES OR REVENUE BUDGET

The sales revenue budget is the starting point of most master budgets. In manufacturing organisations sales budgeting begins with the forecasting of the sales of individual products. These forecasts may be by geographical area, by class of customer or by some other segment. In case of manufacturing companies, the budgeting will begin with the Revenue budget of the organisation. Forecasting sales is a difficult task as many assumptions need to be made about consumer demand, environmental conditions likely customer demand at different prices, the

probable prices for similar products sold by competitors, the number of economic activity in the regions where the product is sold, the number of sales personnel required to service the estimated demand, the appropriate level of advertising and promotional expenditures, the impact of anticipated changes in exchange rates and changes in the taxes such as value added tax or customs and excise duties.

PREPARATION OF BUDGETS

Once the sales budget has been determined from a range of sales forecasts it is possible to construct the following other budgets:

1. Production Budget

The production budget is an estimate of the quantity of goods that must be produced during the budget period. The aim of the production function will presumably be to supply finished goods of a specified quality to meet marketing demands. The sum of sales requirements plus changes in stock levels of finished goods gives the production requirements for the period being budgeted. In order to construct the production budget we need the level of sales expected and the desired levels of stock of finished goods. The following formula is used for calculation of units to be produced.

$$\text{Production} = \text{Sales} + \text{Closing stock} - \text{Opening stock}$$

Production budget should be developed keeping in view the optimal, balance between sales, inventories and production so as to result in minimum cost. Once the production level is determined, it becomes the starting point for the direct materials, direct labour and manufacturing overhead budgets.

2. Plant Utilisation Budget

Plant utilisation budget is prepared for the estimation of plant capacity to meet the budgeted production during the period considered under the budget. For this purpose the plant capacity is expressed in terms of convenient units of measurement like production in hours, production in weight (M.T./Kg.) production in units etc. Budgeted machine load in each department should be worked out.

In case the budgeted plant utilisation is more than the plant capacity the management may think of extra shift working, purchase of new machinery, overtime working, sub-contracting etc. When the budgeted plant utilisation is lesser than the plant capacity, management should consider the ways to increase sales volume.

3. Direct Materials Budget

The direct materials budget specifies the budgeted quantities of each raw material required for the budgeted production. The requirement to purchase of direct material can be calculated with the help of the following formula.

$$\text{Purchases} = \text{Closing stock} + \text{Usage} - \text{Opening stock}$$

The materials budget provides basis for fixing optimum levels of inventory stocks, establishment of control over material usage and purchase cost budget.

4. Direct Labour Budget

The direct labour budget will ensure that the plan will make the required number of employees of relevant grades and suitable skills available at the right times. It specifies the direct labour requirement, of various products as envisaged in the production budget. The direct labour budget will be developed for both direct labour hours and direct labour cost. After the labour requirements relating to different grades are finalized, estimated rate per hour and labour cost per unit is arrived at:

Illustration 1:

The direct labour hour requirements of three of the products manufactured in a factory, each involving more than one labour operation, are estimated as follows:

Direct Labour Hour / per unit (in minutes)

Product Operation	1	2	3
1	18	42	30
2	-	12	24
3	9	9	-

The factory works 8 hours per day, 6 days in a week. The budget quarter is taken as 13 weeks and during a quarter, lost hours due to leave and holidays and other causes are estimated to be 124.

The budgeted hourly rates for the workers manning the operations, 1, 2 and 3 are Rs.2.00, Rs.2.50 and Rs.3.00 respectively. The budgeted sales of the product during the quarter are:

Product	1	9,000 units
	2	15,000 units
	3	12,000 units

There is a carryover of 5,000 units of Product 2 and 4,000 units of Product 3 and it is proposed to built up a stock at the end of the budget quarter as follows:

Product	1	1,000 units
	3	2,000 units

Prepare a manpower budget for the quarter showing for each operation:

(i) Direct labour hours, (ii) Direct labour cost, and (iii) Number of workers.

Before preparing the quarterly manpower budget for 3 products operation-wise, it is necessary to work out the following:

(a) Production budget, (b) Direct labour hours for each product operation-wise, (c) Number of workers required for each operation.

(a) Production Budget for the quarter ending

Particulars		Product 1	Product 2	Product 3
Budgeted Sales	(units)	9,000	15,000	12,000
Add: Stock to be built up	(closing)	1,000	-	2,000
Total		10,000	15,000	14,000
Less: Carry-over stock	(openin g)	-	5,000	4,000
Budgeted Production		10,000	10,000	10,000

(b) Direct Labour Hour for each Product (operation-wise) Operation I

Particulars	Product 1	Product 2	Product 3
Direct labour hrs. per unit (minutes)	18	42	30
Budget Production (units)	10,000	10,000	10,000
Direct labour hrs. required:	$\left(\begin{array}{r} 10,000 \\ 00 \\ \hline 0 \times \\ \hline 18 \\ \hline 60 \end{array} \right)$	$\left(\begin{array}{r} 10,000 \\ 00 \\ \hline x \\ \hline 42 \\ \hline 60 \end{array} \right)$	$\left(\begin{array}{r} 10,000 \\ \hline x 30 \\ \hline 60 \end{array} \right)$
	3,000 hrs.	7,000 hrs.	5,000 hrs.

Total labour hours required for Operation I = 15,000 hours.

Operation II

Particulars	Product 1	Product 2	Product 3
Direct labour hrs. per unit (minutes)	-	12	24
Budget Production (units)	10,000	10,000	10,000
Direct labour hrs. required:	-	$\left(\begin{array}{r} 10,000 \\ 00 \\ \hline x \\ \hline 12 \\ \hline 60 \end{array} \right)$	$\left(\begin{array}{r} 10,000 \\ \hline 0 \times 24 \\ \hline 60 \end{array} \right)$
	-	2,000 hrs.	4,000 hrs.

Total labour hours required for Operation II = 6,000 hours.

Operation III

Particulars	Product 1	Product 2	Product 3
Direct labour hrs. per unit (minutes)	9	6	-
Budget Production (units)	10,000	10,000	10,000

Direct labour hrs. required:	$\left(\begin{array}{r} 10, \\ 00 \\ 0 \times \\ \hline 9 \\ 60 \end{array} \right)$	$\left(\begin{array}{r} 10, \\ 000 \\ \times 6 \\ \hline 60 \end{array} \right)$	
	1,500 hrs.	1,000 hrs.	

Total labour hours required for Operation III = 2,500 hours.

(c) Number of Workers required for each Operation

Working hrs. of factory in a quarter = 13 weeks x 6 days week x 8 hours a day	624 hours
Less: Loss of hours due to leave, holidays and others causes	124 hours
Total available hours per man	500 hours

Now, the requirements for manpower for each operation can be worked out.

Manpower Requirement:

Total direct labour hrs./ Total available hours required per man

a. Operation I	= 15,000/500	= 30 men
b. Operation II	= 6,000/500	= 12 men
c. Operation III	= 2,500/500	= 5 men

Now, manpower budget for the quarter can be prepared for the three products and for each operation. The same is given below:

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Operation			Product I	Product II		Product 3		Total		No. of workers
				D.L. Hrs.		Cost Rs.		Cost Rs.		
I		7,000			10,000		30,000		30	

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II				2,000	10,000	15,000	12
III				1,000	-	7,500	5
Total				10,000	20,000	52,500	47

5. Manufacturing Expenses Budget

Manufacturing overhead refers to the aggregate of factory indirect material, indirect labour and indirect expenses which can be divided into fixed and variable elements of manufacturing overhead. The fixed manufacturing overhead will not vary with the change in the level of activity and it can be estimated with a fair degree of accuracy. On the other hand, variable manufacturing overhead per unit will be estimated and the total variable manufacturing overhead will be determined with the help of the activity level. Preparation of variable overhead budget is based on scheduled production and operating conditions.

Illustration 2:

Gama Engineering Company Limited manufactures two Products X and Y. An estimate of the number of units expected to be sold in the first seven months of 2001 is given below:

Months	Product X	Product Y
January	500	1,400
February	600	1,400
March	800	1,200
April	1,000	1,000
May	1,200	800
June	1,200	800
July	1,000	980

It is anticipated that:

- There will be no work-in-progress at the end of any month;
- Finished units equal to half the anticipated sales for the next month will be in stock at the end of each month (including June 2001).

The budgeted production and production costs for the year ending 31st June, 2001 are as follows:

Particulars	Product X	Product Y
Production (units)	11,000	12,000
Direct materials per unit (Rs.)	12	19
Direct wages per unit (Rs.)	5	7
Other manufacturing (Rs.)	33,000	48,000

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charges apportionable to each type of product		
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You are required to prepare:

- (a) Production budget showing the number of units to be manufactured each month.
- (b) Summarised production cost budget for the 6 month-period January to June 2001.

(a) Production Budget (for the 6 months ending 30th June, 2001

(units)

Particulars			March	April	May	June
Product X						
Closing Stock			500	600	600	500
Sales			800	1,000	1,200	1,200
			1,300	1,600	1,800	1,700
Less: Opening Stock			400	500	600	600
Production(in units)			900	1,100	1,200	1,100

Product Y	Jan.	Feb.	March	April	May	June
Closing stock	700	600	500	400	400	450
Sales	1,400	1,400	1,200	1,000	800	800

	2,100	2,000	1,700	1,400	1,200	1,250
Less: Opening Stock	700	700	600	500	400	400
Production (in units)	1,400	1,300	1,100	900	800	850

(b) Summarised Production Cost Budget (for the 6 months ending 30th June, 2001) . (Rs.)

Production	X-5,550 units		Y-6,350 units	
	Unit Cost	Total Cost	Unit Cost	Total Cost
Direct materials	12	66,600	19	1,20,650
Direct wages	5	27,750	7	44,450
Manufacturing charges	3	16,650	4	25,400
Total	20	1,11,000	30	1,90,500

Note: Manufacturing charges have been presumed to be variable costs in the absence of any other information. They could, however be presumed to be fixed charges also for the whole year. In such a case they will be taken as 50% of the annual charges for the first six months in each case.

6. Administrative Expenses Budget

Administrative expenses in an organisation will be incurred for the following activities:

- (a) Formulation of policies,
- (b) Directing the organisation, and
- (c) Controlling the operations of an organisation etc.

The administrative expenses will not include those expenses which are incurred for manufacturing, selling and distribution, R&D functions. The administrative overheads are of a fixed nature and the change in the level of activity will not bring any change in the administrative expenses incurred. On study of behaviour of costs, if any administrative expenses are of variable or semi-variable nature, those expenses can be budgeted with the Level of activity.

7. Selling and Distribution Expense Budget

Selling expenses refers to expenses incurred relating to the activities:

- (a) Creation and stimulation of demand of company's product, and
- (b) Secure orders.

Selling expenses include salesmen's salaries, commissions, expenses and related administrative cost etc. Distribution expenses refers to expenses incurred relating to the following activities:

- (a) Maintaining and creating demand of product, and
- (b) Making the goods available in the hands of the customer.

Distribution expenses include transportation, freight charges, stock control, warehousing etc.

Preparation of selling and distribution expense budget is based on the sales budget. The selling and distribution expenditure can be estimated with the help of flexible budgeting technique.

8. Research and Development Budget

This will cover materials, equipment and suppliers, salaries, expenses and other costs relating to design, development and technical research projects.

9. Capital Expenditure Budget

The capital expenditure budget represents the expected expenditure on fixed assets during the budget period. It is an outlay on assets that are required and held for the purpose of generating income, e.g. plant and machinery, motor vehicles, premises etc. It is a plan for capital expenditure, in monetary terms. Capital expenditure may be incurred for expansion, diversification, modernisation plans. It relates to projects involving huge capital outlay and long-term commitments. A capital expenditure budget must reveal following information project wise:

- ☐ Original appropriation
- ☐ Cumulative expenditure up-to-date
- ☐ Unutilized appropriation
- ☐ Fresh appropriation, and
- ☐ Limit carried to next period

Programme budgeting technique is more appropriate for capital expenditure budgeting.

Capital expenditure authorisation is the formal authority to incur capital expenditure which meets the criteria defined to achieve the results laid down under a system of capital appraisal. Levels of authority must be clearly defined and the reporting structure of actual expenditure through prior authorisation on a formal proposal basis and monitoring as expenditure is incurred.

10. Manpower Budget

Manpower budget will taken an overall view of the organisations needs for manpower for all areas of activity - sales, manufacturing, administrative, executive and so on for a period of years.

11. Marketing Expenditure Budget

Marketing budget include estimated expenditure to be inquired for advertising promotional activities, public relations, marketing research, customer services etc. during the budget period.

12. Capital Budget

Capital budget is concerned with the question of capacity and strategic direction. This must deal with the evaluation of alternate dispositions of capital funds as well as with the choice of the best capital structure.

PREPARATION OF MASTER BUDGET AND ITS IMPLEMENTATION

Master budget is a budget which is prepared from, and summarises the functional budgets. It is a summary budget that incorporates the key figures and totals of ail other budgets. The process in preparation of Master budget is shown in the figure Budgetary Process (given at the beginning of this chapter).

The Master budget may closely reflect two dimension of the organisations:

1.Organisational Structure: All revenues and expenditures must be attributed to the budget centre and managers responsible for them. At the control stage, later, a system of responsibility accounting reports must be built up to inform responsible managers for the progress of that result against budgets.

2.Products or Programmes: In this dimension, the budget information is organised to show the revenues, costs, contributions, profits and levels of production/ sales activity for each product or programme produced by, the organisation.

Negotiation of Budgets :

Budgets may be prepared in a top-down or bottom-up manner. In either process, the budget will need to be negotiated by superiors, subordinates and by different departments competing for the scarce resources. This process of negotiation allows the exercise of both formal and informal power. Participation in budgeting appears to lead to more positive attitude towards the budget and greater acceptance of it.

Coordination and Review of Budget:

Incompatibility and inconsistency may arise because the budgeting process, usually involves a number of different departments - e.g. sales,-production, marketing and numerous senior and lower level managers. It should be ensured that consistency is arrived at in finalisation of master budget.

Acceptance of Communication of Budgets :

After the master budget is accepted and agreed upon by all the levels of organisational hierarchy, it will be passed on for implementation. It is essential that each manager responsible for implementing the budget policy be informed as to his responsibility.

Budget Monitoring:

It is important that the actual performance of each manager should be regularly and frequently compared against budget targets in order to prevent it from getting 'out of control' and in case of change in internal and external business environment a revision of the budget may be necessitated.

CASH BUDGET

Cash flow budget is a detailed budget of income and cash expenditure incorporating both revenue and capital items. The cash flow budget should be prepared in the same format in which the actual position is to be presented. The year's budget is usually phased into shorter periods for control, e.g. monthly or quarterly. Cash budget is concerned with liquidity must reflect changes between opening and closing debtor balances and between opening and closing creditor balances as well as focusing attention on other inflows and outflows of cash. The cash budget shows the cash flows arising from the operational budgets and the profit and assets structure. A cash budget can be prepared in the following ways:

1. Receipts and Payments Method :

In this method all the expected receipts and payments for budget period are considered. All the cash inflow and outflow of all functional budgets including capital expenditure budgets are considered. Accruals and adjustments in accounts will not affect the cash flow budget. All anticipated cash inflow is added to the opening balance of cash and all cash payments are deducted from this to arrive at the closing balance of cash. This method is commonly used in business organisations.

2. Adjusted Income Method :

In this method the annual cash flows are calculated by adjusting the sales revenues and costing figures for delays in receipts and payments (changes in debtors and creditors) and eliminating non-cash items such as Depreciation.

3. Adjusted Balance Sheet Method :

In this method, the budgeted balance sheet is predicted by expressing each type of assets and short-term liabilities as percentage of the expected sales. The profit is also calculated as a percentage of sales, so that the increase in owners equity can be forecast. Known adjustments, may be made to long-term liabilities and the balance sheet will then show if additional finance is needed.

It is important to note that the capital budget will also be considered while preparation of cash flow budget because the annual budget may disclose a need for new capital investments and also, the costs and revenues of any new projects coming on stream will need to be incorporated in the short-term budgets. A number of additional financial statements, such as sources and application of funds statement or schedules or loan service payments or capital raising schedules may be produced.

Illustration 3:

Prepare a cash budget for the three months ending 30th June, 2001 from the information given below:

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a.

(Rs.)

Month	Sales	Materials	Wages	Overheads
February	14,000	9,600	3,000	1,700
March	15,000	9,000	3,000	1,900
April	16,000	9,200	3,200	2,000
May	17,000	10,000	3,600	2,200
June	18,000	10,400	4,000	2,300

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b. Credit Terms:

Sales/ Debtor - 10% sales are on cash, 50% of the credit sales are collected next month and the balance in the following month.

Creditors	Materials	2 months
	Wages	$\frac{1}{4}$ month
	Overheads	$\frac{1}{2}$ month

c. Cash and bank balance on 1st April, 2001 is expected to be Rs.6,000.

d. Other relevant information is:

- (i) Plant and Machinery will be installed in February 2001 at a cost of Rs.96,000. The monthly installments of Rs.2,000 is payable from April onwards.
- (ii) Dividend @ 5% on Preference Share Capital of Rs.2,00,000 will be paid on 1st June.
- (iii) Advance to be received for sale of vehicles Rs.9,000 in June.
- (iv) Dividends from investments amounting to Rs. 1,000 are expected to be received in June.
- (v) Income-tax (advance) to be paid in June, is Rs.2,000.

Working Notes:**Collection from Sales/ Debtors**

Month	Calculation	April	May	June
February	(14,000-10% of 14,000) x 50%	6,300	-	-
March	(15,000-10% of 15,000) x 50%	6,750	6,750	-
April	10% of 16,000	1,600	-	-
	(16,000-10% of 16,000) x 50%	-	7,200	7,200
May	10% of 17,000	-	1,700	-
	(17,000-10% of 17,000) x 50%	-	-	7,650
June	10% of 18,000	-	-	1,800
		14,650	15,650	16,650

Cash budget for the quarter April - June 2001

Particulars	April	May	June	Total
1. Balance b/f	6,000	3,950	3,000	6,000

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2. Receipts				
Sales (Note 1)	14,650	15,650	16,650	46,950

Dividend	-	-	1,000	1,000
Advanced against vehicle	-	-	9,000	9,000
Total	20,650	19,600	29,650	62,950
3. Payment				
Creditors*	9,600	9,000	9,200	27,800
Wages*	3,150	3,500	3,900	10,550
Overhead*	1,950	2,100	2,250	6,300
Capital Expenditure	2,000	2,000	2,000	6,000
Income tax advance	-	-	2,000	2,000
Total	16,700	16,600	29,350	62,650
4. Balance c/f	3,950	3,000	300	300

* Payments for creditors, wages and overhead have been computed on the same pattern.

FLEXIBLE BUDGETING

Flexible budget is a budget which, by recognising the difference in behaviour between fixed and variable costs in relation to fluctuations in output, turnover, or other variable factors etc. It is designed to change in relation to the level of activity actually attained.

A flexible budget is one that takes account of a range of possible volumes. It is sometimes referred to as a multi-volume budget. The range of possible outputs may be known as the relevant range. 'Flexing' a budget takes place when the original budget is deliberately amended to take account of change activity levels.

The flexible budget is based on the fundamental difference in behaviour of fixed costs, variable costs and semi-variable costs. Since fixed costs do not vary with short-run fluctuations in activity it can be seen that the flexible budget will really consist of two parts: The first is a fixed budget begin made up of fixed costs and the fixed component of semi-variable costs. The second part is a truly flexible budget that consists solely of variable costs.

Steps in Preparation

The steps involved in preparation of flexible budget are as follows:

- ☐ Specify the time period that is used.
- ☐ Classify all costs into fixed, variable and semi-variable categories.
- ☐ Determine the types of standards that are to be used.
- ☐ Analyse cost behaviour patterns in response to past levels of activity.
- ☐ Build up the appropriate flexible budget for specified levels of activity.

Importance

Flexible budgets are important aids to decision making which help the management in the following ways:

- ☐ Flexible budget enable an organisation to predict its performance and income levels at a given range of sales levels and activity levels. It can be seen the impact of changes in sales and production levels on revenue, expenses and ultimately income.
- ☐ Flexible budgets enables more accurate assessment of managerial and organisational performance.

Disadvantages

The procedure for drawing up a flexible budget is quite straight forward. The flexed budget is only accurate, if costs behave in a predicted manner. All too often assumptions are made about cost behaviour which are too simplistic and hence do not reflect what actually happens.

- ☐ Flexible budgets assume linearity of costs and therefore take no account of, for example discounts for bulk purchases of materials Labour costs are unlikely to behave in a linear fashion unless a piecework scheme is in operation.
- ☐ Such budgets also rely on the assumption of continuity when costs may actually behave in a stepped or discontinue matter.
- ☐ The method of determining the fixed and variable elements of costs is often arbitrary and hence the flexed cost bear little relation to the correct budgeted cost for the flexed level of activity.
- ☐ Although flexed budgets tend to maintain fixed costs at the same level whatever the level of output/ sales, very often fixed costs are actually fixed only over a relevant output range.

Illustration 4:

ABC Ltd. Manufactures a single product for which market demand exists for additional quantity. Present sale of Rs.60,000 per month utilised only 70% capacity of the plant. Sales Manager assures that with a reduction of 10% in the price he would be in a position to increase the sale by about 25% to 30%

The following data are available:

a) Selling price	Rs. 10 per unit
b) Variable cost	Rs.3 per unit
c) Semi-	Rs.6,000 fixed plus Re.0.50 per unit

variable cost	
d) Fixed cost	Rs.20,000 at present level estimated to be Rs.24,000 as 80% output.

You are required to submit the following statements to the Board showing:

1. The operating profits at 60%, 70% and 80% levels at current selling price and at proposed selling price.
2. The percentage increase in the present output which will be required to maintain the present profit margin at the proposed selling price.

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Statement of Operating Profit at different capacity levels at Current Selling Price (Rs.)

Capacity Levels Product and Sales (units)	60% 6,000	70% 7,000	80% 8,000
Sales (@Rs. 10) (A)	60,000	70,000	80,000
Costs:			
Variable cost (@ Rs.3)	18,000	21,000	24,000
Semi-variable cost			
Fixed component	6,000	6,000	6,000
Variable component (@ Re.0.50 per unit)	3,000	3,500	4,000
Fixed cost	20,000	20,000	24,000
Total cost (B)	47,000	50,500	58,000
Profit (A) - (B)	13,000	19,500	22,000

Statement of Operating Profit at different capacity levels at proposed Selling Price

(Rs.)

Capacity Levels	60 %	70 %	80 %
Sales (@ Rs.9)	54,000	63,000	72,000
Less: Total cost	47,000	50,500	58,000
Profit	7,000	12,500	14,000

Calculation of Percentage Increase in present output for desired profit

(Rs. per unit)

Proposed selling price	9.00
Less: Variable cost (Rs.3.00 + Re.0.50)	3.50
Contribution per unit	5.50

(Rs.)

Present Profit	13,000
----------------	--------

Add: Fixed cost (Rs.20,000 + Rs.6,000)	26,000
Desired Contribution	39,000

Required Output

$$= \frac{\text{Desired Contribution}}{\text{Contribution per unit}}$$

$$= \frac{\text{Rs.39,000}}{\text{Rs.5.50}} = 7,091 \text{ units}$$

Increase in Production required

$$= 7,091 \text{ units} - 6,000 \text{ units} = 1,091 \text{ units}$$

Percentage increase over present Output

$$= \frac{1,091}{6,000} \times 100 = 18.18\%$$

Transfer Pricing

In the post economic liberalization, multinational companies started expanding their business transactions across the border. The rapid growth of economic activities of multinational groups led to various complex issues regarding taxation. The multinational groups have more inter business activities like transfer of goods or services. One group transfers the goods and services to another group. Such transfers cause the problem of pricing the goods or services.

Thus it may not comply with necessary rules and regulations while transferring goods or services. This noncompliance with statutory provisions may tend to create revenue loss to the exchequer. Hence, there is a need to provide statutory framework which will lead to compute the profits and tax in a fair manner.

Provisions Regulating Transfer Pricing in India

The Finance Act, 2001 introduced law of transfer pricing in India through sections 92A to 92F of the Indian Income Tax Act, 1961 which guides computation of the transfer price and suggests detailed documentation procedures.

Scope & Applicability

Transfer Pricing Regulations (“TPR”) are applicable to the all enterprises that enter into an ‘International Transaction’ with an ‘Associated Enterprise’. Therefore, generally it applies to all cross border transactions entered into between associated enterprises. It even applies to transactions involving a mere book entry having no apparent financial impact. The aim is to arrive at the comparable price as available to any unrelated party in open market conditions and is known as the Arm’s Length Price (‘ALP’).

Transfer Pricing

“Transfer price” is a price at which the value of goods or services being transferred between independently operating units of an organization. But, the expression “transfer pricing” generally refers to prices of transactions between associated enterprises may be different from the prices at which an independent enterprise transfers to another the same goods or services.

Arm’s Length Price

The term arm’s length price refers to a price which is applied or proposed to be applied in a transaction between persons other than associated enterprises, in uncontrolled conditions.

Objectives of Transfer Pricing

There are three objectives that should be considered for setting out a transfer price.

Autonomy of the Division. The prices should seek to maintain the maximum divisional autonomy so that the benefits, of decentralization (motivation, better decision making, initiative etc.) are maintained. The profits of one division should not be dependent on the actions of other divisions,

Goal congruence: The prices should be set so that the divisional management’s desire to maximize divisional earnings is consistent with the objectives of the company as a whole. The transfer prices should not encourage suboptimal decision-making.

Performance appraisal: The prices should enable reliable assessments to be made of divisional performance.

Determination of Arm’s Length Price

The arm’s length price in relation to an international transaction can be determined by any of the following methods, The most appropriate

method, may be chosen having regard to the nature of transaction or class of transaction or class of associated persons or functions performed by such persons or such other relevant factors as the Board may prescribed namely:—

- (a) Comparable uncontrolled price method;
- (b) Resale price method;
- (c) Cost plus method;
- (d) Profit split method;
- (e) Transactional net margin method;

Suppose more than one price is determined by the most appropriate method, the arm's length price shall be taken to be the arithmetical mean of such prices:

In case, the variation between the arm's length price so determined and price at which the international transaction has actually been undertaken does not exceed five per cent of the latter, the price at which the international transaction has actually been undertaken shall be deemed to be the arm's length price.

Computation of Arm's Length Price

The Institute of Chartered Accountant of India (ICAI) has laid down certain guidelines which are to be followed when comparable uncontrollable price is determined. The guidelines are given below.

(a) Comparable Uncontrollable Price Method

- i) Find out the price charged or paid for property transferred or services provided in a comparable uncontrolled transaction, or a number of such transactions, is identified,
- ii) Adjust such price to account for differences, if any, between the international transaction and the comparable uncontrolled transaction, or between the enterprises entering into such transactions, which could materially affect the price in the open market;

iii) the adjusted price arrived at is taken to be an arm's length price in respect of the property transferred or services provided in the international transaction;

iv) If there is any variation between price charged (price paid) on the international transaction and arm's length price, then an adjustment has to be made in order to remove the variance.

(b) Resale Price Method

- (i) Find out the international transaction through which property purchased or services obtained
- (ii) Identify the price at which the property or services are resold or provided to a third party
- (iii) Deduct the normal gross profit earned by the enterprise from the resale price of such property or services. The normal gross profit can be taken of a profit on a similar transaction made with unrelated party.
- iv) The price so arrived at is further reduced by the expenses incurred by the enterprise in connection with the purchase of property or obtaining of service; The price so arrived at is adjusted to take into account the functional and other differences, including differences in accounting practices, if any, between the international transaction and the comparable uncontrolled transactions, or between the enterprises entering into such transactions, which could materially affect the amount of gross profit margin in the open market;
- v) the adjusted price arrived at is taken to be an arm's length price in respect of the purchase of the property or obtaining of the services by the enterprise from the associated enterprise;

(c) Cost Plus Method

- i) Find the direct and indirect costs of production incurred by the enterprise in respect of property transferred or services provided to an associated enterprise
- ii) Find a comparable uncontrollable transaction or a series of transaction with a third party for same property or service

- iii) The amount of a normal gross profit mark-up to such costs (computed according to the same accounting norms) arising from the transfer or provision of the same or similar property or services by the enterprise, or by an unrelated enterprise, in a comparable uncontrolled transaction, or a number of such transactions, is determined;
- iv) The normal gross profit mark-up to account the functional and other differences, if any, between the international transaction and the comparable uncontrolled transactions,
- v) The sum so arrived at, is taken to be an arm's length price in relation to the supply of the property or provision of services by the enterprise;

d) Profit Split Method

Which may be applicable mainly in international transactions involving transfer of unique intangibles or in multiple international transactions which are so interrelated determining the arm's length price of any one transaction, by which,

- i) The combined net profit of the associated enterprises arising from the international transaction, in which they are engaged, is determined;
- ii) The relative contribution made by each of the associated enterprises to the earning of such combined net profit, is then evaluated on the basis of the functions performed, assets employed or to be employed and risks assumed by each enterprise and on the basis of reliable external market data which indicates how such contribution would be evaluated by unrelated enterprise and on the basis of reliable external market data which indicates how such contribution would be evaluated by unrelated enterprises performing comparable functions in similar circumstances;
- iii) The combined net profit is then split amongst the enterprises in proportion to their relative contributions,
- iv) The profit thus apportioned to the assessee is taken into account to arrive at an arm's length price in relation to the international transaction;

e) Transactional Net Margin Method

- i) The net profit margin realized by the enterprise from an international transaction entered into with an associated enterprise is computed in relation to costs incurred or sales effected or assets employed or to be employed by the enterprise or having regard to any other relevant base;
- ii) The net profit margin realised by the enterprise or by an unrelated enterprise from a comparable uncontrolled transaction or a number of such transactions is computed having regard to the same base;
- iii) The net profit margin arising in comparable uncontrolled transactions is adjusted to take into account of the differences, if any, between the international transaction and the comparable uncontrolled transactions, or between the enterprises entering into such transactions, which could materially affect the amount of net profit margin in the open market;
- iv) The net profit margin thus established is then taken into account to arrive at an arm's length price in relation to be international transaction.

Illustration I

X Ltd., an Indian company, sells computer CPU to its 100 per cent subsidiary Y Ltd. in United States @ \$ 50 per piece. X Ltd. also sells its computer CPU to another company Z Ltd. in United States @ \$ 90 per piece. Total income of X Ltd. for the assessment year 2012-13 is 12,

00,000 which includes sales made for 100 computer CPU @ \$ 50 to Y Ltd. Compute the arm's length price and taxable income of X Ltd. The rate of one dollar may be assumed to be equivalent to 47.

Solution**Computation of Arm's Length Price and Taxable Income of X Ltd.**

Arm's length price:

$$100 \times 90 \times 47 = 4,23,000$$

Total Income	12,00,000
Add: Arm's length price	4,23,000
	16,23,000
Less: Price charged $100 \times 50 \times 47$	2,35,000
Taxable Income	13,88,000

Relevant Points

- (1) Transfer pricing is the pricing of internal transfers between profit centres.
- (2) Ideally the transfer prices should, promote goal congruence, enable effective performance appraisal and maintain divisional autonomy.
- (3) Economy theory suggests that the optimum transfer price would be the marginal cost equal for buying division's marginal revenue product. Transfer prices should always be based on the marginal costs of the supplying division plus the opportunity costs to the organization as a whole.
- (4) Because of information deficiencies, transfers pricing in practice does not always follow theoretical guidelines. Typically prices are market based, cost based or negotiated.
- (5) Where an appropriate market price exists then this is an ideal transfer price. However, there may be no market for the intermediate product, the market may be imperfect, or the price may be considered unrepresentative.
- (6) Where cost based systems are used then it is preferable to use standard costs to avoid transferring inefficiencies.
- (7) Full cost transfer pricing for full cost plus a markup suffers from a number of limitations,; it may cause suboptimal decision-making.

The price is only valid at one output level, it makes genuine performance appraisal difficult.

(8) Provided that variable cost equates with economic marginal cost then transfers at variable cost will avoid gross sub optimality but performance appraisal becomes meaningless.

(9) Negotiated transfer prices will only be appropriate if there is equal bargaining power and if negotiations are not protracted.

Transfer price policies represent the selection of suitable methods relating to the computation of transfer prices under various circumstances. More precisely, transfer pricing should be closely related to management performance assessment and decision optimization. But the problem of choosing an appropriate transfer pricing for the two functions of management-performance measurement and decision optimization - does not hold any simple solution. There is no single measure of transfer price that can be adopted under all circumstances.

Part – A

Online Examination from Qn. No. 1 – Qn No.20

Each Question Carry One Mark

UNIT III- POSSIBLE QUESTIONS

PART B

1. Define the term budget
2. Define budgetary control
3. The sales of a concern for the next year is estimated at 50,000 units. Each unit of the product requires 2 units of Material „A and 3 units of Material „B. The estimated opening balances at the commencement of the next year are:

Finished Product	:	10,000
Raw Material „A	:	12,000
Raw Material „B	:	15,000

The desirable closing balances at the end of the next year are:

Finished Product	:	14,000
Raw Material „A	:	13,000
Raw Material „B	:	16,000

4. Write any two objectives of budgetary control
5. Material A: 60 tonnes @ Rs. 5 per tonne Material B: 40 tonnes @ Rs.10 per tonne Actual mixture being:

Material A: 80 tonnes @ Rs.4 per tonne Material B: 70 tonnes @ Rs. 8 per tonne. Calculate

Material Price Variance

Material sub-usage Variance, and

Material Mix Variance

6. Draw a chart showing the classification of budgets?

7. Write a note on zero base budgeting

8. With the help of the following information calculate

(a) Labour cost variance (b) Labour Rate Variance (c) Labour

Efficiency Variance Standard hours: 40@ Rs. 3 per hour Actual hours:

50@ Rs. 4 per hour 9. Define standard costing

10. What is meant by variance analysis?

11. Following is the data of a manufacturing concern. Calculate:-Material

Cost Variance, Material Price Variance and Material usage variance.

The standard quantity of materials required for producing one ton of output is 40 units. The standard price per unit of materials is Rs. 3. During a particular period 90 tons of output was undertaken. The materials required for actual production were 4,000 units. An amount of Rs. 14,000 units. An amount of Rs.14, 000 was spent on purchasing the materials

12. List out the different types of variance?

13. From the following particulars calculate the followings:

A) Total Materials Cost Variance

B) Materials Price Variance and

C) Materials Usage Variance

Materials	Standard Units	Standard Price (Rs)	Actual Units	Actual Price (Rs)
A	1010	1.0	1080	1.2
B	410	1.5	380	1.8
C	350	2.0	380	1.9

14. The standard materials required for producing 100 units is 120 kgs. A standard price of 0.50 paise per kg is fixed 2,40,000 units were produced

during the period. Actual materials purchased were 3,00,000 kgs. at a cost of Rs. 1,65,000. Calculate Materials Variance. (MCV - 21,000)

15. Write a note on sales budget
16. Give the meaning for market based transfer pricing
17. Define transfer price

***CIA- 3 X 2 = 6 (ANSWER ALL THE QUESTIONS)**

****ESE – 5 X 2 = 10 (ANSWER ALL THE QUESTIONS)**

PART C

1. Explain the different kinds of functional budget in detail?
2. Define budgetary control and also discuss the advantages and disadvantages of budgetary control?
3. Discuss the steps for establishing system of standard costing?
4. A manufacturing company submits the following figures relating to Product X for the first quarter of 2010:

Sales Targets	:	January	60,000 units
		February	48,000 units
		March	72,000 units

Stock position : 1st January 2010 (% of January 2010 sales) - 50%

Stock position : 31st March 2010 - 40,000 units

Stock position : end January & February - 50%
(% of subsequent Month's Sales)

You are required to prepare production budget for the first quarter of 2010.

5. The Royal Industries has prepared its annual sales forecast, expecting to achieve sales of Rs.30,00,000 next year. The Controller is uncertain about the pattern of sales to be expected by month and asks you to prepare a

monthly budget of sales. The following sales data pertained to the year, which is considered to be representative of a normal year:

Month	Sales (Rs.)	Month	Sales (Rs.)
January	1,10,000	July	2,60,000
February	1,15,000	August	3,30,000
March	1,00,000	September	3,40,000
April	1,40,000	October	3,50,000
May	1,80,000	November	2,00,000
June	2,25,000	December	1,50,000

Prepare a monthly sales budget for the coming year on the basis of the above data.

6. From the following budgeted figures prepare a Cash Budget in respect of three months to June 30, 2006.

Month	Sales Rs.	Materials Rs.	Wages Rs.	Overheads Rs.
January	60,000	40,000	11,000	6,200
February	56,000	48,000	11,600	6,600
March	64,000	50,000	12,000	6,800
April	80,000	56,000	12,400	7,200
May	84,000	62,000	13,000	8,600
June	76,000	50,000	14,000	8,000

Additional information:

1. Expected Cash balance on 1st April, 2006 – Rs. 20,000
2. Materials and overheads are to be paid during the month following the month of supply.
3. Wages are to be paid during the month in which they are incurred.
4. All sales are on credit basis.

5. The terms of credits are payment by the end of the month following the month of sales: Half of credit sales are paid when due the other half to be paid within the month following actual sales.
6. 5% sales commission is to be paid within in the month following sales
7. Preference Dividends for Rs. 30,000 is to be paid on 1st May.
8. Share call money of Rs. 25,000 is due on 1st April and 1st June.
9. Plant and machinery worth Rs. 10,000 is to be installed in the month of January and the payment is to be made in the month of June.

7. The following information at 50% capacity is given. Prepare a flexible budget and forecast the profit or loss at 60%, 70% and 90% capacity.

Fixed expenses:	Expenses at 50% capacity (Rs.)
Salaries	5,000
Rent and taxes	4,000
Depreciation	6,000
Administrative expenses	7,000
Variable expenses:	
Materials	20,000
Labour	25,000
Others	4,000
Semi-variable expenses:	
Repairs	10,000
Indirect Labour	15,000
Others	9,000

It is estimated that fixed expenses will remain constant at all capacities. Semi-variable expenses will not change between 45% and 60% capacity, will rise by 10% between 60% and 75% capacity, a further increase of 5% when capacity crosses 75%.

Estimated sales at various levels of capacity are:

Capacity	Sales
60%	1,10,000
70%	1,30,000
90%	1,50,000

8. From the following forecasts of income and expenditure, prepare a cash Budget for the month January to April, 2006.

Months	Sales (Credit) Rs.	Purchases (Credit) Rs.	Wages Rs.	Manufacturing expenses Rs.	Administrative expenses Rs.	Selling expenses Rs.
2005 Nov.	30,000	15,000	3,000	1,150	1,060	500
Dec.	35,000	20,000	3,200	1,225	1,040	550
2006 Jan.	25,000	15,000	2,500	990	1,100	600
Feb.	30,000	20,000	3,000	1,050	1,150	620
Mar.	35,000	22,500	2,400	1,100	1,220	570
Apr.	40,000	25,000	2,600	1,200	1,180	710

Additional information is as follows:

1. The customers are allowed a credit period of 2 months.
2. A dividend of Rs. 10,000 is payable in April.
3. Capital expenditure to be incurred: Plant purchased on 15th of January for Rs.5,000;
4. A building has been purchased on 1st March and the payments are to be made in monthly installments of Rs. 2,000 each.
5. The creditors are allowing a credit of 2 months.
6. Wages are paid on the 1st of the next month.
7. Lag in payment of other expenses is one month.
8. Balance of cash in hand on 1st January, 2006 is Rs. 15,000

9. The expenses of budgeted production of 20,000 units in a factory are furnished below:

Particulars	Per unit (Rs.)
Materials	140
Labour	50
Variable overheads	40
Fixed overheads	20
Variable expenses (direct)	10
Selling expenses (10% fixed)	26
Distribution expenses (20% fixed)	14
Administrative expenses	10

Prepare a Flexible Budget for the production of 16,000 units and 12,000 units. Indicate cost per unit at both the levels.

10. From the following information, calculate material mix variance:

	Standard		Actual	
Materials	Quantity (units)	Price per unit Rs.	Quantity (units)	Price per unit Rs.
A	40	10	50	12
B	60	5	50	8

	Standard		Actual	
Materials	Quantity (units)	Price per unit Rs.	Quantity (units)	Price per unit Rs.

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A	50	2.00	60	2.25
B	100	1.20	90	1.75

Due to the shortage of material A, the use of material „A was reduced by 10% and that of „B increased by 5%

11. Transfer Pricing is one of the most important issue in international tax”

Do you agree with this statement? Explain

***CIA- 3 X 8 = 24 (EITHER OR TYPE)**

****ESE – 5 X6 = 30 (EITHER OR TYPE)**

KARPAGAM ACADEMY OF HIGHER EDUCATION**(Deemed to be University)****(Established Under Sec 3 of UGC Act 1956)****DEPARTMENT OF MANAGEMENT****II BBA - THIRD SEMESTER****MANAGEMENT ACCOUNTING****UNIT - III : Multiple Choice Questions- Each Question carries ONE Mark**

QUESTION	Option - I	Option - II	Option - III	Option - IV	ANSWER
Budgetary control is a _____ of costing.	Branch	Technique	Batch	Set	Technique
The process of preparing a budget is known as _____	Budget	Budgeting	Budgetary control	costing	Budgeting
Budgetary control and budgets are the _____	same	Different	Vertical	Horizontal	same
Budgetary control relates to a _____	Persons	product	Cost	statement, balance	Persons
_____ systems are interrelated.	Marginal costing	Standard costing	Budgeting	Variance	Standard costing
which lays down the details of the budgeting organization and	Budget manual	Budget committee	Budget procedure	Budget period	Budget manual
The period covered by a budget is known as _____	Budget committee	Budget period	Budget manual	Budget procedure	Budget period
Generally the budget period is _____	two years	three years	one year	five years	one year
In most of the companies, the key factor is _____	Production	Finance	Sales	Cost	Sales
_____ budget is one among the functional budgets.	Sales	Production	Purchase	Cash	Sales
with estimating the probable Output of each product in the	Sales	Production	Cash	Purchase	Production
work that can be performed in one hour.	Standard quantity	Standard hour	Actual hour	Actual quantity	Standard hour
Zero base budgeting overcomes the weakness of _____	Conventional budgeting	Sales budget	Production budget	Master budget	Production budgeting
as _____ all functional budgets.	Summary	Production	Sales	Finance	Summary
A fixed budget is useful only when the actual level of activity corresponds to the _____ levels of activity.	Actual	Budgeted	Manual	Financial	Budgeted

A _____ is a department or section of the organisation defined for the purpose of budgetary control.	Budget committee	Budget centre	Budget manual	Budgeting	Budget centre
_____ will influence the effects of all other budgets.	Key factor	Production	Sales	Finance	Key factor
A _____ budget is one which is established for use unaltered over a long period of time	Basic	Current	Sales	Production budget	Basic
receipts and payment of cash for the budget period	Cash budget	Sales budget	Production budget	Purchase budget	Cash budget
_____ budget is one which incorporate all functional budgets.	Master	Flexible	Sales	Finance	Master
_____ budget is a budget which is designed to change in accordance with the level of activity actually attained.	Master	Flexible	Fixed	Sales	Flexible
_____ budget is a budget which is designed to remain unchanged irrespective of the level of activity actually attained.	Master	Flexible	Fixed	Sales	Fixed
The difference between the budgeted figures and actual figures is _____	Variance	Profit	Sales	Cost	Variance
_____ ratio gives the percentage of actual hours worked to the budgeted hours.	Capacity	Efficiency	Activity	cost	Capacity
Sales budget is a _____	functional budget	Expenditure budget	Master budget	Cost budget	functional budget
The difference in fixed cost and variable cost is a special significance in the preparation of _____	Cash budget	Static budget	Flexible budget	Master budget	Flexible budget
The budget which is prepared first of all is _____	Budget for key factor	Cash budget	Master budget	Flexible budget	Budget for key factor
A budget manual contains a summary of _____	All financial budgets	Ratio	responsibility of the persons	Flexible budget	responsibility of the persons
Key factor is also known as _____ factor	principal	Limiting	Governing	covering	principal

The budgets are proper for a given level of activity, the budget is prepared before the beginning of a financial year is _____	Flexible	Fixed	Sales	Master	Flexible
A factor which influences all other budget	Limiting factor	Production factor	Main factor	Cost factor	Limiting factor
_____ budget is a plan of estimated receipts and payments of cash for the budget period.	Cash	Sales	Production	Raw material	Production
Before the implementation of the master budget it must be approved by the _____	Budget committee	Board of directors	Share holders	Government	Budget committee
Both budgetary control and _____ systems are inter related .	Marginal costing	Budgeting	Standard costing	Process costing	Budgeting
_____ is based on prospective approach	Performance budgeting	Flexible budgeting	Zero base budgeting	Functional budget	Performance budgeting
Zero base budgeting technique was first used in America in the year ____	1960	1962	1968	1970	1962
Zero base budgeting was originally developed by _____	Peter A. Pyre	Brown & Howard	ICMA	ICSI	Peter A. Pyre
compare, to control and to appraise the operations of the _____	Control ratios	Current ratios	p/v ratio	profit ratios	Control ratios
which uses budget as a means of _____ and controlling.	Planning	Staffing	Co-Ordination	Organizing	Planning
A budget is a plan of action for a _____ period.	Previous	Future	current year	past years	Future
A budget guides every manager in the process.	Planning	Staffing	Organizing	Decision making	Decision making
In budgetary control _____ costs are recorded	Actual	Variable	Fixed	Expected	Actual
Budgeted costs are compared with _____	Actual costs	Variable costs	Fixed costs	Expected	Actual costs
Activities of various departments are _____	Planned	Organized	Co-ordinated	Controlled	Co-ordinated
The _____ of a business must be defined clearly	Objectives	Delegation	Co-Operation	Flexibility	Objectives

Budgeting must have the complete _____ of the top management.	Objectives	Delegation	Co-Operation	Flexibility.	Co-Operation
Employee should be educated about the merits of _____ systems.	Budgeting	Budgetary control	Budget	Cost	Budgetary control
The employees must be _____ to improve their efficiency.	Motivation	Reporting	Follow up action	Cost of operation	Motivation
A good budgetary control system should include _____	Motivation	Reporting	Follow up action	Cost of operation	Follow up action
The _____ of budgetary control system should be considered	Motivation	Reporting	Follow up action	Cost of operation	Cost of operation
A good organization must be developed in order to achieve _____ benefits.	Maximum	Minimum	limited	unlimited	Maximum
The _____ must should not be an expensive one.	Motivation	Reporting	Follow up action	Cost of operation	Cost of operation
A _____ may be a department or section of a department or any other part of the department.	Budgetary control	Budget centers	Budget manual	Cost Centre	Cost Centre
Budget centers is also necessary for _____ purpose	Control	Co-ordinate	Motivate	Organize	Control
The head of a budgetary control organisation is designed as the _____	Budgetary control	Budget centers	Budget officer	Budget manual	Budget officer
_____ is a written record.	Budgetary control	Budget centers	Budget officer	Budget manual	Budget manual
The budget officer is assisted by a _____	Budgetary control	Budget centers	Budget committee	Budget period	Budget committee
The _____ may be short term or long term.	Budgetary control	Budget centers	Budget committee	Budget period	Budget period
Production budget =	Budgeted sales + Opening stock	Opening stock - Sales + Closing	Opening Stock + Closing	Opening Stock + Closing	Budgeted sales + Opening
Purchase budget is a _____ budget	Fixed budget	Flexible budgeting	function budget	Cost budget	Functional Budget

UNIT IV : Standard Costing and Variance Analysis - Meaning of Standard Cost - Standard Costing, Advantages - Limitations and Applications - Material - Labour - Overhead and Sales variances. Introduction to Target Costing - Life Cycle Costing - Quality Costing - Activity Based Costing.

STANDARD COSTING

Standard costing is a specialized technique of costing under which standard costs are pre-determined, actual costs are compared with such pre-determined costs, the variations between the two are noted and analysed as to their causes so that corrective measures may be taken to control the factors leading to unfavorable variations.

The system of standard costing, thus, involves various steps- from the setting up of standards to finally exercising control over cost. It aims at assessing or prefixing the costs of a product, process or operation under standard operating conditions. It serves as an effective tool in the hands of the operating conditions. It serves as an effective tool in the hands of the management for planning, coordination and control of various activities of the business.

There is a continuous process of growth effected in business through the help of standard costing technique since the standard costs set in realistic, capable of being attained and are revised from time to time according to needs and requirements of the business enterprise. This technique is implemented in conjunction with the system of budgetary control, provides better and more successful operation of the business.

DEFINITION OF STANDARD COSTING

According to the Chartered Institute of Management Accountants, London, Standard Costing is “ the preparation and use of standard costs, their comparison with actual costs, and the analysis of variances to their causes and points of incidence.”

According to W.W. Bigg, “ Standard Costing discloses the cost of deviations from standard and classifies these as to their causes, so that management is immediately informed of the sphere of operations in which remedial action is necessary.”

Thus standard costing is a method of ascertaining costs whereby statistics are prepared to show :

The standard costs,

The actual costs: and

The difference between these costs which is termed as variance.

Standard costs are determined for each element of cost – direct materials, direct labour, overheads (Fixed and Variable)

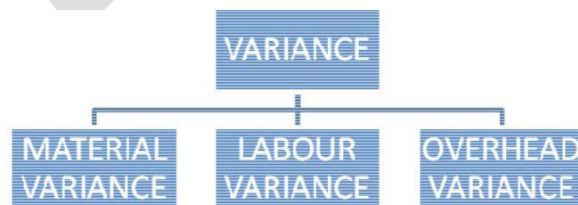
VARIANCE ANALYSIS:

If the deviation of the actual cost or profit or sales from the standard cost or profit or sales is known as variance.

If the actual cost is less than the standard cost, it is favourable.

If the actual cost is more than the standard cost, it is unfavourable or adverse.

TYPES OF VARIANCE ANALYSIS



MATERIAL VARIANCES:

Material Cost Variance = Standard cost of materials for actual output – Actual cost of material used

Material Price Variance = Actual usage (Standard unit price – Actual unit price)

Material Usage Variance Or Quantity Variance = Standard price per unit
(Standard quantity + Actual quantity)

Material Mix Variance:

A) Actual weight of mix and standard weight of mix do not differ:

MMV = Standard unit cost (Standard quantity - Actual quantity) or

Standard cost of revised standard mix - Standard cost of revised actual mix

B) Actual weight of mix differs from standard weight of mix:

MMV = Total weight of actual mix / Total weight of revised standard mix – standard cost of actual mix.

Material Yield Variance :

A) When standard and actual mix do not differ:

MYV = Standard rate (Actual yield – Standard Yield)

Standard rate = Standard cost of standard mix / Net standard output

B) When actual mix differs from standard mix :

MYV = Actual Yield - revised standard yield

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Labour Variances:

- a) Labour Cost Variance = Standard cost of labour - Actual cost of labour
- b) Labour rate Variance = Actual time taken (Standard rate – Actual rate)
- c) Total Labour Efficiency Variance = Standard rate (standard time for actual output – Actual time paid for)
- d) Labour Efficiency Variance : Standard rate (Standard time for actual output - Actual time worked)

Standard Costing and Variance Analysis Problems & Solution:

Problem 1:

Materials Variance Analysis:

The Schlosser Lawn Furniture Company uses 12 meters of aluminum pipe at \$0.80 per meter as standard for the production of its Type A lawn chair. During one month's operations, 100,000 meters of the pipe were purchased at \$0.78 a meter, and 7,200 chairs were produced using 87,300 meters of pipe. The materials price variance is recognized when materials are purchased.

Solution:

Required: Materials price and quantity variances.

Meters of
pipe

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Actual quantity purchased	100,000		
actual quantity purchased	100,000		

Materials purchase		Unit Cost	Amount
price variance	100,000	\$0.78	
	=====		\$78,000
Actual quantity used	87,300	actual	
		\$0.80	
Standard quantity allowed	86,400	standard	\$80,000
	-----		-----
Materials quantity		\$(0.02)	\$(2,000)
variance	900		fav.
	=====	=====	=====
		0.80	
		standard	\$69,840
		0.80	
Problem 2:		standard	\$69120
		-----	-----
Materials Variance Analysis:		0.80	\$720
		=====	=====
			Unfav

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–

The standard price for material 3-291 is \$3.65 per liter. During November, 2,000 liters were purchased at \$3.60 per liter. The quantity of material 3-291 issued during the month was 1775 liters and the quantity allowed for November production was 1,825 liters. Calculate materials price variance, assuming that:

Required: Materials price variance, assuming that:

1. It is recorded at the time of purchase (Materials purchase price variance).
2. It is recorded at the time of issue (Materials price usage variance).

Solution:

	Liters	Unit cost	Amount
Actual quantity purchased	2,000	3.60 actual	\$7,200
Actual quantity purchased	2,000	3.65 standard	7,300
	-----	-----	-----
Materials purchase price variance	2,000	\$ (0.05)	\$(100) fav.
	=====	=====	=====
Actual quantity used	1775	3.60 actual	\$6390.00
Actual quantity used	1775	3.65 standard	\$6478.75
	-----	-----	-----
Materials price usage variance	1775	\$(0.05)	(88.75)
	=====	=====	=====

Problem 3:

Labor Variance Analysis:

The processing of a product requires a standard of 0.8 direct labor hours per unit for Operation 4-802 at a standard wage rate of \$6.75 per hour. The 2,000 units actually required 1,580 direct labor hours at a cost of \$6.90 per hour.

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Required: Calculate:

1. labor rate variance or Labor price variance.
2. Labor efficiency or usage or quantity variance.

Solution:

	Time	Rate	Amount
Actual hours worked	1,580	\$6.90 actual	\$10,902
Actual hours worked	1,580	\$6.75 standard	10,665
	-----	-----	-----
Labor rate variance	1,580	\$0.15	\$237 unfav.
	=====	=====	=====
Actual hours worked	1,580	\$6.75 standard	\$10,665
Standard hours allowed	1,600	\$6.75 standard	\$10,800
	-----	-----	-----
Labor efficiency variance	(20)	6.75 standard	\$(135) fav.
	=====	=====	=====

Problem 4:

Factory Overhead Variance Analysis:

The Osage Company uses a standard cost system. The factory overhead standard rate per direct labor hour is:

Fixed:	\$4,500 / 5,000 hours	=	\$0.90
Variable:	\$7,500 / 5,000 hours	=	\$1.50

			\$2.40

For October, actual factory overhead was \$11,000 actual labor hours worked were 4,400 and the standard hours allowed for actual production were 4,500.

Required: Factory overhead variances using two, three and four variance methods.

Solution:

Two Variance Method:

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Actual factory overhead

\$11,000

*Budgeted allowance based on standard hours**allowed:*

\$4,500

\$6,750

Fixed expenses budgeted

\$11,250

Variable expenses (4,500 standard hours

\$ (250)
fav.

allowed × \$1.50 variable overhead rate)

=====

\$11,250

\$10,800

Favorable controllable variance

\$450

unfav.

=====

Budgeted allowance based on standard hours
allowed

\$11,000

Overhead charged to production (4,500 standard
hours allowed × \$2.40 standard rate)

\$4,500

Unfavorable volume variance

\$6,600

\$11,100
-----\$ (100)
fav.

=====

Three Variance Method:

Actual factory overhead

*Budgeted allowance based on actual hours
worked:*

Fixed expenses budgeted

Variable expenses (4,400 actual hours worked ×
\$1.50 variable overhead rate)

Favorable spending variance

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–
Budgeted allowance based on actual hours worked
Actual hours worked × Standard overhead rate
(4,400 hours × \$2.40)

Standard hours allowed × fixed
overhead rate (4,500 actual hours ×
\$0.90)

Favorable fixed overhead efficiency
variance

Unfavorable spending variance

Normal capacity hours (5000) ×
Fixed overhead rate (\$0.90)
Actual hours worked (4,400) × Fixed
overhead rate (\$0.90)

Actual hours worked × Standard overhead rate
(4,400 hours × \$2.40)

Unfavorable Idle capacity variance
(600 hours × \$0.90)

Overhead charged to production (4,500 standard
hours allowed × \$2.40 standard rate)

Favorable efficiency variance

Four Variance Method:

Actual factory overhead

*Budgeted allowance based on actual hours
worked:*

Fixed expense budgeted

Variable expenses (4,400 actual hours worked ×
\$1.50 variable overhead rate)

Favorable spending variance

Budgeted allowance based on actual hours worked
Budgeted allowance based on standard hours
allowed

Favorable variable overhead efficiency variance

Actual hours × fixed overhead rate (4,400 actual
hours × \$0.90 fixed overhead rate)

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–	\$11,100	\$3,960
	\$10,560	-----
	-----	\$540
	\$540	unfav.
	unfav.	=====
	=====	
	\$10,560	
	\$10,800	

	\$ (240)	
	fav.	
	=====	
	\$11,000	
\$4,500		
\$6,600		
-----	\$11,100	

	\$ (100)	
	fav.	
	=====	
	\$11,100	
	\$11,250	

	\$ (150)	
	fav.	
	=====	
	\$3,960	
	4,050	

	\$ (90)	
	fav.	
	=====	
	\$4,500	

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- Problem 5:

Actual production

Standard materials per unit

Variance Analysis:

On May 1, Bovar Company began the manufacture of a new mechanical device known a "Dandy." The company installed a standard cost system in accounting for manufacturing costs. The standard costs for a unit of Dandy are:

Materials: 6 lbs. at \$1 per lb.	\$ 6.00
Direct labor: 1 hour at \$4 per hour	\$ 4.00
Factory overhead: 75% of direct labor cost	\$ 3.00

Total	\$13.00
	=====

The following data were obtained from Bovar's record for may:

Actual production of Dandy	4,000 units
Units sold of Dandy	2,500
Sales	\$50,000
Purchases (26,000 pounds)	27,300
Materials price variance (applicable to May purchase)	\$1,300
	unfavorable
Materials quantity variance	1,000
	unfavorable
Direct labor rate variance	760
	unfavorable.
Direct labor efficiency variance	800
	favorable
Factory overhead total variance	500
	unfavorable

Required:

1. Standard quantity of materials allowed (in pounds).
2. Actual quantity of materials used (in pounds).
3. Standards hours allowed.
4. Actual hours allowed.
5. Actual direct labor rate.
6. Actual total factory overhead.

Solution:

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	4,000 units
	1 hour
Standard quantity of materials allowed	-----
Unfavorable materials quantity variance (\$1,000 variance / \$1 standard price per pound)	4,000 1,000 hours pounds =====
Actual quantity of materials used	4,000 25,000 hours pounds (200) =====
Actual production	hours
Standard hours per unit	-----
	3,800
Standard hours allowed	hours =====
	\$4.00
Standard hours allowed	0.20
Favorable direct labor efficiency variance (\$800 variance / \$4 standard rate per direct labor hour)	----- \$4.20 =====
Actual hours worked	\$12,000
	500
Standard direct labor rate	-----
Unfavorable direct labor rate variance (\$760 variance / 3,800 hours actually worked)	\$12,500 =====
Actual direct labor rate	
Standard factory overhead (4,000 units produced × \$3 standard overhead rate per unit)	
Unfavorable factory overhead variance	
Actual total factory overhead	

ACTIVITY BASED COSTING

Activity-Based Costing (ABC) is a costing model that identifies activities in an organization and allocates the indirect resources to each activity for completion of the production of goods and services. It relates indirect cost to the activities that drive them to be incurred.

In traditional costing system, the indirect costs are allocated on the basis of volume of output. Over a period of time, the technology has been improved and it requires adopting a change in method of cost structures for the allocation of overhead on the basis of cost drivers.

Definition

Activity Based costing is “A method of measuring the cost and performance of activities and cost objects. Assigns cost to activities based on their use of resources and assigns cost to cost objects based on their use of activities. ABC recognizes the causal relationship of cost drivers to activities.”

-- Peter B. B. Turney

Some examples of indirect costs and their drivers are:

1. **Maintenance costs** are indirect costs and the possible driver of this cost may be *the number of machine hours*,
2. **Handling raw-material cost** is another indirect cost that may be driven by *the number of orders received*,
3. **Inspection costs** that are driven by *the number of inspections or the hours of inspection or production runs*.

Generally, the cost driver for short term indirect variable costs may be the volume of output/ activity; but for long term indirect variable costs, the cost drivers cannot be related to volume of output/ activity.

Example

The activity is delivering goods. The costs of this activity include the truck drivers' wages, fuel, depreciation of the truck, insurance, etc. The quantities of the resources that will be consumed by this activity are influenced by the number of deliveries made per year. Hence the cost driver could be the number of deliveries. A cost driver is designed to allocate the delivery activity cost pool to the cost objects.

The activity driver measures how much of the activity is used by the cost object. **Example:** Product A is delivered once a month, whereas product B is delivered once a week. Products A and B require a different number of deliveries, hence the cost of the delivery activity should be assigned to each product on the basis of the number of deliveries each uses.

We can classify the cost drivers into two categories such as structural and execution. **Structural cost drivers** that are derived from the business strategic choices about its underlying economic structure such as scale and scope of operations, complexity of products, use of technology, etc and **Execution cost drivers** that are derived from the execution of the business activities such as capacity utilization, plant layout, work-force involvement, etc.

The establishment of cost drivers are essential for the different cost pool stream to carry out Activity based costing. It is developed to provide more-accurate ways of assigning the costs of indirect and support resources to activities, business processes, products, services, and customers.

ABC systems recognize that many organizational resources are required to provide a wide arrangement of support activities that enable a variety of products and services to be produced for a varied group of customers. The ABC goal is to measure and then price out all the resources used for activities that support the production and delivery of products and services to customers.

The basis of Activity Based Costing is

1. Identify the activities required to produce the cost of the product or service.
2. Allocate the resources on each activity
3. Establish the cost drivers on each activity and count its numbers,
4. Determine the cost per cost drivers,
5. Determine the amount of activity required for each product and service
6. Determine the real cost for a single product or services.

ACTIVITY**COST DRIVER**

Production set-up

Number of production runs

Production control
changes

Number of production process

Engineering
orders

Number of engineering change

Maintenance

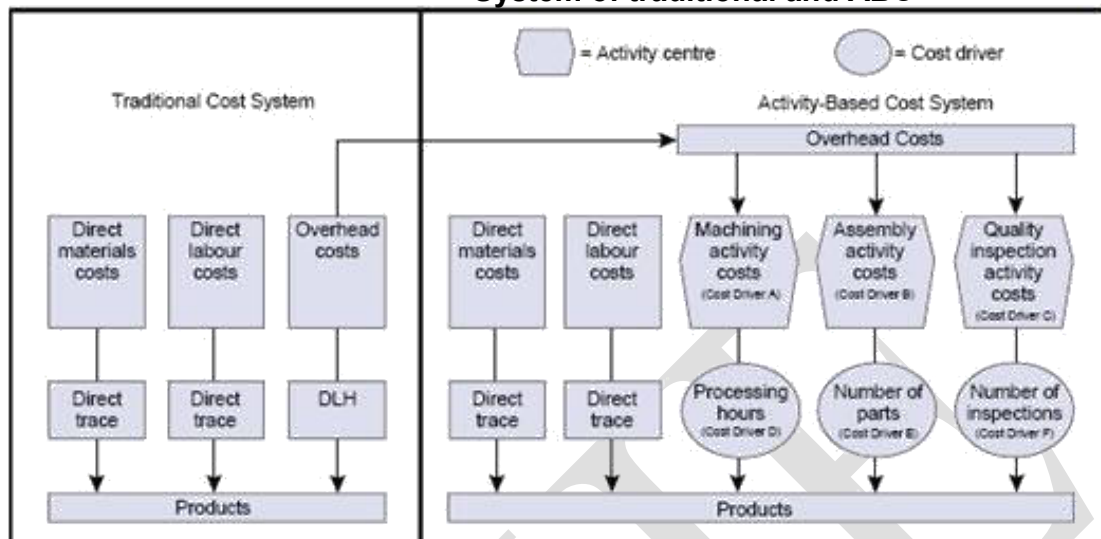
Number of machine hours

Power

Number of kilowatt hours

Difference between Traditional Cost System and Activity Based costing system

- 1 Uses Unit Based Costing Recognizes activities are the causes of costs
- 2 Geared to manufacturing Concepts can be implemented environments outside manufacturing
- 3 Useful in a one product Valuable in a multi-product environment environment
- 4 External reporting focus Internal management decision making focus
- 5 Potential for poor decisions due Potential to cut costs by to product cross-subsidization identifying the “true” costs of the product and increase profitability

System of traditional and ABC

In Traditional cost models the resources are applied to products in two ways. That is known as direct costs and indirect cost. The direct cost is the cost which is attributed directly to the product e.g., material and direct labor whereas the indirect cost like sales, marketing and administrative costs are not included in product costs.

Activity Based Costing (ABC) does not change the way material and direct labor are attributed to manufactured products. The primary task of activity based costing is to break out indirect activities into meaningful pools which can then be assigned to processes in a manner which better reflects the way costs are actually incurred. The system must recognize that resources are consumed by processes or products in different proportions for each activity.

All costs are existed in resources like material, labor, space, equipment and services. Resources are consumed by activities which have no inherent cost. The cost associated with activities represents the amount of resource they consume per unit of activity. Resources and activities are then applied to cost objects, that is, the purpose for which the resource is consumed and the activity is performed.

– The resource and activity is measured in terms of units which defines the amount of the resource consumed or activity required by a unit of demand for it. Resources can be consumed by resources (e.g. office space resource is consumed by an employee resource), by activities (e.g. telephone resource is consumed by a customer service call activity) or by cost objects (e.g. material resource is consumed by a product cost object).

Activities can be performed in support of another activity (e.g. invoice printing activity supports the billing activity) or in response to a cost object (e.g. purchase orders are issued to support the material acquisition process). A cost object can be a process or product and either an interim cost object or an end user (customer) cost object. For example, hiring personnel may be a cost object of Human Resources Department utilizing space, utility, telephone, supply and labor resources and performing advertising, calling, interviewing and orientation activities. That cost object may be a resource used by other departments to secure labor resource for their department.

A network of resources, activities and cost objects are to be constructed in the operational flow of the process. Each resource and activity has a unit of measure which converts them at a unit of demand rate. First, we need to understand the business process and it is to be identified and develop a cost model. The cost model is essential and it must be useful and effective in determining the process. The costs are attached to determine the cost of the defined process.

Activity-Based-Costing is necessary for the following reasons.

- To Understand True profitability of the customers, products, or services
- To Quantify the cost of non-value added activities such as errors and reworks,
- To Identify opportunities to reduce costs and/or increase efficiency,
- To Obtain actionable information to negotiate price increases for unprofitable clients,
- To Understand why profitability may be mediocre despite good Strategic fundamentals,
- To Stratify overhead costs so they can be managed more effectively

ABC Model

The objective of an ABC implementation is to relate all of the costs of doing business to products, services, or customers. Developing the initial model consists of the following five steps:

1. Identification of the Resources (expenditures) of an organization
2. Determination of Activities (work performed) that are supported by Resources
3. Description of the Cost Objects (products, services, customers)
4. Development of Resource Drivers to link Resources to Activities
5. To Develop the Cost Drivers to link Activities to Cost Objects

1: Identification of Resources

Resources represent the expenditures of an organization.

Example: production labour, sales and marketing labor, occupancy and utilities, equipment, and supplies. These are the same costs that are represented in a traditional accounting view; unlike traditional accounting, ABC links these costs to products, customers, or services.

2: Determination of Activities

Activities represent the work performed in an organization.

Example: ABC Activities for the sales department in a typical organization might include: Making sales calls to existing customers, Making sales calls to potential customers, Making customer service calls, Training product representatives, Evaluating products and improving product knowledge, Distributing samples, Attending trade shows and other events.

In traditional accounting, the cost of the sales department is breaking into salaries, benefits, allocated rent, supplies, and so on. Unlike traditional accounting, which reports what the costs are (i.e. salaries, benefits, rent); ABC accounts for these costs based on what activities caused them to occur. By determining the actual activities that occur in

— various departments, such as accounting, customer service, and sales, it is then possible to more accurately relate these costs to customers, products, and services.

3: Description of the Cost Objects

ABC provides profitability by one or more cost object, usually represented by products, customers, and/or services. Cost Object profitability is utilized to identify money losing customers, to validate separate divisions or business units, or to measure the performance of individual projects, jobs, or contracts. Defining the outputs to be viewed is an important step in a successful ABC implementation.

4: Determination of Resource Drivers

Resource Drivers provide the link between the expenditures of an organization and the Activities performed within the organization.

For example, the total salary of a customer service representative would likely be allocated to the Activities performed based on the amount of time spent performing the Activity. If 50% of her time is spent performing the activity, taking orders for existing customers, 50% of her salary (including all costs such as benefits, taxes, and insurance) would be allocated to this Activity.

5: Determination of Cost Drivers

Determination of Cost Drivers completes the last stage of the model. Cost Drivers trace, or link, the cost of performing certain Activities to Cost Objects.

For example, taking orders for existing customers may be linked to specific customers based on the number of orders taken, if each order takes approximately the same amount of time. If order taking time varies based on the customer, this cost may be linked based on another driver or multiple drivers.

Today, companies are using ABC to make better-informed decisions about pricing, what type of customers to pursue, and what products or services to offer. Activity-Based Costing determines the TRUE COST & PROFITABILITY of customers, products, and/or services. While traditional accounting may provide the business with an accurate sense of the direct costs of the products or services, indirect costs are often less accurately applied. Overhead, such as customer support or marketing costs tend to be allocated based on arbitrary factors.

Activity-Based Costing measures the costs and profits of an organization based on the activities performed within that organization. By focusing on processes that contribute to revenues and business operations, ABC can accurately determine how each process relates back to specific products, customers, or services. This can make a big difference after considering warehouse, sales, customer service, administration and other costs that are often applied at a standard rate, if at all. With ABC, the organization can drill into profitability and performance and any other factor.

TARGET COST

Target cost is the maximum amount of cost that can be incurred on a product, however, the firm can still earn the required profit margin from that product at a particular selling price. Target costing decomposes the target cost from product level to component level. Broadly speaking, a target costing system has three objectives:

- a. To lower the costs of new products so that the required profit level can be ensured.
- b. The new products meet the levels of quality, delivery timing and price required by the market.
- c. To motivate all company employees to achieve the target profit during new product development by making target costing a companywide profit management activity.

For any system to be effective in supporting decision making in an organization, the staff from the relevant departments must come together in order to tap their creativity so as to achieve goals. In other words, the company requires a non-conflicting and rational system for consensus building and decision-making.

5. Target Costing Process:

Just as there is no single definition of target costing, there is no single target costing process.

Nevertheless, all companies share a series of general steps:

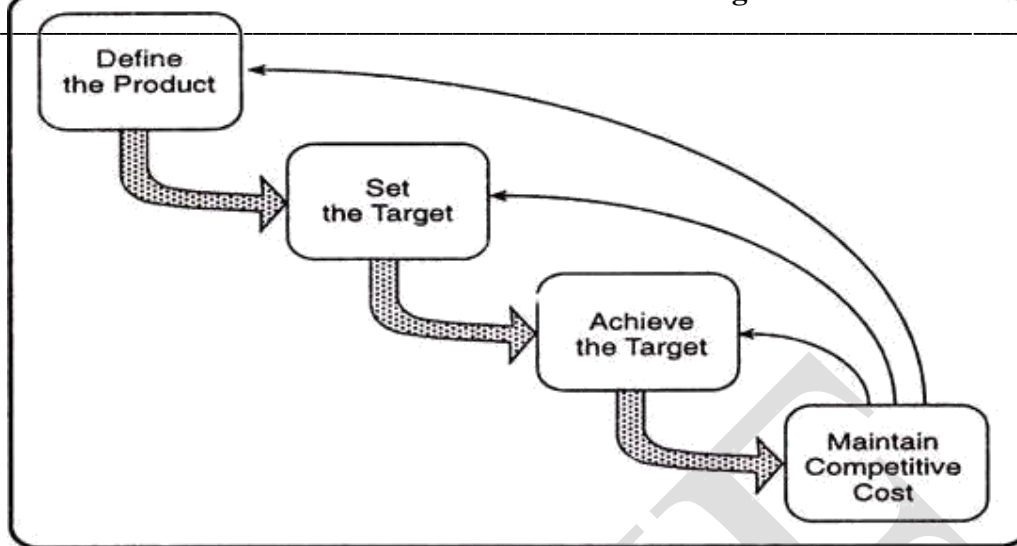
- a. Establishing the target price in the context of market needs and competition;
- b. Establishing the target profit margin;
- c. Determining the allowable cost that must be achieved; this cost should motivate all personnel to achieve;
- d. Calculating the probable cost of current products and processes; and finally,
- e. Establishing the target amount by which current costs must be reduced.

Once the target cost has been calculated, companies take the following steps to achieve it:

- a. Establishing a cross functional team, which is involved in the implementation process from the earliest design stages,
- b. Using tools such as value engineering in the design process; and

c. Pursuing cost reductions using **“kaizen costing”** once production has started.

KAHE



A number of techniques and tools facilitate an effective and efficient costing process. Three externally oriented analyses market assessment tools, industry and competitive analysis and reverse engineering provide a firm with a foundation for defining the proposed new product and establishing its price.

The determination of the target profit margin relies heavily on the comprehensive and detailed financial planning and statement analysis. Every firm has relationship between prices, volumes and revenues; costs and investments, in the aggregate and for specific product lines and individual products. The management team should explore other tools like value engineering and quality function deployment.

6. Advantages of Target Costing: Main advantages of target costing are:

- a. It reinforces top to bottom commitment to process and product innovation to achieve some competitive advantages.
- b. It helps to create a company's market-driven management for designing and manufacturing products that meet the price required for the market success.
- c. It uses management control system to support and reinforce manufacturing strategies, and to identify market opportunities that can be converted into real saving to achieve the best value for money rather than simply achieving the lowest cost.
- d. Assures that products are better matched to their customers' needs.

- e. Aligns the costs of features with customers' willingness to pay for them.

KAHE

- f. Reduces the development cycle of a product.
- g. Reduces the costs of products significantly.
- h. Increases the teamwork among all internal organizations associated with conceiving, marketing, planning, developing, manufacturing, selling, distributing and installing a product.
- i. Engages customers and suppliers to design the right product and to more effectively integrate the entire supply chain.

7. Reasons for the Late Development of Target Costing:

Although target costing emerged more than 30 years ago, yet only in 1990's this system came into notice. Main reasons for late popularity of target costing could possibly be that target costing focuses heavily on new product development and Japanese companies which practice the system most are very secretive about their new products/activities.

Also, popularity of Japanese Just-in-time inventory system had dominated the attention of industry in 1980's and, therefore, target costing got the second seat.

8. Problems with Target Costing:

Talk with customers about a new product concept, find out which features they like and don't like, and find out how much they would pay. Subtract an acceptable profit margin, and you're left with the target cost of the product. Now all you have to do is get everyone inside and outside the company to adhere to this number. It sounds simple enough.

It is easier said than done. Yet, target costing-a cost-management process imported from Japan—is helping a few dozen companies in the United States gain an edge by having them listen harder to customers to gauge the right product or service price.

Boeing, Eastman Kodak, and Honda of America, for example, as well as pioneers Daimler Chrysler and Caterpillar, have implemented the strategy, reversing the way they traditionally design, price, and sell new products.

Companies that have implemented the cost-management strategy insist they have boosted profitability. But, although virtually the entire Japanese manufacturing sector has gone the target-costing route since its inception in the 1970s, it hasn't exactly taken root here in India.

Target Costing has a few problems that one should be aware of and guard against. These problems are as follows:

a. The development of the process can be lengthened to a considerable extent since the design team may require a number of design iterations before it can devise low cost product that meets the

target cost and margin criteria. This occurrence is most common when the project manager is unwilling to discontinue a design project that cannot meet its costing goals within a reasonable time frame.

Usually, If there is no evidence, it is better to either drop a project or at least shelve it for a short time and then try again, on the belief that new cost reduction methods or less expensive materials will be available in the near future that will make the target cost an achievable one.

b. A large amount of mandatory cost cutting can result in finger pointing in various parts of the company; especially if employees in one area feel they are being called on to provide a disproportionately large part of the saving.

For example the industrial staff will not be happy if it is required to completely alter the production layout in order to generate cost saving, while the purchase staff is not required to make any cost reductions through supplier negotiations. Avoiding this problem requires strong interpersonal and negotiation skills on the part of the project manager.

c. A design team having representatives from the number of departments can sometimes make it more difficult to reach a consensus on the proper design because there are too many opinions regarding design issues.

Life-Cycle Costing

Life-Cycle Costs are all the costs associated with the product for its entire life cycle. Product life cycle costing traces costs and revenues of each product over several calendar periods throughout their entire life cycle.

The costs are included in different stages of the product life cycle.

Development phase -R&D cost/Design cost.

Introduction phase – Promotional cost/Capacity costs.

Growth phase/Maturity – Manufacturing cost/Distribution costs/Product support cost.

Decline/Replacement phase – Plants reused/sold/scrapped/related costs.

Manufacturers would base life cycle costing expense allocations on an expected number of units to be sold over the product's life. Each period's internal income statement using life cycle costing would show revenues on a life-to-date basis along-with total cost of goods sold, total R and D project costs and total distribution and other marketing costs.

Benefits:

The following are the benefits of product life cycle costing:

- (i) It results in earlier actions to generate revenue or to lower costs than otherwise might be considered.
- (ii) It ensures better decision from a more accurate and realistic assessment of revenues and costs, at-least within a particular life cycle stage.
- (iii) It promotes long-term rewarding.
- (iv) It provides an overall framework for considering total incremental costs over the life span of the product.

Effects of Life-Cycle Costing:

Life cycle costing helps companies to be aware of where their products are in their life cycles, because in addition to the sales effects, the life-cycle stage may have a tremendous impact on costs and profits. The life-cycle impact on each of these items is shown in the following table

Stage	Costs	Approach to Costing	Sales	Profits
Development	No production costs, but R&D costs very high	Target costing	None	None; large loss on product due to expensing of R&D costs
Introduction	Production cost per unit; probably engineering change costs; high advertising cost	Kaizen costing	Very low unit sales; selling price may be high (for early profits) or low (for gaining market share)	Typically losses are incurred partially due to expensing of advertising
Growth	Production cost per unit decreases (due to learning curve and spreading fixed overhead over many units)	Kaizen costing	Rising unit sales; selling price is adjusted to meet competition	High
Maturity	Production cost per unit stable; costs of increasing product mix begin to rise	Standard costing	Peak unit sales; reduced selling price	Falling
Decline	Production cost per unit increases (due to fixed overhead being spread over a lower volume)	Standard costing	Falling unit sales; selling price may be increased in an attempt to raise profits or lowered in an attempt to raise volume	May return to losses

Part – A

Online Examination from Qn. No. 1 – Qn No.20

Each Question Carry One Mark

POSSIBLE QUESTIONS - PART B

1. Define target costing
2. What is meant by life cycle cost?
3. Define total cost
4. Material A: 60 tonnes @ Rs. 5 per tonne Material B: 40 tonnes @ Rs.10 per tonne Actual mixture being:

Material A: 80 tonnes @ Rs.4 per tonne Material B: 70 tonnes @ Rs. 8 per

tonne. Calculate

Material Price Variance

Material sub-usage Variance, and

Material Mix Variance

5. With the help of the following information calculate

- (a) Labour cost variance
- (b) Labour Rate Variance
- (c) Labour Efficiency Variance

Standard hours: 40@ Rs. 3 per hour Actual hours: 50@ Rs. 4 per hour

7. Define standard costing
8. Following is the data of a manufacturing concern. Calculate:-Material Cost

Variance, Material Price Variance and Material usage variance.

The standard quantity of materials required for producing one ton of output is 40 units. The standard price per unit of materials is Rs. 3. During a particular period 90 tons of output was undertaken. The materials required for actual production were 4,000 units. An amount of Rs. 14,000 units. An amount of Rs.14, 000 was spent on purchasing the materials

9. List out the different types of variance?

10. From the following particulars calculate the followings:

- A) Total Materials Cost Variance
- B) Materials Price Variance and
- C) Materials Usage Variance

Materials	Standard Units	Standard Price (Rs)	Actual Units	Actual Price (Rs)
A	1010	1.0	1080	1.2
B	410	1.5	380	1.8
C	350	2.0	380	1.9

11. The standard materials required for producing 100 units is 120 kgs. A standard price of 0.50 paise per kg is fixed 2,40,000 units were produced during the period. Actual materials purchased were 3,00,000 kgs. at a cost of Rs. 1,65,000. Calculate Materials Variance. (MCV - 21,000)

***CIA- 3 X 2 = 6 (ANSWER ALL THE QUESTIONS)**

****ESE – 5 X 2 = 10 (ANSWER ALL THE QUESTIONS)**

PART C

1. “Target cost is an approach to determine a product life cycle cost which is sufficient to develop specified functionality and quality” Discuss
2. Structural cost should be managed and planned according to quantitative and qualitative required for internal activities not related to product standard of performance” Elaborate
3. Describe the benefits of Target Costing.
4. Describe the major characteristics of life cycle cost concept?
5. From the following information, calculate material mix variance:

	Standard		Actual	
Materials	Quantity (units)	Price per unit Rs.	Quantity (units)	Price per unit Rs.
A	40	10	50	12
B	60	5	50	8

	Standard		Actual	
Materials	Quantity (units)	Price per unit Rs.	Quantity (units)	Price per unit Rs.
A	50	2.00	60	2.25
B	100	1.20	90	1.75

Due to the shortage of material A, the use of material „A was reduced by 10% and that of „B increased by 5%

6. “ABC system recognizes the relationship between costs, activities and products and it assigns indirect costs to products” Describe this statement with suitable illustration?
7. “Activity Based Costing is an accounting method that identifies the activities that a firm performs” Comment
8. “Activity Based Costing is a best tool for controlling and reducing the cost” Comment
9. “Activity Based Costing identifies the activities that a firm performs” Comment
10. Explain the advantages and limitations of standard costing?

***CIA- 3 X 8 = 24 (EITHER OR TYPE)**

****ESE – 5 X6 = 30 (EITHER OR TYPE)**

KARPAGAM ACADEMY OF HIGHER EDUCATION
(Deemed to be University)
(Established Under Sec 3 of UGC Act 1956)
DEPARTMENT OF MANAGEMENT
II BBA - THIRD SEMESTER
MANAGEMENT ACCOUNTING

UNIT - IV : Multiple Choice Questions- Each Question carries ONE Mark

QUESTION	OPTION1	OPTION2	OPTION3	OPTION4	Answer
The deviation of the actual cost from the standard cost is known as_____	Profit	Loss	Variance	invariable	Variance
_____ variance is the difference between standard cost of labour and actual cost of labour	Labour cost	Labour rate	Labour efficiency	Idle time	Labour Cost
Labour efficiency variance is _____	Labour mix variance+labour rate variance	Labour rate variance+Labour yield variance	Labour mix variance+Labour yield variance	Labour Cost variance+Labour rate variance	Labour rate variance+Labour yield variance
_____ is concerned with the control of expenses	Budgetary control	Standard costing	Marginal costing	Cost Management	Standard costing
_____ is one which tends to vary does with the volume of output.	Fixed cost	Variable cost	Total cost	Average cost	Variable cost
_____ expenses are those expenses which vary according to the units of production.	Fixed	Variable	Semi- variable	Marginal	Variable
_____ expenses are those which are partly constant and partly variable.	Fixed	Variable	Semi- variable	Marginal	Semi-variable
Recording of actual performance is_____	a step in budgetary control	an advantage of budgetary control	a limitation of budgetary control	Systematic of economic reform	a step in budgetary control
Standard costing is a _____	technique	procedure	method	system	technique
Standard cost is a _____	Past cost	Future cost	Planned cost	Concurrent cost	Planned cost

_____ variance is the difference between the standard cost of materials specified and the actual cost of materials used	Material cost	Material price	Material usage	Material yield	Material cost
Material cost variance may be classified into ----- groups	Two	Three	Four	Five	Two
Which department is responsible for material price variance _____	Sales department	Production department	Finance department	Accounting department	Production department
----- variance arises due to the difference between standard usage and actual usage of material	Material yield	Material usage	Material price	Material mix	Material price
Which department is responsible for labour rate variance?	Sales department	Personal department	Finance department	Accounting department	Personal department
Standard input allows for one unit is divided by standard cost per output unit for variable direct cost input to calculate	Standard price per input unit	Standard price per output unit	Standard cost per input unit	Standard cost per output unit	Standard price per input unit
Consideration of decreased operating income relative to budgeted amount in static budget is classified as _____	Revenue variance	Cost variance	Favorable variance	Unfavorable variance	Unfavorable variance
Quantity of input which is carefully determined is called _____	Output unit	Input unit	Standard input	Standard output	Standard input
Variance is stated difference between expected performance and the _____	Revenue planning	Actual results	Marketing results	Cost planning	Actual results
A costing system which focuses on individual activities as particular cost object is classified as _____	Activity based costing	Improved costing	Learned improvements	Positive effectiveness	Activity based costing

Difference between actual input variance and budgeted input variance is called	Price variance	Actual output price	Budgeted output price	Actual selling price	Price variance
The deviation of the actual cost from the standard cost is known as _____	Profit	Loss	Variance	invariable	Variance
_____ variance is the difference between standard cost of labour and actual cost of labour	Labour cost	Labour rate	Labour efficiency	Idle time	Labour Cost
Labour efficiency variance is _____	Labour mix variance+labour rate variance	Labour rate variance+Labour yield variance	Labour mix variance+Labour yield variance	Labour Cost variance+Labour rate variance	Labour rate variance+Labour yield variance
_____ concerned with the control of expenses	Budgetary control	Standard costing	Marginal costing	Cost Management	Standard costing
_____ is a cost management tool for reducing the overall cost of a product	Target Costing	Job Costing	Batch Costing	Marginal Costing	Target Costing
_____ will help to reduce the overall cost of a product over its entire life cycle with the help of production, engineering, research and design	Target Costing	Job Costing	Batch Costing	Marginal Costing	Target Costing
_____ is driven by external market factors	Target Costing	Job Costing	Batch Costing	Marginal Costing	Target Costing
Target costing which has been widely used by _____ firms since 1970's	Japanese	Germany	Britain	USA	Japanese
Target costing which has been widely used by firms since _____	1980's	1970's	1960's	1990's	1970's
_____ allows the profitability of a product to be determined before it is produced	Target Costing	Job Costing	Batch Costing	Marginal Costing	Target Costing
In _____, profit will be determined before designing and introducing the product	Target Costing	Job Costing	Batch Costing	Marginal Costing	Target Costing

_____ is the maximum amount of cost that can be incurred on a product	Target Costing	Job Costing	Batch Costing	Marginal Costing	Target Costing
Target costing system has _____ objectives	3	4	8	7	3
Target costing has _____ process	8	4	3	7	4
_____ is the first process in Target costing	Define the product	Set the target	Achieve the target	Maintain competitive cost	Define the product
_____ is the second process in Target costing	Define the product	Set the target	Achieve the target	Maintain competitive cost	Set the target
_____ is the third process in Target costing	Define the product	Set the target	Achieve the target	Maintain competitive cost	Achieve the target
Target costing =	sales-total cost	Anticipated selling price - desired	Anticipated selling price + desired profit	Sales - Fixed cost	Anticipated selling price - desired profit
Procurement and production costing technique that considers all _____	Target cost	Life cycle cost	Product cost	Job cost	Life cycle cost
_____ aims to determine the lowest cost of ownership of a fixed asset	Target cost	Life cycle cost	Product cost	Job cost	Life cycle cost
In manufacturing, _____ aims to estimate not only the production costs, but also how much revenue a product will generate	Target cost	Life cycle cost	Product cost	Job cost	Life cycle cost
The determination of _____ is an integral part of the asset management process	Target cost	Life cycle cost	Product cost	Job cost	Life cycle cost
Life cycle begins with _____	Introduction of new product	Maturity	Growth	Decline	Introduction of new product
ABC -	Activity better costing	Activity based costing	Activity based control	Already better control	Activity based costing
ABC is a modern term used to for finding out _____	Cost	Profit	Loss	Revenue	Cost
_____ focus is on activities as the fundamental cost objectives	Target cost	Transfer cost	ABC	Job cost	ABC
_____ was activities as the basis for calculating the costs of goods and service	Target cost	Transfer cost	ABC	Job cost	ABC
_____ attempts to absorb indirect over heads into product costs on a more realistic basis	Target cost	Transfer cost	ABC	Job cost	ABC

In a _____ system, direct costs are allocated to various products on the basis of use and indirect costs are allowed through cost centres	Traditional costing	ABC	Target costing	Transfer price	ABC
AMT -	Advanced manufacturing technology	Alternate manufacturing technology	Alternate modern technology	Advanced modern technology	Advanced manufacturing technology
There are _____ components in ABC	4	5	3	2	4
The traditional system of classifying over heads into _____ ways	4	5	3	2	2
The traditional system of identifying over heads into _____ and _____	Fixed and semi variable cost	Variable cost and semi variable	Fixed and Variable cost	Semi variable and fixed cost	Fixed and Variable cost
The first step in implementing ABC is _____	Identifying of functional areas	Identify the relevant activities	Collect accurate data on labour, materials and overhead costs	Allocate the common expenditure to various activities	Identifying of functional areas
The Second step in implementing ABC is _____	Identifying of functional areas	Identify the relevant activities	Collect accurate data on labour, materials and overhead costs	Allocate the common expenditure to various activities	Identify the relevant activities
The Third step in implementing ABC is _____	Identifying of functional areas	Identify the relevant activities	Collect accurate data on labour, materials and overhead costs	Allocate the common expenditure to various activities	Collect accurate data on labour, materials and overhead costs
In _____, the relationship between activities and indirect cost will help in formulating proper budgets	Target cost	ABC	Transfer price	Job costing	ABC
Target cost can be attained at the production stage by use of _____	Job cost	Batch cost	Standard cost	Unit cost	Standard cost
Target cost = Anticipated selling price _____	Profit	Loss	Desired profit	Desired Loss	Desired profit

UNIT V

FUNDS FLOW ANALYSIS

Every business establishment usually prepares the balance sheet at the end of the fiscal year which highlights the financial position of the yester years It is subject to change in the volume of the business not only illustrates the financial structure but also expresses the value of the applications in the liabilities side and assets side respectively. Normally, Balance sheet reveals the status of the firm only at the end of the year, not at the beginning of the year. It never discloses the changes in between the value position of the firm at two different time periods/dates.

The method of portraying the changes on the volume of financial position is the statement fund flow statement. To put them in nutshell, fund between two different time periods. It is further illustrated that the changes in the financial position or the movement or flow of fund.

MEANING OF FUND FLOW STATEMENT ANALYSIS

A report on the movement of funds or working capital. In a narrow sense the term fund means cash and the fund flow statement depicts the cash receipts and cash disbursements/ payments. It highlights the changes in the cash receipts and payments as a cash flow statement in addition to the cash balances i.e., opening cash balance and closing cash balance. Contrary to the earlier, the fund means working capital i.e., the differences between the current assets and current liabilities.

The term flow denotes the change. Flow of funds means the change in funds or in working capital. The change on the working capital leads to the net changes taken place on the working capital i.e., especially due to either increase or decrease in the working capital. The change in the volume of the working capital due to numerous transactions. Some of the transactions may lead to increase or decrease the volume of working capital. Some other transactions neither registers an increase nor decrease in the volume of working capital.

Meaning of Funds

The term funds have been defined in number of ways in a narrow sense it means cash only. In a broader sense funds means all financial resources used in business whether in the form of men, materials, money, machinery and others. In Popular sense It means the working capita, it may be increased or decreased. Funds Flow Statement :

The Funds Flow Statement is a Statement which shows the movement of funds is a report of the financial operations of the business undertaking. It indicates various means by which funds were obtained during a particular period and the ways in which these funds were employed. In simple words it is a statement of sources and applications of funds.

According Foulke “A statement of source and application of funds is a technical device designed to analyse the changes to the financial condition of a business enterprise in between two dates”

Various Facets of Fund flow statement are as follows

- Statement of sources and application of funds
- Statement changes in financial position
- Analysis of working capital changes and
- Movement of funds statement

OBJECTIVES OF FUND FLOW STATEMENT ANALYSIS

It pinpoints the mobilization of resources and the further utilization of resources

It highlights the financing of the general expansion of the business firms It exemplifies the utilization of debt finance in the structure of financing

It portrays the relationship between the financing, investment, liquidity and dividend decision of the firm during the given point of time.

METHODS OF PREPARING FUND FLOW STATEMENT Steps

in the preparation of Fund Flow Statement:

First and foremost method is to prepare the statement of changes in working capital i.e., to identify the flow of fund / movement of fund through the detection of changes in the volume of working capital.

Second step is the preparation of Non- Current A/c items-Changes in the volume of Non current a/cs have to be prepared only in order to quantify the flow fund i-e either sources or application of fund.

Third step is the preparation Adjusted Profit & Loss A/c, which already elaborately discussed in the early part of the chapter.

Last step is the preparation of fund flow statement.

ADVANTAGES OF PREPARING FUND FLOW STATEMENT**Illustrative Statement of Financing**

It is a statement which highlights the role of various kinds of financing not only in the dimension of project development and expansion but also growth rate of the organization.

To fulfil the Primary Objective of the Financial Management

It not only elucidates the mode of financing but also the application of resources after raising. It answers to the following queries viz:

How the outsider's liabilities are redeemed?

What is the role of the fund from operation generated?

How the raised funds applied into business?

How the decrease in working capital was applied?

What is the mode of raising of financial resources for an increase in the working capital?

Facilitation through Financial Planning

The projected fund flow statement from the past performance facilitates the firm to anticipate the future requirement of financial resources. It guides the management to prioritize the application in the future to the tune of scarce resources.

Guide to Working Capital Management

It acts as a guide to the management to maintain the working capital at optimum level through either purchase or sale of marketable securities during the periods of adequate and inadequate working capital respectively.

Indicator of Yester Track Path of the Firm

The insight on the financial performance of the firm can be had by the lending institutions through fund flow statement at the time of extending financial assistance to the firm.

LIMITATIONS

It is an extension of financial statements but it cannot be leveled with the emphasis of them

It is not a resultant of the transaction instead it is an arrangement of among the available information

Projected fund flow statement ever only to the tune of financial statements which are historic in feature

PREPARATION OF FUNDS FLOW STATEMENT

Two statements are involved in Funds Flow Analysis.

Statement or Schedule of Changes in Working Capital
Statement of Funds Flow

Statement of Changes in Working Capital

This statement when prepared shows whether the working capital has increased or decreased during two Balance Sheet dates. But this does not give the reasons for increase or decrease in working capital. This statement is prepared by comparing the current assets and the current liabilities of two periods. It may be shown in the following form:

Schedule of Changes in Working Capital (Proforma)

Items	As on	As on	Change	
			Increase	Decrease
Current Assets				

Cash Balances

Bank Balances

Marketable Securities

Stock in Trade

Pre-paid Expenses

Current Liabilities

Bank Overdraft

Outstanding Expenses

Accounts Payable

Provision for Tax

Dividend

Increase / Decrease in

Working Capital

Any increase in current assets will result in increase in Working Capital and any decrease in Current Assets will result in decrease in Working Capital. Any increase in current liability will result in decrease in working capital and any decrease in current liability will result in increase in working capital.

Funds Flow Statement

Funds Flow Statement is also called as Statement of Changes in Financial Position or Statement of Sources and Applications of Funds or where got, where gone statement. The purpose of the funds flow statement is to provide information about the enterprise's investing and financing activities. The activities that the funds flow statement describes can be classified into two categories:

activities that generate funds, called Sources, and
activities that involve spending of funds, called Uses

When the funds generated are more than funds used, we get an increase in working capital and when funds generated are lesser than the funds used, we get decrease in working capital. The increase or decrease in working capital disclosed

by the schedule of changes in working capital should tally with the increase or decrease disclosed by the Funds Flow Statement.

The Funds Flow Statement may be prepared either in the form of a statement or in 'T' shape form. When prepared in the form of the statement it would appear as follows:

Funds Flow Statement

Sources of Funds

Issues of Shares	X	X	X
Issue of Debentures	X	X	X
Long term borrowings	X	X	X
Sale of Fixed Assets	X	X	X
*Operating Profit (Funds from Operations)	X	X	X
Total Sources	X	X	X

Application of Funds

Redemption of Redeemable Preference shares	X	X	X
Redemption of Debentures	X	X	X
Payments for other long-term loans	X	X	X
Purchase of fixed assets	X	X	X
* Operation loss (Funds lost from Operations)	X	X	X
Total uses	X	X	X

Net increase / decrease in working capital (Total Sources – Total uses)

When prepared in 'T' shape form, the Funds Flow Statement would appear as follows:

Funds Flow Statement

Sources of Funds	Application of Funds
* Funds from operation	x x x * Funds lost in operations
Issue of shares	x x x Redemption of Preference Shares
Issue of Debentures	x x x Redemption of Debentures
Long-term borrowings	x x x Payment of other long-term Loans
Sale of fixed assets	x x x Purchase of fixed assets
* Decrease in working capital	Payment of dividend, tax, etc.
	Increase in working capital

*Only one figure will be there.

It may be seen from the proforma that in the Funds Flow Statement preparation, current assets and current liabilities are ignored. Attention is given only to change in fixed assets and fixed liabilities.

In this connection an important point about provision for taxation and proposed dividend is worth mentioning. These two may either be treated as

current liability or long-term liability. When treated as current liabilities they will be taken to 'schedule of changes in working capital' and thereafter no adjustment is required anywhere. If they are treated as long-term liabilities there is no place for them in the schedule of changes in working capital. The amount of tax provided and dividend proposed during the current year will be added to net profits to find the funds from operations. The amount of actual tax and dividend paid will be shown as application of funds in the Funds Flow Statement. In this lesson, we have taken them as Current Liabilities.

Illustration 1: The mechanism of preparation of Funds Flow Statement is

proposed to be explained with the help of Annual Reports for the years 2003-04 and 2004-05 pertaining to Arasu Limited.

ARASU LIMITED
Balance Sheet as at 31st March 2005

	2004-05	2003-04
I. Source of Funds		
1. Share Capital	1,40,00	1,40,00
2. Reserves and Surplus	2,77,84	2,30,62

4,17,84

3,70,62

KAHE

II. Application of Funds

1. Fixed Assets	4,83,15		4,61,23
Less: Dep. Provision	2,57,85	2,25,30	2,27,36 2,33,87
2. Investments		20,25	20,30
3. Current Assets, Loans and Advances			
Inventories	1,52,83		1,92,54
Debtors	51,41		64,29
Cash and Bank	1,40,80		18,46
Loans & Advances	17,82		14,73
	3,62,86		2,90,02
Less: Current Liabilities & Provisions			
Liabilities	89,81		76,70
Provisions		100,76	96,87
		1,90,57	1,73,57
Net Current Assets (Working Capital)	1,72,29		1,16,45
	4,17,84		3,70,62

**Profit and Loss Account
for the year ended 31st March 2005**

	2004-05	2003-04
Income		
Sales	4,94,19	5,36,63
Other income	2,35,73	2,57,64
	7,29,92	7,94,27
Expenditure		
Opening Stock	20,45	25,59
Raw materials consumed	87,35	95,67
Packing materials consumed	2,87,78	3,29,04
Excise Duty	23,90	27,26
Expenses	1,65,38	1,29,94
Directors' Fees	11	10
Interest	94	5,69
Depreciation	30,49	39,98
	6,16,40	6,53,27
Less: Closing Stock	19,06	20,45
	5,97,34	6,32,82
Profit before Taxation	1,32,58	1,61,45
Provision for Income-tax	(64,36)	(82,40)
	68,22	79,05
Profit brought forward from Previous year	12	1

Balance	68,34	79,06
Provision for Taxation		
Relating to Earlier Year		(46,27)
Miscellaneous Expenditure		
Written off		(15,67)
Balance available for		
Appropriation	68,34	17,12
Appropriations		
General Reserve	47,25	3,00
Proposed Reserve for Appropriation	21,00	14,00
	68,25	17,00
Balance carried over to next year	9	12

For the above financial statements, Funds Flow Statement is prepared as follows with necessary workings:

I. Calculation of Funds from Operations for the year 2004-05

	(Rs.`000)
Balance of Profit carried over to next year	9
Add: Provision for Depreciation	30,49
Transfer to General Reserves	47,25
	77,83
Less: Balance of Profit brought forward from previous year	12
Funds from operations	77,71

Note: Provision for income-tax and proposed dividend are taken as current liabilities. Hence they are not added here. They will be taken to Schedule of Changes in Working Capital.

II. Fixed Assets: From a perusal of schedule relating to 'Fixed Assets' in the annual report, it is ascertained that there was a sale of fixed assets amounting to Rs.16,62,000 and purchase of fixed assets to the tune of Rs.38,54,000. These will be shown as source and application of funds respectively. (In examination problems information about, sale and purchase of assets can be ascertained by preparing respective Asset Accounts).

III. Investments: A similar perusal of schedule relating to 'investments' gives information that there was a redemption of investment amounting to Rs.5,000 which is a source of fund.

Now the Schedule of Changes in Working Capital and Funds Flow Statement are prepared.

ARASU LIMITED				
Schedule of Changes in Working Capital 2004-05				
	2003-04	2004-05	Increase	Decrease
Current Assets				
Inventories	1,92,54	1,52,83	-	39,71
Debtors	64,29	51,41	-	12,88
Cash and Bank	18,46	1,40,80	1,22,34	-
Loans and Advances	14,73	17,82	3,09	-

	-			
(A) Total of Current Assets	2,90,02	3,62,86		

	-			
Current Liabilities				
Creditors	75,43	88,81	-	13,38
Unpaid Dividend	1,27	1,00	27	-
Provision for Tax	82,87	79,76	3,11	-
Proposed Dividend	14,00	21,00	-	7,00

	-			
(B) Total of Current Liabilities	1,73,57	1,90,57		

	-			
Working Capital (A)-(B)	1,16,45	1,72,29	-	-
Increase in Working Capital	55,84			55,84
	-----			-----
	-		--	
	1,72,29	1,72,29	1,28,81	1,28,81
	-----		-----	-----

ARASU LIMITED Funds Flow Statement 2004-04

Sources	Rs.	Applications	Rs.
Funds from Operations	7771	Purchase of Fixed Assets	3854
Sale of Fixed Assets	1662	Increase in Working Capital	5584

Redemption of Investment

5

9438

9438

It may be seen from the above statement that Sources amount to Rs.94,38,000 and Applications amount to Rs.38,54,000, thereby resulting in an increase in Working Capital amounting to Rs.55,84,000. This figure tallies with the increase in working capital as shown by the Schedule of Changes in Working Capital.

Illustration 2: The Balance Sheet of Mathi Limited for two years were as follows:

Liabilities	2004	2005	Assets	2004	2005
Share Capital	40,000	60,000	Land & Buildings	27,700	56,600
Share Premium	4,000	6,000	Plant & Machinery	17,800	25,650
General Reserve	3,000	4,500	Furniture	1,200	750
Profit & Loss A/c	9,750	10,400	Stock	11,050	13,000
5% Debentures		13,000	Debtors	18,250	19,550
Creditors	16,750	18,200	Bank	2,400	2,000
Provision for Taxation	4,900	5,450			
	78,400	1,17,550		78,400	1,17,550

Additional Information

Depreciation written off during the year was:

Plant and Machinery Rs.6,400

Furniture Rs.200

Prepare: A Schedule of Changes in Working Capital and A Statement of Sources and Application of Funds.

Schedule of Changes in Working Capital

		Working Capital			
		2004	2005	Increase	Decrease
		Rs.	Rs.	Rs.	Rs.
Current Assets					
Stock		11,050	13,000	1,950	-
Debtors		18,250	19,550	1,300	-
Bank		2,400	2,000		400
		-----	-----		
	(A)	31,700	34,550		
		-----	-----		
Current Liabilities					
Creditors		16,750	18,200	-	1,450
Provision for Taxation		4,900	5,450	-	550
		-----	-----		
	(B)	21,650	23,650		
		-----	-----		
Working Capital (A) – (B)		10,050	10,900		
Increase in Working Capital		850			850
		-----	-----		
		10,900	10,900	3,250	3,250
		-----	-----		

Calculation of Funds from Operations

Profit and Loss a/c as on 31-12-2005		10,400
Add:		
Transfer to Reserve		1,500
Depreciation –	Plant & Machinery	6,400
	Furniture	200

		18,500

Less:	P&L a/c as on 1-1-2005	9,750

	Funds from Operations	8,750

Land & Building A/c

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To Balance b/d	27,700	By Balance c/d	56,600
To Bank Purchase	28,900		
(Balancing figure)	-----		-----
	56,600		56,600
	-----		-----

Plant & Machinery A/c

To Balance b/d	17,800	By Depreciation	6,400
To Bank Purchase	14,250	By Balance c/d	25,650
(Balancing figure)	-----		-----
	32,050		32,050
	-----		-----

Furniture A/c

To Balance b/d	1,200	By Depreciation	200
		By Bank – Sale	250
		(Balancing figure)	
		By Balance c/d	750
	-----		-----
	1,200		1,200
	-----		-----

Statement of Sources and Application of Funds

Sources	Rs.	Applications	Rs.
Funds from Operations	8,750	Purchase of Land &	
Share Capital	20,000	Buildings	28,900
Share Premium	2,000	Purchase of Plant &	14,250
Debentures	13,000	Increase in working	850
Sale of Furniture	250	capital	
	44,000		44,000

Illustration 3: Following are Balance Sheet of a Limited Co. as on 31st Dec.2003 and 2004.

Liabilities	2003	2004	Assets	2003	2004
Share Capital	61,000	74,000	Plant	45,000	43,000
Reserves	13,000	15,500	Building	50,950	48,000
Creditors	28,000	24,000	Stock	20,500	18,800
Bank Overdraft	18,000	-	Debtors	20,000	16,200
Provision for Taxation	8,000	8,500	Cash	150	180
Profit & Loss A/c.	8,600	8,800	Cash at Bank		2,100
			Goodwill		2,520
	136600	130800		1,36,600	1,30,800

Taking into account the following information, calculate funds from operations:

- 1) Interim Dividend was paid Rs.2,000.
- 2) Dividend proposed for Rs. 4,000.
- 3) Provision of Rs.9,000 was made for Income Tax.
- 4) Rs. 2000 was written off as depreciation on Plant and Rs.2,950 on Building.

5) Profit on Sale of Fixed Investment Rs. 1,500.

Solution

Calculation of net profit for 2003

	Rs.	Rs.
Credit balance of P & L A/c on 31Dec. 2003		8,800
Less: Credit Balance of P& LA/c on 31Dec.2002		8,600

		200

Add:		
Interim Dividend	2,000	
Proposed Dividend	4,000	
Provision made for Income Tax	9,000	
Provision Made for Reserve	2,500	17,500

Net Profit During the Year		17,700

Particulars	Rs.	Rs.
Net Profit During the Year		17,700
Add:		
Depreciation on Building	2,950	
Depreciation on Plant	2,000	4,950

		22,650
Less:		
Profit on sale of Fixed Investment		1,500

Profit from Business Operations		21,150

The alternative method for calculation of Funds from operations is as follows:

Particulars	Rs.	Particulars	Rs.
To Interim Dividend	2,000	By Opening Balance	8,600
To Dividend Proposed	4,000	By Profit on Sale of Investment	1,500
To Provision for Income Tax	9,000	By Profit from Business Operations (B/f)	21,150
To Provision for Reserve	2,500		
To Plant A/c(Depreciation)	2,000		
To Building A/c (Depreciation)	2,950		
To Closing Balance	8,800		
	31,250		31,250

MEANING OF CONCEPTS OF CASH, CASH FLOW AND CASH FLOW ANALYSIS

While explaining the concept of 'fund' it was mentioned that in a narrower sense the term 'fund' is also used to denote cash. The term 'cash' in the context of cash flow analysis stands for cash and bank balances. Cash flow refers to the actual movement of cash in and out of an organisation. When cash flows into the organisation it is called cash inflow or positive cash flow. In the same way when cash flows out of the organisation, it is called cash outflow or negative cash flows. Cash flow analysis is an analysis based on the movement of cash and bank balances. Under cash flow analysis, all movements of cash would be considered.

CASH FLOW STATEMENT

A cash flow statement is a statement depicting changes in cash position from one period to another i.e. the result of cash flow analysis is given in the cash flow statement. For example if the cash balance of a concern as per its Balance Sheet as on 31st March 2004 is Rs.90,000 and the cash balance as per its Balance Sheet as on 31st March 2005 is Rs.1,20,000, there has been an inflow of cash of Rs.30,000 in the year 2004-05 as compared to the year 2003-04. The cash flow statement explain the reasons for such inflows or outflows of cash as the case may be.

Normally the following are principal sources of inflows of cash:

- a) Issue of shares and debentures for cash
- b) Sale of fixed assets and investments for cash
- c) Borrowings from banks and other financial institution
- d) Cash from operations

Outflows of cash generally include:

- a) Redemption of shares and debentures by cash
- b) Purchase of fixed assets and investments by cash
- c) Repayment of loans
- d) Cash lost in operations

The following is the format of a cash flow statement:

Cash Flow Statement for the year ending say 31st March 2005

Balance as on 1-4-2004

Cash in hand	x x x
Cash at Bank	x x x

Balance as on 1-4-2004

Bank overdraft (if any)	x x x
-------------------------	-------

Add: Cash Inflows:

Here the items mentioned

Cash Outflows:

Here the items mentioned

as sources of cash inflows
above will be recorded

as outflows of cash above
will be recorded

Balance as on 31-3-2005

Bank overdraft (if any)	x x x

	x x x

Balance as on 31-3-2005

Cash in hand	x x x
Cash at Bank	x x x

	x x x

The Accounting Standard 3 issued by the Institute of Chartered Accountants of India requires the companies to prepare Cash Flow Statement and present them as part of their Annual Reports.

CALCULATION OF CASH FROM OPERATIONS

The important step in the preparation of cash flow statement is the calculation of cash from operations. It is calculated as follows:

The first step in the calculation of cash from operations is the calculation of funds from operations (which is already explained in the lesson on Funds Flow Analysis). To the funds from operations the decrease in current assets and increase in current liabilities will be added (except cash, Bank and Bank O.D.). From the added total increase in current assets and decrease in current liabilities will be deducted (except cash, Bank and Bank O.D.). The resultant figure is cash from operations (Refer Illustration 3).

Performa of Cash from Operations Statement

Funds from Operations or Funds lost from operations	x x x x
Add: Decrease in current assets	x x x x
Increase in current liabilities	x x x x

	x x x x

Less:	Increase in current assets	X X X	
	Decrease in current liabilities	X X X	
		-----	X X X X

	Cash from operations or cash lost from operations		X X X X

As in the case of Fund Flow Analysis here also we assume **Provision for Taxation** and **Proposed Dividend** as current liabilities.

UTILITY OF CASH FLOW ANALYSIS

Cash flow analysis yields the following advantages:

- It is very helpful in understanding the cash position of the firm. This would enable the management to plan and coordinate the financial operations properly.
- Since it provides information about cash which would be available from operations the management would be in a position to plan repayment of loans, replacement of assets, etc.
- It throws light on the factors contributing to the reduction of cash balance in spite of increase in income and vice versa.
- A comparison of the cash flow statement with the cash budget for the same period helps in comparing and controlling cash inflows and cash outflows.

However cash flow analysis is not without limitations. The cash balance as disclosed by the cash flow statement may not represent the real liquid position of the business since it can be easily influenced by postponing purchases and other payments. Further cash flow statement cannot replace the income statement or funds flow statement. Each of them has a separate function to perform.

CASH FLOW ANALYSIS Vs FUNDS FLOW ANALYSIS

- A cash flow statement is concerned only with the changes in cash position while funds flow analysis is concerned with changes in working capital position between two balance sheet dates.
- Cash flow analysis is a tool of short-term financial analysis while the funds flow analysis is comparatively a long-term one.

- c) Cash position results in improvement in the funds position but not vice versa. In other words “inflows of cash” results in “inflow of funds” but inflow of funds may not necessarily result in “inflow of cash”.
- d) In funds flow analysis, the changes in various current assets and current liabilities are shown in a separate statement called schedule of changes in working capital in order to ascertain the net increase or decrease in working capital. But in cash flow analysis, such changes are adjusted to funds from operations in order to ascertain cash from operations.

Illustration 3:

From the following balances calculate cash from operations:

Particulars	December 31	
	2004	2005
Profit and Loss A/c Balance	75,000	1,55,000
Debtors	45,000	42,000
Creditors	20,000	26,000
Bills Receivable	12,000	15,000
Cash in hand	2,500	3,000
Prepaid expenses	1,600	1,400
Bills Payable	18,000	16,000
Cash at Bank	8,000	10,000
Outstanding expenses	1,200	1,600
Income received in advance	250	300
Outstanding Income	800	900

Additional Information

- a) Depreciation written off during the year Rs.10,000
 b) Transfer to General Reserve Rs.10,000

Calculation of Funds from Operations

	Rs.
Profit & Loss A/c as on 31 st December 2005	1,55,000
Add: Depreciation	10,000
Transfer to General Reserve	10,000

	1,75,000
Less: P & L a/c as on 1 st January 2005	75,000

Funds from Operations	1,00,000

Calculation of Cash from Operations

Funds from Operations	1,00,000
-----------------------	----------

Add: Decrease in Current Assets

Decrease in Debtors	3,000
Decrease in Prepaid Expenses	200

Increase in Current Liabilities

Increase in Creditors	6,000
Increase in Outstanding Expenses	400
Increase in Income Received in Advance	50

1,09,650

Less: Increase in Current Assets

Increase in Bills Receivables	3,000
Increase in Outstanding Income	100

Decrease in Current Liabilities

Decrease in Bills Payable	2,000
	----- 5,100

Cash from Operations 1,04,550

Note: Decrease in current assets means current assets are converted into cash and increase in current liabilities results in further generation of cash. Hence they are added. Increase in current assets and decrease in current liabilities result in outflow of cash. Hence they are deducted.

Illustration 4: Balance Sheets of Somy Thomas as on 1-1-2005 and 31-12-2005 were as follows:

Liabilities	2004 Rs.	2005 Rs.	Assets	2004 Rs.	2005 Rs.
Credits	40,000	44,000	Cash	10,000	7,000
Bills payable	25,000	----	Debtors	30,000	50,000
Loans from Bank	40,000	50,000	Stock	35,000	25,000
Capital	1,25,000	1,53,000	Machinery	80,000	55,000
		0	Land	40,000	50,000
			Building	35,000	60,000
	-----	-----		-----	-----
	2,30,000	2,47,000		2,30,000	2,47,000
	-----	-----		-----	-----
		-			

During the year, a machine costing Rs.10,000 (accumulated depreciation Rs.3,000) was sold for Rs.5,000. The provision for depreciation against machinery as on 1-1-2005 was Rs.25,000 and 31-12-2005 it was Rs.40,000. Net profit for the year 2005 amounted to Rs.45,000. Prepare Cash Flow Statement.

Calculation of Cash from Operations

		Rs.
Net Profit for the year 2005		45,000
Add:	Addition to Provision for Depreciation	18,000
	Loss of Sale of Machinery	2,000

	Funds from Operations	65,000
Add:	Decrease in Stock	10,000
	Increase in Creditors	4,000

		79,000
Less:	Increase in Debtors	20,000
	Decrease in Bills Payable	25,000

		45,000

	Cash from Operations	34,000

Capital A/c

To Drawings (b/f)	17,000	By Balance b/d	1,25,000
To Balance c/d	1,53,000	By Net Profit for the year	45,000
	-----		-----
	1,70,000		1,70,000
	-----		-----

Machinery A/c

To Balance b/d	1,05,000	By Bank Sale	5,000
(80000 + 25000)		By Provision for Dep.	3,000
		By P&L a/c – Loss	2,000
		By Balance c/d	95,000
	-----	(55000 + 40000)	-----
	1,05,000		1,05,000
	-----		-----

Provision for Depreciation A/c

To Machinery a/c	3,000	By Balance b/d	25,000
(Dep. on machinery sold)		By P&L a/c	
To Balance c/d	40,000	Dep. for the current year	18,000
	-----		-----
	43,000		43,000
	-----		-----

Cash Flow Statement

Cash as on 1-1-2005	10,000		
Add:	Inflows	Cash Outflows:	
Cash from Operations	34,000	Drawings	17,000

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Loan from Bank	10,000	Purchase of Land	10,000
Sale of Machinery	5,000	Purchase of Building	25,000
		Cash as on 31-12-2005	7,000
	-----		-----
	59,000		59,000
	-----		-----

Illustration : 5

From the following information calculate cash from operations:

Particulars	Rs.
Net Profit for the year	30,000
Total Sales	60,000
Debtors Outstanding in the beginning of the year	20,000
Debtors outstanding at the end of the year	15,000

Solution:**Calculation of Cash from Operations**

Particulars	Rs.
Net profit for the year	30,000
<i>Less:</i> Debtors outstanding at the end of the year	15,000
<i>Add:</i> Debtors outstanding in the beginning of the year	20,000
Cash from operations	35,000

Illustration 6 : Calculate Cash from operations from the following information's :

Particulars	Rs.
Sales	70,000
Purchases	40,000
Expenses	8,000
Creditors at the end of the year	15,000
Creditors in the beginning of the year	12,000

Solution

Particulars	Rs.	Rs.
Sales		70,000
Less: Purchases	40,000	
Expenses	8,000	48,000
Profit for the Year		22,000
Add: Creditors at the end of the Year		15,000

		37,000

Less: Creditors at the beginning of the Year		12,000

Cash from Operations		25,000

APPLICATIONS OF CASH OR CASH OUTFLOWS**1. Cash Lost in Operations**

Sometimes the net result of trading in a particular period is a loss and some cash may be lost during that period in trading operations. Such loss of cash in trading is called cash lost in operations and is shown as an outflow of cash in Cash Flow Statement.

2. Decrease in or Discharge of Liabilities

Decrease in or discharge of any liability, fixed or current results in outflow of cash either actual or notional. For example, when redeemable preference shares are redeemed and loans are repaid, it will amount to an outflow of actual cash. But when a liability is converted into another such as issue of shares for debentures, there will be a notional flow of cash into the business.

3. Increase in or Purchase of Assets

Just like decrease in or sale of assets is a source or inflow of cash, increase or purchase of any assets is a out flow or application of cash.

4. Non Trading Payments

Payment of any non-trading expenses also constitute outflow of cash. For example, payment of dividends, payment of income-tax, etc.

Illustration 7:

The following details are available from a company.

Liabilities	31-12-98 Rs.	31-12-99 Rs.	Assets	31-12-98 Rs.	31-12-99 Rs.
Share Capital	70,000	74,000	Cash	9,000	7,800
Debentures	12,000	6,000	Debtors	14,900	17,700
Reserve for doubtful debts	700	800	Stock	49,200	42,700
Trade Creditors	10,360	11,840	Land	20,000	30,000
P & L A/c	10,040	10,560	Goodwill	10,000	5,000
	1,03,100	1,03,200		1,03,100	1,03,200

Additional Information

(i) Dividend paid total Rs. 3,500 (ii) Land was purchased for Rs. 10,000. Amount provided for amortisation of goodwill Rs. 5,000 and (iii) Debentures paid off Rs. 6,000. Prepare Cash Flow Statement.

Solution

**Cash Flow Statement
(for the year ended 31.12.1999)**

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Particulars	Rs.	Particulars	Rs.
Opening balance of Cash on	9,000	Cash Outflows	
Add: Cash Inflows :		Purchase of Land	10,000
Issue of Share Capital	4,000	Increase in Debtors	2,800
Increase in trade creditors	1,480	Redemption of Debentures	6,000
Cash inflow from operations	9,120	Dividends Paid	3,500
Decrease in stock	6,500	Closing balance of cash on	7,800
	30,100		30,100

Workings

Particulars	Rs.	Particulars	Rs.
To Dividend (non-operating)	3,500	By Balance b/d	10,040
To Goodwill (non-fund/cash)	5,000	By Cash inflow from operation	9,120
To Reserve for doubtful debts	100		
To Balance c/d	10,560		
	19,160		19,160

Alternatively

Balance of P & L A/c on 31.12.1999	10,560
Add: non-fund/cash and non-operating items which have already been debited to P & L A/c :	
Dividend paid	3,500
Goodwill written off	5,000
Reserve for doubtful debts	100
Less: Opening balance of P & L A/c and non-operating incomes :	
Opening Balance of P/L A/c. on 31.12.98	10,040
Cash Inflow from Operations	9,120

Illustration: 8

Prepare a funds flow statement

Balance Sheet of M/s ____

Liabilities	As on 31st December		Assets	As on 31st December	
	2004	2005		2004	2005
Share Capital	10,000	15,000	Cash	5,000	8,000
Profit and Loss			Debtors	10,000	15,000
Appropriation	5,000	8,000	Stock	10,000	12,000
account	4,000	6,000	Machiner	3,000	5,000
Long Term Loan	8,000	12,000	y	4,000	4,000
Sundry Creditors	5,000	3,000	Land		

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Bills Payable					
	32,000	44,000		32,000	44,000

From the information relating to the non-current area from the balance sheet figures on 31st Dec 2004 and 31st Dec 2005, we would be able to prepare a funds flow statement for the period between 31st December 2004 and 31st December 2005 i.e. for the year 2005.

Balance Sheet of M/s ____**Schedule/Statement of Changes in Working Capital for the period from __ to __**

Particulars/Account	Balance as on 31 st December		Working Capital Change	
	2004	2005	Increase	Decrease
a) CURRENT ASSETS				
1) Cash	5,000	8,000		3,000
2) Sundry Debtors	10,000	15,000		5,000
3) Stock	10,000	12,000		2,000
TOTAL	25,000	35,000		10,000
b) CURRENT LIABILITIES				
1) Sundry Creditors	8,000	12,000	4,000	
2) Bills Payable	5,000	3,000		2,000

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TOTAL	13,000	15,000	4,000	2,000
Working Capital [(a) - (b)]	12,000	20,000		
TOTAL			4,000	12,000
Net Change in Working Capital				8,000

Funds Flow Statement for the period from __ to**—**

Particulars	Amount	Amount
a) Sources (Inflow) of Funds		
1) Share Capital	5,000	
2) Funds from Operations [P/L appropriation account]	3,000	8,000
b) Applications (Outflow) of Funds		
1) General Reserve	2,000	
2) Machinery	2,000	4,000
Change in Working Capital [a - b]		+ 4,000

Illustration: 9

From the following information prepare

- i) A Schedule of Changes in Working
Capital

- ii A Funds Flow Statement

Balance Sheet of M/s _____

Liabilities	as on 31 st March		Assets	as on 31 st March	
	2006	2007		2006	2007
Capital	18,50,000	21,00,000	Goodwill (at Cost)	6,00,000	6,00,000
Profit/Loss	14,78,000	17,64,000	Land and Buildings	18,50,000	22,00,000
Appropriation	12,00,000	9,00,000	Plant and	4,74,000	
Bank Loan	4,00,000	6,80,000	Machinery	1,94,000	5,24,000
Bills Payable	14,00,000	12,20,000	Furniture and	8,26,000	1,94,000
Sundry Creditors	2,00,000	1,80,000	Fittings	12,00,000	7,24,000
Reserve for Taxation			Stock/Inventories	8,00,000	12,80,000
			Sundry Debtors	5,00,000	
			Bills Receivable	84,000	7,21,000
			Bank		4,83,000
			Cash		1,18,000
TOTAL	65,28,000	68,44,000	TOTAL	65,28,000	68,44,000

SOLUTION

Schedule/Statement of Changes in Working Capital for the period
from 31/03/06 to 31/03/07

Particulars/Account	Balance as on 31 st March		Working Capital Change	
	2006	2007	Increase	Decrease
a) CURRENT ASSETS				
	8,26,000	7,24,000		1,02,000
1) Stock/Inventories	12,00,000	12,80,000	80,000	
2) Sundry Debtors	8,00,000	7,21,000		79,000
3) Bills Receivable	5,00,000	4,83,000		17,000
4) Bank	84,000	1,18,000	34,000	
5) Cash				
TOTAL	34,10,000	33,26,000	1,14,000	1,98,000
b) CURRENT LIABILITIES				
	4,00,000	6,80,000		2,80,000
1) Bills Payable	14,00,000	12,20,000	1,80,000	
2) Sundry Creditors	2,00,000	1,80,000	20,000	
3) Provision for Taxation				
TOTAL	20,00,000	20,80,000	2,00,000	2,80,000
Working Capital [(a) - (b)]	14,10,000	12,46,000		

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TOTAL	3,14,00	4,78,000
	0	
Net Change in Working Capital		1,64,000

Working Notes

Make up the ledgers for all the non-current accounts.

Dr			Capital a/c			Cr		
Date	Particulars	Amount	Date	Particulars	Amount			
31/03/07	To Balance c/d	21,00,00	01/04/06	By Balance b/d	18,50,000			
		0		By Bank a/c (?)	2,50,000			
		21,00,00			21,00,000			
		0						
			01/04/07	By Balance b/d	21,00,000			

Assumption :

Capital has been raised during the period for cash.

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Dr			Bank Loan a/c			Cr		
Date	Particulars	Amount	Date	Particulars	Amount			
—	To Bank a/c (?)	3,00,000	01/04/06	By Balance b/d	12,00,000			
31/03/07	To Balance c/d	9,00,000			0			
		12,00,000			12,00,000			
		0			0			
			01/04/07	By Balance b/d	9,00,000			

Assumption :

Bank loan has been repaid during the period through a cheque.

Dr			Land and Buildings a/c			Cr		
Date	Particulars	Amount	Date	Particulars	Amount			
01/04/06	To Balance b/d	18,50,00	31/03/07	By Balance c/d	22,00,00			
—	To Bank a/c (?)	0			0			
		3,50,000						
		22,00,00			22,00,00			
		0			0			
01/04/07	To Balance b/d	22,00,00						

--	--	--	--	--	--

Assumption :

Additional assets have been purchased during the period for cash.

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Dr			Plant and Machinery a/c			Cr		
Date	Particulars	Amount	Date	Particulars	Amount			
01/04/06	To Balance b/d	4,74,000	31/03/07	By Balance c/d	5,24,000			
	To Bank a/c (?)	50,000						
		5,24,000			5,24,000			
01/04/07	To Balance b/d	5,24,000						

Assumption :

Additional assets have been purchased during the period for cash.

Posting by name Bank on the credit side indicates an inflow and on the debit side indicates an outflow

Dr			Profit and Loss Appropriation			Cr		
Date	Particulars	Amount	Date	Particulars	Amount			
31/03/07	To Balance c/d	17,64,000	01/04/06	By Balance b/d	14,78,000			
			31/03/07	By Funds From Operations (?)	2,86,000			

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		17,64,00			17,64,00
		0			0
			01/04	By Balance b/d	17,64,00
			/07		0

Assumption :

Funds have been generated through operations during the period.

Treat the Funds from operations posting as if it is a posting by name bank.

Funds Flow Statement

Funds Flow Statement for the period from 31/03/06
to 31/03/07

Particulars	Amount	Amount
a) Sources (Inflow) of Funds		
	2,50,000	
1) Share Capital	2,86,000	5,36,000
2) Funds from Operations [P/L appropriation account]		
b) Applications (Outflow) of Funds		
	3,50,000	
1) Land and Buildings	50,000	
2) Plant and Machinery	3,00,000	7,00,000
3) Bank Loan		

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Illustration: 10

Following are the Balance Sheets of BROYHILL Industries Ltd, as on 31.12.2005 and 31.12.2006

Balance Sheet of M/s BROYHILL Industries Ltd,

Liabilities	As on 31st December		Assets	As on 31st December	
	2005	2006		2005	2006
Share capital	12,00,000	16,00,000	Goodwill (at Cost)	6,00,000	5,50,000
Debentures	4,00,000	6,00,000	Plant and Machinery	8,00,000	14,90,000
Reserve	3,00,000	3,50,000	(Cost)	2,00,000	2,00,000
Profit & Loss a/c	2,50,000	5,00,000	Furniture	6,00,000	10,00,000
Creditors	4,50,000	3,80,000	Buildings	2,20,000	-
Bank Loan	8,00,000	13,00,000	Investments	3,50,000	4,70,000
Fixed Deposits	2,00,000	-	Land	3,38,000	3,72,000
Provision for			Debtors	6,00,000	8,00,000
Depreciation	12,000	6,000	Stock	40,000	80,000
on Buildings	40,000	48,000	Bank	14,000	12,000
on Plant & Machinery	60,000	70,000	Preliminary expenses		
Provision for:	50,000	1,20,000			
Bad & Doubtful Debts					
Taxation					
	37,62,000	49,74,000		37,62,000	49,74,000

You are required to analyze the Funds Flow and the Changes in working Capital in as much detail as possible, using the following additional details available.

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M/S BROYHILL Industries Ltd

Schedule/Statement of Changes in Working Capital for the period from 31/12/05 to 31/12/06

Particulars/Account	Balance as on 31 st March		Working Capital Change	
	2005	2006	Increase	Decrease
a) CURRENT ASSETS				
	3,38,000	3,72,000	34,000	-
1) Debtors	6,00,000	8,00,000	2,00,000	-
2) Stock	40,000	80,000	40,000	-
3) Bank				
TOTAL	9,78,000	12,52,000	2,74,000	-
b) CURRENT LIABILITIES				
	4,50,000	3,80,000	70,000	
1) Creditors	60,000	70,000		10,000
2) Provision for Bad Debts	50,000	1,20,000		70,000
2) Provision for Taxation				
TOTAL	5,60,000	5,70,000	70,000	80,000
Working Capital [(a) - (b)]	4,18,000	6,82,000		
		TOTAL	3,14,000	4,78,000
		Net Change in Working Capital	2,64,000	

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Dr	Profit and Loss Appropriation a/c		Cr
Particulars	Amount	Particulars	Amount
To Reserve a/c	30,000	By Building Sale a/c	20,000
To Profit and Loss a/c	2,50,000	By Investments a/c	24,000
To Goodwill a/c	50,000	By Funds From Operations	3,64,000
To Reserve for Depreciation on Plant and Machinery	20,000	(?)	
To Machine Sale a/c	8,000		
To Depreciation on Furniture	44,000		
To Reserve for Depreciation on Building	4,000		
To Preliminary Expenses	2,000		
	4,08,000		4,08,000

Statement for Calculation of Funds from Operations

Particulars	Amount	Amount
Current Period Profit Capitalised		2,50,000
Add: Losses/Appropriations debited to Profit/Loss a/c		
	30,000	
1) Reserve created	50,000	
2) Goodwill written off	20,000	
3) Reserve for Depreciation on Plant and Machinery	8,000	
4) Loss on Sale of Machine	44,000	
5) Depreciation on Furniture	4,000	
6) Reserve for Depreciation on Building	2,000	1,58,000
7) Preliminary Expenses Written off		
Less: Gains and Adjustments credited to Profit/Loss a/c		4,08,000
	20,000	
	24,000	44,000
1) Profit on Sale of Building		
1) Profit on Sale of Investments		

Statement of Sources and Applications of Funds for the period from __ to __

Sources/Inflows of Funds	Amount	Applications/Outflows of Funds	Amount
Share Capital (Stock)	50,000	Purchase of Plant and Machinery	8,30,000
Share Capital	3,00,000	Purchase of Furniture	44,000
(Cash/Bank)	2,00,000	Purchase of Buildings	4,50,000
Debentures	5,00,000	Fixed Deposits Cleared	2,00,000
Bank Loan	1,20,000	Purchase of Land	2,70,000
Plant Sale	1,10,000		
Building Sale	2,44,000		
Investments Sale	1,70,000		
Land Sale	3,88,000		
Funds from Operations			
	20,58,000		17,94,000
		Change in Fund (Working Capital)	2,64,000

Illustration: 11

From the following data you are to calculate the cash from operations. Funds from operation for the year 2007 Rs.84, 000. Current assets and liabilities as on 1.1.2007 and 31.12.2007 were as follows:

Particulars	1.1.2007	31.12.2007
Trade Creditors	1,82,000	1,94,000
Trade Debtors	2,75,000	3,15,000
Bills Receivable	40,000	35,000
Bills payable	27,000	31,000
Inventories	1,85,000	1,70,000
Trade Investments	40,000	70,000
Outstanding Expenses	20,000	25,000
Prepaid expenses	5,000	8,000

Solution

Particulars	Rs.	Rs.
Funds from operations		84,000
Add: Increase in current liabilities		
Trade creditors	12,000	
Bills payable	4,000	
Outstanding expenses	5,000	
Decrease in current assets		
Bills receivable	5,000	
Inventories	15,000	41,000
Less: Decrease in Current liabilities		1,25,000
Increase in Current assets		
Trade debtors	40,000	
Trade investments	30,000	
Prepaid expenses	3,000	73,000
Cash from operations		52,000

Illustration: 12

Malar Ltd. Furnish you the following Balance sheets for the years ending 31st Dec 1985-86.

You are required to prepare a cash flow statement for the year ended 31.12.1986.

Liabilities	1985	1986	Assets	1985	1986
Equity share Capital	20,000	20,000	Goodwill	2,400	2,400
General reserve	2,800	3,600	Land	8,000	7,200
Profit and loss A/c	3,200	2,600	Building	7,400	7,200
Sundry Crs	1,600	1,080	Investments	2,000	2,200
Outstanding Expenses	240	160	Inventories	6,000	4,680
Provision for tax	3,200	3,600	A/cs receivable	4,000	4,440
Provision for bad debts	80	120	Bank balance	1,320	3,040

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	31,120	31,160		31,120	31,160
--	--------	--------	--	--------	--------

1. A piece of land has also been sold for Rs.800
2. Depreciation amounting to Rs.1,400 has been charged on building
3. Provision for taxation has been made for Rs.3,800 during the year

Solution**Malar Ltd cash flow statement for the year ended 31.12. 1986**

Particulars	Rs.	Rs.
Opening bank balance		1,320
Add: Sources of cash		
Cash from operations	5,720	
Sale of land	800	6,520
Total Sources		7,840
Less: Applications of Cash		
Building purchased	1,200	
Investments purchased	200	
Tax paid	3,400	4800
Closing bank balance		3,040

Adjusted Profit and loss Account

Particulars	Rs.	Particulars	Rs.
To Transfer to General reserve	800	By balance b/d	3,200
To Depreciation on building	1,400	By Funds from operations	5,400
To Provision for Tax	3,800		
To Balance c/d	2,600		
	8,600		8,600

Statement of Cash From operations

Particulars	Rs.	Rs.
Funds from operations		5,400
Add: Increase in provision for doubtful debts	40	
Decrease in inventories	1,320	1,360
		6,760
Less: Decrease in Creditors	520	
Decrease in outstanding expenses	80	
Increase in accounts receivable	440	1,040
Cash from operations		5,720

Illustration: 13

**Calculate funds from operations from the following Profit and Loss A/c
Profit and loss Account**

Particulars	Rs.	Particulars	Rs.
To Expenses paid	3,00,000	By Gross Profit	4,50,000
To Depreciation	70,000	By Gain on sale of land	60,000

To Loss on sale of machine	4,000		
To Discount	200		
To Goodwill	20,000		
To Net profit	1,15,800		
	5,10,000		5,10,000

Solution

Particulars	Rs.	Rs.
Net profit as per Profit & Loss A/c		1,15,800
Add: Depreciation	70,000	
Loss on sale of Machine	4,000	
Goodwill written off	20,000	94,000
		2,09,800
Less: Gain on sale of land		60,000
Funds from operations		1,49,800

Part – A**Online Examination from Qn. No. 1 – Qn No.20****Each Question Carry One Mark****POSSIBLE QUESTIONS - PART B**

1. Define fund flow statement
2. Write any two objectives of fund flow statement?
3. List out the steps for preparing fund flow statement?
4. From the following particulars you are required to prepare the Statement showing schedules of changes in working capital

Liabilities	2008	2009	Assets	2008	2009
Share capital	8,000	8,500	Land	5,000	5,000
Profit & Loss A/C	1,450	2,450	Plant	2,400	3,400
Creditors	900	500	Debtors	1,650	1,950
Mortgage Loan	-	500	Stock	900	700
			Cash at Bank	400	900
	10,350	11,950		10,350	11,950

- 5 Write any two features of fund flow statement?
- 6 List out the importance of fund flow analysis?
- 7 Write any two features of cash flow statement?
- 8 List out the importance of cash flow analysis?
- 9 List out the statements which are helpful for observing the movement of fund?
- 10 What is meant by current account?
- 11 Give the meaning of non current account?

***CIA- 3 X 2 = 6 (ANSWER ALL THE QUESTIONS)**

****ESE – 5 X 2 = 10 (ANSWER ALL THE QUESTIONS)**

PART C

- 1 Distinguish between cash flow analysis and funds flow analysis.
- 2 From the following particulars you are required to prepare the Funds

Flow Statement

Liabilities	2007	2008	Particulars	2007	2008
Share capital	8,000	8,500	Land	5,000	5,000
Profit & Loss A/C	1,450	2,450	Plant	2,400	3,400
Creditors	900	500	Debtors	1,650	1,950
Mortgage Loan		500	Stock	900	700
			Cash at Bank	400	900
	10,350	11,950		10,350	11,950

3. From the following balance sheets of Damodar Ltd as on 31 December 2004 and 2005 you are required to prepare:

a) A schedule of changes in working capital

b) A funds flow statement

Assets	2004	2005
Goodwill	12,000	12,000
Building	40,000	36,000
Plant	37,000	36,000
Investments	10,000	11,000
Stock	30,000	23,400
Bills Receivable	2,000	3,200
Debtors	18,000	19,000
Cash at Bank	6,600	15,200
	-----	-----
	1,55,600	1,55,800

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Liabilities	2004	2005
Share capital	1,00,000	1,00,000
General Reserve	14,000	18,000
Creditors	8,000	5,400
Bills Payable	1,200	800
Provision for Taxation	16,000	18,000
Provision for doubtful debts	400	600
Profit & Loss A/c	16,000	13,000
	1,55,600	1,55,800

Additional Information:

- Depreciation charged on plant was Rs.4,000 and on building Rs.4,000.
- Provision for taxation Rs.19,000
- Interim dividend of Rs.8,000 was paid during the year 2005.
- Balance Sheets of XYZ Ltd. as on 1-1-2000 and 31-12-2001 was as follows:**

<i>Liabilities</i>	<i>1-1-2001</i>	<i>31-12-2001</i>
Capital	1,25,000	1,53,000
Creditors	1,40,000	1,44,000
Bank loan	65,000	50,000
Bills Payable	20,000	30,000
	3,50,000	3,77,000
Assets:		
Cash	20,000	17,000
Debtors	30,000	80,000
Stock	45,000	35,000
Machinery	80,000	65,000
Land	90,000	80,000
Buildings	65,000	70,000
Goodwill	20,000	30,000
	3,50,000	3,77,000

During the year, a machine costing Rs. 12,000 (accumulated depreciation Rs.4,000) was sold for Rs.7,000. Balance of provisions for depreciation against machinery as on 1-1-2001 was Rs.35,000 and on 31-12-2001 Rs. 50000 Prepares cash Flow statement.

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5. The following details are available from a company.

	31-12-09 Rs.	31-12-10 Rs.	31-12-09 Rs.	31-12-10 Rs.
Share capital	70,000	74,000	Cash	9,000
Debentures	12,000	6,000	Debtors	14,900
Reserve for				
doubtful debts	700	800	Stock	49,200
Trade Creditors	10,360	11,840	Land	20,000
P/L A/c	10,040	10,560	Goodwill	10,000
	<u>1,03,100</u>	<u>1,03,200</u>	<u>1,03,100</u>	<u>1,03,200</u>

In addition, you are given:

1. Dividend paid total Rs. 3,500.
2. Land was purchased for Rs.10,000.
3. Amount provided for amortization of goodwill Rs.5,000.
4. Debentures paid off Rs.6,000.

Prepare Fund Flow Statement and Cash Flow Statement.

5. Discuss the importance of cash flow analysis?
6. Explain the current account and non current account?

***CIA- 3 X 8 = 24 (EITHER OR TYPE)**

****ESE – 5 X6 = 30 (EITHER OR TYPE)**

KARPAGAM ACADEMY OF HIGHER EDUCATION
(Deemed to be University)
(Established Under Sec 3 of UGC Act 1956)
DEPARTMENT OF MANAGEMENT
II BBA - THIRD SEMESTER
MANAGEMENT ACCOUNTING

UNIT -V : Multiple Choice Questions- Each Question carries ONE Mark

QUESTION	Option - I	Option - II	Option - III	Option - IV	ANSWER
The word 'fund' means the difference between _____	Current Assets	Current Liabilities	Current Assets and Current Liabilities	No Assets	Current Assets, Current Liabilities
Purchases of plant will mean_____ in working capital	increase	decrease	Liquidity	current	decrease
Issue of capital will mean_____in working capital	increase	decrease	Liquidity	current	increase
Goodwill is a _____ transaction	Fund	Non-Fund	current	Non-Current	Non-Fund
Depreciation of Machinery is _____	Source of Funds	Application of Funds	No flow of funds	Flow of funds	No flow of funds
Which of the following are non-current item_____	Share premium	sundry creditors	bank balance	payment of wages	Share premium
Which of the following will result into application of funds_____	Purchase of plant	Issue of share capital	payment of dividend	payment of creditors	Purchase of plant
State which of the following is non-current liability_____	Mortgage loan	bank balance	outstanding salary	creditors	Mortgage loan
Cash flow statement is useful for _____term financial analysis	Long	Short	Medium	Short and Long	Short

Cash comprises cash on hand and _____ deposit with banks	Current	fixed	Demand	Saving	Saving
Cash flows are _____ of cash and Cash equivalents	inflow	outflow	inflow and out flow	sources	inflow and out flow
Cash payments to suppliers for goods and services are classified as cash flow from _____ activities	investing	operating	Non-operating	Non-investing	operating
Decrease in creditors is _____ of cash	inflow	outflow	inflow and out flow	source	inflow
The term 'Fund' refers to ---- -----	Reserves	Working capital	Profits	Loss	Working Capital
Gross working Capital is the _____	Total value of current assets	Total value of fixed assets	Total value of current liabilities	Total value of permanent non-operating profit	total value of current assets
Fund from operation is _____	Gross profit	Net profit	operating profit	A non-operating item	Operating profit
Depreciation is -----	An external source of funds	Application of Funds	A non fund item	A non-operating item	A non-fund item
Proposed dividend, if already reduced while ascertaining net profit, is _____	Added back to Net profit to find fund from operations	to be reduced from net profit	ignored while ascertaining fund from operations	no effect	Added back to Net profit to find fund from operations
Sale of fixed asset is _____	An item of funds from operation	an external source of fund	an application of fund	a flow of fund	an external source of fund
Short term investment is _____	a current asset	a current liability	an application of fund	a source of fund	a current asset

Payment of dividend is _____	An application of fund	a source of fund	Fixed expenses	operating expenses	An application of funds
Income tax paid is _____	current liability	current asset	an application of fund	a source of fund	An application of funds
Funds inflow from operation is	an internal source of funds	an application of funds	an external source of funds	net profit	An internal source of funds
Purchase of fixed assets by issue of shares is _____	Source of Funds	Application of Funds	an item to be ignored in Funds flow analysis	An item to be added in fund flow	An item to be ignored in fund flow analysis
Issue of bonus shares out of reserves _____	increase in working capital	decrease in working capital	does not affect working capital	Flow of funds	does not affect working capital
Difference between current assets and current liabilities is _____	permanent capital	working capital	additional capital	debt capital	Working Capital
_____ in current assets increases working capital	increase	decrease	constant	permanent	increase
_____ in current liability increases working capital	increase	decrease	constant	permanent	decrease
Loss on sale of fixed assets is a _____ item	Non- fund	non - operating	operating	current	Non-Fund

Purchase of long term investment is an _____ of funds	Source of Funds	Application of Funds	flow of funds	no flow of funds	Application of funds
Issue of debenture for cash is ----- item	Source of Funds	Application of Funds	flow of funds	no flow of funds	Source of funds
Redemption of preference shares is an ----- item	Source of Funds	Application of Funds	flow of funds	no flow of funds	Application of funds
Dividend received is an _____ source of funds	External	internal	Current	Non current	External
Cash flow includes _____	Cash receipts only	cash payments only	cash receipts and payments	cash and non cash incomes and expenses	cash receipts and payments
Cash from operation is the result of _____	profit from business activities	cash from business activities and changes in current	sale of fixed assets	borrowing from outside source	cash from business activities and changes in current assets and
Income from long term investment is _____	Source of cash	application of cash	cash inflow from operations	cash out flow from operations	Source of cash
Premium on redemption of debentures is _____	cash inflow	cash outflow	an income	an asset	Cash outflow
Dividend paid is usually treated as	An application of cash	Source of cash	loss	gain	An application of cash

Cashflow includes cash inflows and cash ____	outflows	movements	changes	transactions	outflows
Cash from operation is a ____ of cash	source	application	external	fundamental	source
Cash outflow on account of operation is an ____ of cash	Sources	Application	Income or loss	expenditure	Application
Increase in current assets ____ in cash	increase in cash	decrease in cash	no change in cash	loss in cash	decrease in cash
Increase in current liability ____ in cash	increase in cash	decrease in cash	no change in cash	loss in cash	increase in cash
Tax paid usually shown as an ____ of cash	application	finance	source	loss	application
Issue of shares result in ____ in flow	cash	Credit	debit	loss	cash
Purchase of fixed assets is an ____ of cash	application	Source of cash	loss of cash	gain of cash	application
Purchase of building by issue of debenture is a ____ item and it is ignored in cash flow statement	Non-cash	Non-fund	operating	non-operating	non-cash

Cash flow statement usually starts with opening balance of cash and Bank balance and _____ with closing balance of cash and bank balance	ends	begins	selects	starts	ends
Cash from operation reveals _____	fund generated from routine and normal business operations	cash generated from routine or normal business operations	cash generated from non operating business activities	fund generated from non operating business activities	cash generated from routine or normal business operations
Cash flow statement is prepared on the basis of _____	income statement	balance sheet	fund flow statement	income statement, balance sheet and additional data	income statement, balance sheet and additional data
Decrease in current assets _____ in working capital	increase	decrease	constant	permanent	decrease
Redemption of debentures by converting them into shares is _____	Application of cash	Source of Cash	to be ignored	to be included	to be ignored
Cash received from sale of long term investments is _____	source of csh	application of cash	loss of cash	gain of cash	source of cash
Premium charged on issue of shares is also _____	Source of funds	application of funds	non fund item	non operating expenses	Source of funds

Goodwill written off should be _____ while ascertaining fund from operations	to be added back to net profit	deducted from net profit	ignored	considered	to be added back to net profit
Preliminary expenditure written off is a _____	Non fund expenses	non-operating income	non- operating expenses	non- fund incomes	non- fund expenses
A source of fund always _____ cash position	increases	decreases	may or maynot increase	may or may not decrease	may or may not increases
Increase in profit is a _____ source of funds	internal	external	debtors	investors	internal
Issue of bonus shares is a _____ of funds	sources	application	No flow of funds	inflow of funds	no flow of funds
Purchased of fixed assets is _____ of cash	source	application	No flow of funds	inflow of funds	application

KARPAGAM ACADEMY OF HIGHER EDUCATION
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COIMBATORE – 21
DEPARTMENT OF MANAGEMENT
II BBA - THIRD SEMESTER
MANAGEMENT ACCOUNTING (17BAU302)
ASSIGNMENT - I – TITLES

Sl. No.	Register No.	Name of the Candidate	Assignment Title
1	17BAU002	Abinaya.D	Management Accounting – Introduction
2	17BAU003	Abisha.J	Budgetary Control
3	17BAU004	Aishwarya.S	Break-Even Analysis
4	17BAU005	Akshay K Ajay	Marginal Costing
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II BBA - THIRD SEMESTER
MANAGEMENT ACCOUNTING (17BAU302)
SEMINAR – TITLES

Sl. No.	Register No.	Name of the Candidate	Assignment Title
1	17BAU002	Abinaya.D	Management Accounting – Introduction
2	17BAU003	Abisha.J	Budgetary Control
3	17BAU004	Aishwarya.S	Break-Even Analysis
4	17BAU005	Akshay K Ajay	Marginal Costing
5	17BAU006	Anto William . P	Elements of Cost
6	17BAU007	Aravind Kumar. P	Types of Budget
7	17BAU008	Aravind. M	Variance Analysis
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COIMBATORE – 21
DEPARTMENT OF MANAGEMENT
I BBA - SECOND SEMESTER
MANAGERIAL ECONOMICS (17BAU201)
ASSIGNMENT - II – TITLES

Sl. No.	Register No.	Name of the Candidate	Assignment Title
1	17BAU002	Abinaya.D	Management Accounting – Introduction
2	17BAU003	Abisha.J	
3	17BAU004	Aishwarya.S	
4	17BAU005	Akshay K Ajay	
5	17BAU006	Anto William . P	
6	17BAU007	Aravind Kumar. P	
7	17BAU008	Aravind. M	
8	17BAU009	Balaji. P	
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25	17BAU026	Pandiyan. S	
26	17BAU027	Prabhakaran. D	
27	17BAU028	Pradeesh. P	

Sl. No.	Register No.	Name of the Candidate	Assignment Title
28	17BAU029	Praveenkumar. P	Variance Overhead
29	17BAU030	Rajagopal. P	
30	17BAU031	Rajeshwari . K	
31	17BAU032	Ramasamy Ahilan	
32	17BAU033	Riyazuddin.b	
33	17BAU034	Ruban Raj Kumar. K	
34	17BAU035	Sakthivel. E	
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Reg. No.

[13BAU501]

KARPAGAM UNIVERSITY

Karpagam Academy of Higher Education

(Established Under Section 3 of UGC Act 1956)

COIMBATORE - 641 021

(For the candidates admitted from 2013 onwards)

BBA DEGREE EXAMINATION, NOVEMBER 2015

Fifth Semester

BUSINESS ADMINISTRATION

COST AND MANAGEMENT ACCOUNTING

Maximum : 60 marks

Time: 3 hours

PART - A (20 x 1 = 20 Marks) (30 Minutes)
(Question Nos. 1 to 20 Online Examinations)

PART B (5 x 8 = 40 Marks) (2 ½ Hours)

Answer ALL the Questions

21. a. Explain the merits of Cost Accounting.

Or

b. Discuss the functions of Management Accounting.

22. A company follows simple average cost method for the valuation of its issues to jobs. The following are the transactions held during January. Prepare a store ledger in its specified form.

- Jan 1 Purchased 1,000 units @ Rs. 4.50 per unit
- 5 Purchased 2,000 units @ Rs. 4.00 per unit
- 8 Issued 800 units
- 15 Issued 1,200 units
- 19 Purchased 1,500 units @ Rs. 4.20 per unit
- 22 Issued 1,000 units
- 24 Purchased 800 units @ Rs. 4.50 per unit
- 27 Purchased 800 units @ Rs. 4.50 per unit
- 28 Issued 800 units
- 30 Issued 400 units
- 31 Purchased 500 units @ Rs. 4.60 per unit

Or

23. a. The cost of sale of a product is made up as follows.

Particulars	Rs.	Particulars	Rs.
Materials used in manufacturing	60,000	Administration expenses	1,250
Materials used in primary packing	10,000	Depreciation of office	750
Materials used in selling the product	1,500	Building and equipment	1,750
Materials used in the factory	750	Dep. Of Factory building	3,500
Materials used in the office	1,250	Selling expenses	5,000
Labour required in producing	10,000	Freight on materials purchased	1,250
Labour required for factory supervision	2,000	Advertising	
Indirect expenses - Factory	1,000		

Assuming that all the products manufactured are sold. What should be the selling prices to obtain a profit of 20% on selling price?

23. a. Calculate the current assets of a company from the following information:

- i. Stock turnover 5 times
- ii. Stock at the end is Rs. 5,000 more than the stock at the beginning
- iii. Sales (all credit) Rs. 2,00,000
- iv. Gross profit ratio 20%
- v. Current Liabilities Rs. 60,000
- vi. Quick ratio 0.75

Or

b. From the following Balance sheet, prepare a common size statement.

Assets	2013(Rs)	2014(Rs)
Cash	27,000	31,500
Debtors	2,20,000	2,11,000
Stock	1,00,000	1,26,000
Prepaid expenses	11,000	21,000
Bills receivables	10,000	10,500
Fixed assets	6,35,000	6,50,000
	10,03,000	10,50,000

Liabilities	2013(Rs)	2014(Rs)
Share capital	6,58,000	7,00,000
Long-term debt	2,25,000	2,00,000
Sundry creditors	42,000	50,000
Other liabilities	78,000	1,00,000
	10,03,000	10,50,000

24. a. From the following Balance sheet of XYZ Ltd. Prepare a fund flow statement.

Liabilities	2013 (Rs.)	2014 (Rs.)	Assets	2013 (Rs.)	2014 (Rs.)
Eq. Share capital	3,00,000	4,00,000	Goodwill	1,15,000	90,000
Pref. share capital	1,50,000	1,00,000	Building	2,00,000	1,70,000
General reserve	40,000	70,000	Plant	80,000	2,00,000
Profit & Loss a/c	30,000	48,000	Debtors	1,60,000	2,00,000
Proposed dividend	42,000	50,000	Stock	77,000	1,09,000
Creditors	55,000	83,000	Bills Receivable	20,000	30,000
Bills payable	20,000	16,000	Cash	15,000	10,000
Prov. For taxation	40,000	50,000	Bank	10,000	8,000
	6,77,000	8,17,000		6,77,000	8,17,000

Additional Information

- Depreciation of Rs. 10,000 & Rs. 20,000 has been charges on Plant & Buildings respectively in 2014.
- An Interim dividend of Rs. 20,000 has been paid in 2014.
- Income tax Rs. 35,000 was paid during the year 2014.

Or

b. Following are the balance sheets of a partnership firm.

Liabilities	1.1.2014 (Rs.)	31.12.2014 (Rs.)	Assets	1.1.2014 (Rs.)	31.12.2014 (Rs.)
Creditors	36,000	41,000	Cash	4,000	3,600
Loan from partner	30,000	20,000	Debtors	35,000	38,400
Loan from bank	1,48,000	1,49,000	Stock	25,000	22,000
Capital			Land	20,000	30,000
			Building	50,000	55,000
			Machinery	80,000	86,000
	2,14,000	2,35,000		2,14,000	2,35,000

During the year the partners withdrew Rs. 26,000 for domestic expenses. The provision for depreciation against machinery as on 1.1.2014 was 27,000 and on 31.12.2014 Rs. 36,000.

25. a. The sales turnover and profits during two years were as follows:

Year	Sales	Profit
2013	1,50,000	20,000
2014	1,70,000	25,000

You are required to calculate:

- P/V Ratio
- B.E.P
- The sales required to earn a profit Rs. 40,000
- The profit made when sales are Rs. 2,50,000
- Margin of safety at a profit of Rs. 50,000
- Variable costs of the two periods.

Or

b. The standard quantity of material and standard cost per kg. of material required for the production of one unit of product X is as follows

Material - 10 kgs.

Standard price - Rs. 20/kg.

The actual production and related material data are as follows:

500 units of product X

Materials used 5,500 kgs.

Price of materials Rs. 18.50

- Calculate (i) Material cost variance (MCV)
(ii) Material Price variance (MPV)
(iii) Material usage variance (MUV)

Reg. No.....

[12BA US03]

KARPAGAM UNIVERSITY
(Under Section 3 of UGC Act 1956)
COIMBATORE - 641 021

(For the candidates admitted from 2012 onwards)

BBA DEGREE EXAMINATION, JANUARY 2015

Fifth Semester

BUSINESS ADMINISTRATION

COST AND MANAGEMENT ACCOUNTING

Time: 3 hours

Maximum : 100 marks

PART - A (15 x 2 = 30 Marks)

Answer ALL the Questions

1. Define the term costing

2. Write any two differences between costing and cost accounting.

3. List out the importance of cost accounting?

4. From the following information prepare the cost sheet and find out the Total Cost

Direct Materials	Rs. 25,000	Direct Labour	Rs. 10,000
Direct Expenses	Rs. 11,500	Factory Overhead	Rs. 15,200
Administration Overhead	Rs. 5,300	Selling Expenses	Rs. 1,300
Distribution Expenses	Rs. 2,200		

5. Calculate the Minimum Stock Level from the following information

Maximum Consumption	300 Units Per day
Minimum Consumption	200 Units Per day
Re - Order Period	8 to 10 days
Rate per hour	Rs. 1.50 per hour

6. Rate per hour
Time allowed for job 20 Hours
Time taken 15 Hours

Calculate the total earnings of the worker under the Halsey Plan.

7. Calculate the trend percentage from the following information of X Ltd

Year	(Rs. in Lakhs)	
	Sales	Stock
2006	1,881	1,423
2007	2,456	1,567
2008	2,985	1,689
2009	3,658	1,750
2010	5,478	1,980

8. Find out the Current Assets and Current Liabilities?

Current Ratio 2.5

Working Capital Rs. 63,000

9. Calculate the earnings per share from the following data:

Net Profit before Tax Rs. 1, 00,000.

Taxation at 50% of Net Profit.

10% Preference Share Capital (Rs. 10 each) Rs. 1, 00,000.

Equity Share Capital (Rs. 10 each) Rs. 1, 00,000.

10. From the following information you are required to prepare a Schedule of changes in Working Capital.

Particulars	I Year	II Year
Cash	30,000	47,000
Debtors	1,20,000	1,15,000
Stock - in - trade	80,000	90,000
Sundry Creditors	30,000	20,000

11. From the following particulars you are required to find out cash from operations:

Liabilities	2007	2008	Assets	2007	2008
Share capital	8,000	8,500	Land	5,000	5,000
Profit & Loss A/C	1,450	2,450	Plant	2,400	3,400
Creditors	900	500	Debtors	1,650	1,950
Mortgage Loan		500	Stock	900	700
	10,350	11,950	Cash at Bank	400	900
				10,350	11,950

12. From the following particulars you are required to prepare the Statement showing schedule of changes in working capital

Liabilities	2008	2009	Assets	2008	2009
Share capital	8,000	9,500	Land	5,000	7,000
Profit & Loss A/C	1,450	3,450	Plant	2,400	3,400
Creditors	900	2,500	Debtors	1,650	2,950
Mortgage Loan		1,000	Stock	900	1,700
	10,350	16,450	Cash at Bank	400	1,400
				10,350	16,450

13. From the following information, calculate the break-even point in units and in sales value:

Output	-	3,000 units
Selling price per unit	-	Rs. 30
Variable cost per unit	-	Rs. 20
Total fixed cost	-	Rs. 20,000

5

Year	Month	Sales (Credit) Rs.	Purchase (Credit) Rs.	Wages Rs.	Manufacturing Expenses Rs.	Administrative Expenses Rs.	Selling Expenses Rs.
2009	Nov	30,000	15,000	3,000	1,150	1,060	500
	Dec	35,000	20,000	3,200	1,225	1,040	550
	Jan	25,000	15,000	2,500	990	1,100	600
2010	Feb	30,000	20,000	3,000	1,050	1,150	620
	March	35,000	22,500	2,400	1,100	1,220	570
	April	40,000	25,000	2,600	1,200	1,180	710

You are given the following further information :

i. Period of credit allowed (a) by suppliers 2 months and (b) to customers 1 month.

ii. Lag in payment of wages two months.

iii. Lag in payment of manufacturing expenses ½ month.

iv. Lag in payment of all other expenses one month.

You are required to prepare a cash budget for three months starting on 1st Jan 2010 when there was a cash balance of Rs. 10,000.

Reg. No.....
[14BAU501]

KARPAGAM UNIVERSITY

Karpagam Academy of Higher Education
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COIMBATORE - 641 021
(For the candidates admitted from 2014 onwards)

BBA DEGREE EXAMINATION, NOVEMBER 2016

Fifth Semester

BUSINESS ADMINISTRATION

COST AND MANAGEMENT ACCOUNTING

Time: 3 hours

Maximum : 60 marks

PART - A (20 x 1 = 20 Marks) (30 Minutes)
(Question Nos. 1 to 20 Online Examinations)

PART B (5 x 8 = 40 Marks) (2 ½ Hours)

Answer ALL the Questions

21. a. Distinguish between financial accounting and cost accounting.
Or

b. Discuss the various elements of cost. Give a few examples of each.

22. a. From the following information calculate i. Maximum stock level

ii. Minimum stock level iii. Re-order level

Minimum Consumption 240 units per day

Normal Consumption 300 units per day

Maximum consumption 420 units per day

Re-order Quantity 3,600 units

Re-order Period 10 to 15 days

Normal order period 12 days

Or

b. From the following information, calculate Economic order quantity

Consumption 250 to 750 units per week,

Purchase price of Input unit Rs. 20.

Annual carrying cost 6.5%, Ordering cost per order Rs. 100

Normal consumption 400 units per week.

23. a. From the following particulars pertaining to assets and liabilities of a company
Calculate i. Current Ratio ii. Liquid ratio iii. Proprietary ratio iv. Debt
equity ratio v. Capital Gearing ratio

Liabilities	Rs.	Assets	Rs.
5000 Eq. Shares of Rs. 100 each	5,00,000	Land & Buildings	6,00,000
2000 8% preference shares of Rs. 100 each	2,00,000	Plant and Machinery	5,00,000
4000 9% debentures of Rs. 100 each	4,00,000	Stock	2,40,000
Reserves	3,00,000	Debtors	2,00,000
Creditors	1,50,000	Cash at Bank	55,000
Bank overdraft	50,000	Prepaid Expenses	5,000
	16,00,000		16,00,000

Or

b. Explain the meaning of the term financial statements. State their objectives and nature.

24. a. Calculate funds from operations from the following Profit and Loss Account.

Profit and Loss Account

Profit	Rs.	Loss	Rs.
To Expenses paid and outstanding	3,00,000	By Gross Profit	4,50,000
To Depreciation	70,000	By gain on sale of land	60,000
To Loss on Sale of machine	4,000		
To Discount	200		
To Goodwill	20,000		
To Net Profit	1,15,800		
	5,10,000		5,10,000

Or

b. From the following Profit and Loss Account, you are required to compute cash from operations

Profit and Loss Account for the year ending 31st Dec 2015

Profit	Rs.	Loss	Rs.
To Salaries	5,000	By Gross Profit	25,000
To Rent	1,000	By Profit on sale of land	5,000
To Depreciation	2,000	By Income tax refund	3,000
To Loss on sale of plant	1,000		
To Goodwill written off	4,000		
To proposed dividend	5,000		
To provision for tax	5,000		
To net profit	10,000		
	33,000		33,000

25. a. From the following details, prepare a marginal cost statement

Products	Rs. A	Rs. B	Rs. C
Direct Materials	2,500	10,000	1,000
Direct Labour	3,000	3,000	500
Factory over head			
Fixed	1,000	500	500
Variable	1,300	3,000	1,500
Selling over head			
Fixed	500	300	200
Variable	700	2,000	1,000
Sales	10,000	20,000	5,000

Or

b. From the following information calculate

- Material cost variance
- Material usage variance
- Material price variance separately for X and Y.

Material	Standard Quantity (Kg.)	Price (Rs.)	Standard Actual Quantity (Kg.)	Actual Price (Rs.)
X	10	4	12	3.75
Y	15	5	18	4.50
	25		30	

Reg. No.....

[16BAU302]

KARPAGAM UNIVERSITY

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COIMBATORE - 641 021

(For the candidates admitted from 2016 onwards)

BBA DEGREE EXAMINATION, NOVEMBER 2017

Third Semester

BUSINESS ADMINISTRATION

MANAGEMENT ACCOUNTING

Time: 3 hours

Maximum : 60 marks

PART - A (20 x 1 = 20 Marks) (30 Minutes)

(Question Nos. 1 to 20 Online Examinations)

PART B (5 x 2 = 10 Marks) (2 ½ Hours)

Answer ALL the Questions

21. What are the objectives of Cost accounting?

22. Calculate Break Even point in terms of rupees:

Sales Rs. 8,00,000

Fixed expenses Rs. 2,00,000

Variable Expenses:

Direct materials Rs. 2,50,000

Direct labour Rs. 1,30,000

Other variable exp. Rs. 70,000

23. From the following data for 50% activity, prepare a budget for production at 75% and 90% capacity.

Production at 50% capacity

Direct Materials

Direct wages

Direct expenses

Factory overhead

Administration Overhead

1000 units

Rs. 50 per unit

Rs. 25 per unit

Rs. 15 per unit

Rs. 25,000 (70% variable)

Rs. 20,000(25% variable)

24. Calculate Labour Variance for the two departments from the following:

Particulars	Dept. A	Dept. B
Actual Gross wages (Direct)	Rs. 2,000	Rs. 1,800
Standard Hours produced	8,000	6,000
Standard rate per hour	30 paise	35 paise
Actual hours worked	8,200	5,800

25. From the following information find out the changes in working capital (Rs. In Lakhs)

Liabilities	2013	2014	Assets	2013	2014
Share capital	545	545	Fixed assets	3,006	2,343
Reserves	2,459	1,660	Investments	62	62
Long term loan	2,796	2,295	Inventories	2,075	1,804
Current Liabilities	1,241	1,533	Debtors	1,157	687
Provisions	434	327	Cash	512	844
			Loans & Advances	663	620
Total	7,475	6,360	Total	7,475	6,360

PART C (5 x 6 = 30 Marks)

Answer ALL the Questions

26. a. From the following information, you are required to find out material consumed, prime cost, works cost, cost of production, cost of sales and profit or loss.

Materials purchased	Rs. 2,00,000
Wages	Rs. 1,00,000
Direct expenses	Rs. 20,000
Opening stock of materials	Rs. 40,000
Closing stock of materials	Rs. 60,000
Factory OH is absorbed at 20% on wages. Administration OH is 25% on the works cost. Selling and distribution OH are 20% on the cost of production. Profit is 20% on sales.	

Or

b. Prepare a cost sheet from the following informations:

Particulars	Rs.
Opening stock of raw materials	25,000
Closing stock of raw materials	26,200
purchase of raw materials	21,900
carriage on purchase	1,100
sale of finished goods	72,300
direct wages	17,200
non-productive wages	800
direct expenses	1,200
factory OH	8,300
Administration OH	3,200
Selling OH	4,200

27. a. From the following data to calculate P/V ratio, Margin of Safety, Sales and Variable cost.
Fixed cost Rs. 15,000; Profit Rs. 2,000; Break Even sales Rs. 75,000.

Or

- b. The statement of cost of a pocket Radio is as follows:
i. Material Rs. 225 ii. Labour Rs. 125 iii. Variable expenses Rs. 100
iv. Fixed expenses Rs. 100 v. Profit Rs. 150 vi. Selling price Rs. 700
The number of pocket radios made and sold are 10,000 units. Find out:
1. Break Even Point in units 2. How many pocket radios in units must be produced and sold if the selling price is reduced by Rs.20 and the same profit is maintained.

28. a. From the following forecast of Income and Expenditure, Prepare a cash budget for the months May to July.

Month	Sales (Credit) Rs.	Purchases (Credit) Rs.	Wages Rs.	Mann. Exp. Rs.	Office Exp. Rs.	Selling Exp. Rs.
March	60,000	36,000	9,000	4,000	2,000	4,000
April	62,000	38,000	8,000	3,000	1,500	5,000
May	64,000	33,000	10,000	4,500	2,500	4,500
June	58,000	35,000	8,500	3,500	2,000	3,500
July	56,000	39,000	9,500	4,000	1,000	4,500
August	60,000	34,000	8,000	3,000	1,500	4,500

Additional Information:

- Plant costing Rs.16,000 is due for delivery in July payable 10% on delivery and the balance after 2 months.
- Advance tax of Rs.8,000 is payable in March and June each.
- Period of credit allowed by suppliers 2 months and to customers 1 month.
- Lag in payment of manufacturing expenses 1 month.
- Lag in payment of all other expenses 1 month.
- 1st May opening cash balance Rs.8,000.

Or

- b. The expenses for the budgeted production of 10,000 units in a factory are given below:

Particulars	Rs. Per Unit
Materials	70
Labour	25
Variable OHs	20
Fixed OHs	10
Variable expenses (Direct)	5
Selling expenses (10% fixed)	13
Distribution expenses (20% fixed)	7
Administrative expenses (Rs. 50,000)	5
Total cost	155

Prepare a flexible budget for the production of 8,000 units and 6,000 units.

29. a. Calculate Material Variances.

Material	S.P. Per Kg. Rs.	Std. Mix for 12,000 tiles (Kg.)	Actual Usage (Kg.)	AP per Kg. Rs.
A	5	1,200	12,000	7
B	9	600	6,000	6

Actual output: 1,00,000 tiles.

Or

- b. The following data is taken out from the books of a manufacturing concern:
Budgeted labour composition for producing 100 articles:
20 men @ Rs.1.25 per hour for 25 hours.
30 women @ Rs.1.10 per hour for 30 hours.
Actual labour composition for producing 100 articles:
25 men @ Rs. 1.50 per hour for 24 hours.
25 women @ Rs.1.20 per hour for 25 hours
Calculate Labour cost Variance, Labour rate Variance and Labour efficiency variance.
30. a. Explain the Managerial Uses of Funds flow statement.
Or
b. Describe the Uses and Limitations of Cash flow statement.

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COIMBATORE – 641 021
First Internal Examination, July - 2018
II BBA – III Semester

MANAGEMENT ACCOUNTING

Date :13.07.2018

Time: 2 Hours

Session : FN

Maximum: 50 Marks

PART – A (20 X 1 = 20 Marks)

ALL THE QUESTIONS CARRY EQUAL MARKS

1. Management accounting is consent with accounting information that is useful to _____.
A. Financial B. Cost C. Management D. Accounting
2. Costing refers to the techniques and processes of _____ costs.
A. Ascertaining B. Analyzing C. Utilizing D. Publishing
3. Economic Order Quantity is related to _____ cost.
A. Fixed B. Ordering and carrying C. Variable D. Total
4. The use of management accounting is _____.
A. Compulsory B. Optional C. Obligatory D. based on interest of a firm
5. Direct material+ Direct labour+ Direct expenses = _____.
A. Fixed cost B. Prime cost C. Factory cost D. Total cost
6. Salary of general manager is generally treated as _____ overhead.
A. Factory B. Administrative C. Selling D. Distribution
7. _____ of any product comprises of all direct cost.
A. Work cost B. Prime cost C. Total cost D. Specific cost
8. _____ means and represents the factory cost plus administrative expenses.
A. Prime cost B. Work cost C. Cost of production D. Specific Cost
9. Indirect material plus + indirect labour + _____ = overhead.
A. Indirect expenses B. Direct labour C. Direct expenses D. Factory overhead
10. Direct Expenses are also called _____ Expenses.
A. Major B. Actual C. Sundry D. Chargeable
11. Management accounting is helpful in increasing _____.
A. Sufficiency of data B. Efficiency C. Proficiency D. Profitability
12. Financial accounting is concerned with the measurement and communication of _____ information.
A. Financial B. Primary C. Standard D. Non-standard

13. Management Accounting has a _____ scope as compared to cost accounting.
A. Wider B. Smaller C. Varied D. Total
14. Management accounting is used to communicate with _____.
A. Shareholders B. Outsiders C. Outside agencies D. Internal persons
15. CVP denotes _____.
A. Cost Volume Price B. Cost Volume Profit C. Cost Value Price D. Cost Value Profit
16. Overhead cost is the total of _____ costs.
A. All indirect B. All direct C. Indirect and direct D. All specific
17. Cost classification can be done in _____.
A. Two ways B. Three ways C. Four ways D. Several ways
18. Wages paid to a labor who was engaged in production activities can be termed as _____.
A. Direct cost B. Indirect cost C. Sunk cost D. Imputed cost.
19. Elements of costs are _____.
A. Three types B. Four types C. Five types D. Seven types
20. Preparation of financial accounts is compulsory for _____.
A. Sole trader B. Partnership firm C. Joint stock companies D. Co-operative firms

PART – B (3 x 2 = 6)

ANSWER ALL THE QUESTIONS

21. From the following information prepare the cost sheet and find out the Total Cost
- | | | | |
|-------------------------|------------|------------------|------------|
| Direct Materials | Rs. 25,000 | Direct Labour | Rs. 10,000 |
| Direct Expenses | Rs. 11,500 | Factory Overhead | Rs. 15,200 |
| Administration Overhead | Rs. 5,300 | Selling Expenses | Rs. 1,300 |
| Distribution Expenses | Rs. 2,200 | | |
22. From the following information, calculate the break-even point in units and in sales value:
- | | | |
|------------------------|---|-------------|
| Output | - | 3,000 units |
| Selling price per unit | - | Rs.30 |
| Variable cost per unit | - | Rs.20 |
| Total fixed cost | - | Rs.20,000 |
23. List out the features of Management Accounting?

PART – C (3 x 8 = 24)

ANSWER ALL THE QUESTIONS

24. a. Define Management Accounting and Explain the nature, scope merits and demerits of management accounting.

Or

- b. The following details have been obtained from the cost records of Raja Sekhar Ltd.

Particulars	Amount (in Rs.)	Particulars	Amount (in Rs.)
Stock of Raw materials (01.12.2016)	75,000	Depreciation of plant and machinery	3,500
Stock of Raw materials (31.12.2016)	91,500	Expenses on Purchases	1,500
Direct Wages	52,500	Carriage outwards	2,500
Indirect Wages	2,750	Advertising	3,500

Sales	2,11,000	Office rent and taxes	2,500
Work – in progress (01.12.2016)	28,000	Traveller's wages and commission	6,500
Work – in progress (31.12.2016)	35,000	Stock of finished goods (01.12.2016)	54,000
Purchase of raw materials	66,000	Stock of finished goods (31.12.2016)	31,000
Factory rent, rates and power	15,000		

Prepare a Cost Sheet giving the maximum possible break up of costs and profit.

25. a. How Management accounting differ from Financial accounting and Cost accounting?

(Or)

b. The Following information are given for two companies.

Particulars	X Ltd.	Y Ltd.
Units Produced & sold	17,000	17,000
Revenues (in Rs.)	1,70,000	1,70,000
Fixed Cost	85,000	34,000
Operating Income	51,000	51,000
Variable Cost	34,000	34,000

Find out the Break – Even Point of each company both in units as well as in volume.

26. a. Determine the Various Functions of Management Accounting?

(Or)

b. From the following information relating to Quick Standards Ltd., you are required to find out
(a) P.V. Ratio (b) Break – Even Point (c) Profit (d) Margin of Safety and (e) Calculate the Volume of Sales to earn Profit of Rs. 6,000.

Particulars	Quick Standards Ltd. (in Rs.)
Total Fixed Costs	4,500
Total Variable Costs	7,500
Total Sales	15,000

Class : II BBA

Subject : Management Accounting

Subject Code : 17BAU302

Date / Session : 13.07.2018 - FN

Handled By : Dr. V. Krishnaveni

[17BAU302]

MANAGEMENT ACCOUNTING

Time: 2 Hours

Maximum: 50 Marks

ALL THE QUESTIONS CARRY EQUAL MARKS

- In _____ costing, only variable items of costs are taken into account.
a) Standard **b) Marginal** c) Variable d) Fixed
- For _____ marginal costing is more helpful to the management.
a) **Planning** b) Staffing c) Co-ordinating d) Organizing
- _____ is not allocated to cost unit.
a) Fixed cost **b) Variable Cost** c) Semi-fixed cost d) Semi-variable cost
- Marginal cost means the _____ thing as variable cost.
a) **Same** b) Different c) Variable d) Fixed
- The accountant's concept of _____ different from economist's concept of marginal cost.
a) Total cost **b) Marginal cost**
c) Fixed cost d) Additional cost
- Marginal cost = _____
a) Prime cost **b) Variable cost**
b) Work cost d) Production cost
- _____ is one which tends to be unaffected by variation in volume of output.
a) Total cost b) Average cost c) Marginal cost **d) Fixed cost**
- The difference between the contribution and fixed costs is the_____
a) **Net profit or loss** b) Net profit c) Net loss d) Gross profit
- Fixed costs remain constant _____of level of activity.
a) Variable b) Contribution
b) Irresponsive d) Variable
- Sales price and variation cost per unit remain the _____.
a) **Same** b) Different c) Equal d) No change
- Cost volume profit relationship is fully employed to reveal the state of _____ at various level of activity.

- a) Asset b) Liability c) **Profit** d) Turnover
12. The management can take decision regarding to _____ and tendering.
a) **Pricing** b) Planning c) Coordinating d) Controlling
13. _____ expenses remain unchanged at any level of operation.
a) **Fixed** b) Variable c) Semi-variable d) Loss
14. Contribution minus profit is equal to _____
a) Sales b) Loss c) Variable d) **Fixed cost**
15. Limiting factor is also known as _____
a) **Key factor** b) Production factor
c) Purchase factor d) Cost factor
16. Break even point in unit can be ascertained by dividing the break even sales value by _____
a) Profit b) **Selling price** c) Fixed Expenses d) P/V Ratio
17. At BEP contribution is equal to _____
a) Profit b) Variable c) **Fixed cost** d) Sales
18. Budgetary control is a _____ of costing.
a) Manual b) Technique c) Kind d) Computerized
19. The period covered by a budget is known as _____
a) Budget Committee b) Budget Period
c) Budget Manual d) **Budget procedure**
20. Generally the budget period is _____
a) Two years b) Three years c) One year d) **Five years**

PART – B (3 X 10 = 30 Marks)
ALL THE QUESTIONS CARRY EQUAL MARKS

21. a) Prepare a production budget for three months ending March 31, 2015 for a factory producing four products, on the basis of the following information:

Type of Product	Estimated Stock on January 1, 2015 (Units)	Estimated Sales during January - March, 2015 (Units)	Desired Closing Stock March 31, 2015 (Units)
A	2,000	10,000	5,000
B	3,000	15,000	4,000
C	4,000	13,000	3,000
D	5,000	12,000	2,000

Or

- b) Define Responsibility Accounting and explain the steps involved in responsibility accounting.

22. a). Bajaj Co. wishes to arrange overdraft facilities with its bankers during the period from April to June 2006 when it will be manufacturing mostly for stock. Prepare a Cash Budget for the above period from the following data, indicating the extent of the band overdraft facilities the company will require at the end of each month.

Month	Sales Rs.	Purchases Rs.	Wages Rs.
February	90,000	62,400	6,000
March	96,000	72,000	7,000
April	54,000	1,21,000	5,500
May	87,000	1,23,000	5,000
June	63,000	1,34,000	7,500

Additional Information :

1. 50% of Credit sales are realized in the month following the sales and the remaining 50% in the second month following.
2. Creditors are paid in the month following the month of purchase.
3. Lag in payment of wages – one month.
4. Cash at bank on 1st April, 2006 estimated at Rs. 12,500.

Or

b). Enumerate the merits and demerits of Break-Even Analysis.

23.a). Draw up a flexible budget for overhead expenses on the basis of the following data and determine the overhead rates at 70%, 80% and 90% plant capacity.

Particulars	At 70 % Capacity (Rs.)	At 80 % Capacity (Rs.)	At 90 % Capacity (Rs.)
Variable Overheads:			
Indirect Labour	-	12,000	-
Stores including spares		4,000	
Semi-Variable Overheads:			
Power (30% Fixed, 70% Variable)	-	20,000	-
Repairs and maintenance (60% Fixed, 40% Variable)		2,000	
Fixed Overheads:			
Depreciation		11,000	-
Insurance	-	3,000	
Salaries		10,000	
Total Overheads	-	62,000	-

Estimated direct labour hours: 1,24,000 hrs.

Or

b) Define. Budget and explain the various classification of budget.

KARPAGAM ACADEMY OF HIGHER EDUCATION**(Deemed to be University)****(Established Under Section 3 of UGC Act, 1956)****COIMBATORE – 641 021****First Internal Examination, July - 2018****II BBA – III Semester****MANAGEMENT ACCOUNTING****PART – A**

1. Management
2. Ascertaining
3. Ordering and carrying
4. Compulsory
5. Prime cost
6. Administrative
7. Prime cost
8. Cost of production
9. Indirect expenses
10. Chargeable
11. Efficiency
12. Financial
13. Wider
14. Internal persons
15. Cost Volume Profit
16. A. All indirect
17. Several ways
18. Direct cost
19. Three types
20. Joint stock companies

PART – B**21. COST SHEET**

Particulars	Amount (in Rs.)	
Direct Materials	25,000	
Direct Labour	10,000	
Direct Expenses	11,500	
Prime Cost		46500
Add: Factory Overhead		15,200
Works Cost		61,700

Add: Administration Overhead		5,300
Cost of Production		67,000
Add: Selling Expenses		1,300
Distribution Expenses		2,200
		70,500

22. Break Even Point = Fixed Cost / Contribution per unit
- Contribution = Sales – Variable cost
= Rs. 30 – Rs. 20 = Rs. 10
- BEP = 20,000/10 = 2,000 Units
- BEP (in Rs.) = BEP in Units x Selling Price per unit
= 2,000 x 30
= **Rs. 60,000**

23. List out the features of Management Accounting?

Selective Nature, More Emphasis on Future, Provides only information but no decision, The Problem of Choice, Study Causes and Effects Relationship, Importance to Elements of Costs, Not bounded by the Rules of Financial Accounting, Recognition of Non-monetary Variables, It modifies, analyses and interprets data, No Specific Rules and Conventions, Achievement of Objectives and Improving Efficiency are the features of Management Accounting.

PART – C (3 x 8 = 24)

24. a. Define Management Accounting and Explain the nature, scope merits and demerits of management accounting.

Management Accounting is the presentation of accounting information in such a way as to assist management in the creation of policy and the day-to-day operation of an undertaking. Thus, it relates to the use of accounting data collected with the help of financial accounting and cost accounting for the purpose of policy formulation, planning, control and decision-making by the management.

Management accounting links management with accounting as any accounting information required for taking managerial decisions is the subject matter of management accounting.

“Management accounting is the provision of information required by management for such purposes as formulation of policies, planning and controlling the activities of the enterprise, decision-making on the alternative courses of action, disclosure to those external to the entity (shareholders and others), disclosure to employees and safeguarding of assets.” —**CIMA London**

“Management Accounting is concerned with accounting information that is useful to management.” —**R.N. Anthony**

Financial accounting is very useful to the different categories of persons but it suffers from the following limitations:

(i) Historical Nature:

Financial accounting is of historical nature. It does not provide the necessary information to the management for planning, control and decision-making. It does not tell how to increase the profit and maximize the return on the capital employed.

(ii) Recording of Actual Cost:

In financial accounting assets and properties are recorded at their cost. No effect of changes in their value is recorded in the books after its acquisition. Thus, it has nothing to do with their realizable or replaceable value.

(iii) Incomplete Knowledge of Costs:

In financial accounting data relating to cost is not available according to different products or jobs or processes in order to judge the profitability of each. Information regarding wastages and losses is also not available from the financial accounts. It is also difficult to fix the prices of the products without the availability of a detailed analysis of costs which is not available in financial accounts.

(iv) No Provision for Cost Control:

Costs cannot be controlled through financial accounting as there is no provision for corrective action because of expenses being recorded after their incurrence. No technique to check the reasonableness of any expenditure or no system for fixing definite responsibility on any authority for wastage or excessive expenditure is available in financial accounting.

(v) No Evaluation of Business Policies and Plans:

There is no device in financial accounting by which the actual progress can be measured against the targets in order to evaluate the business policies and plans, to know the reasons for deviations and how to correct them, if need be.

(vi) Not Helpful in Decision-Making:

As the data available is of historical nature, the financial accounting is not of much help to the management in selecting a profitable alternative. There are many situations where management is required to take decisions but information provided by financial accounting is not adequate.

(vii) Technical Subject:

Financial accounting is highly technical in nature. Financial accounts can be prepared and interpreted only by those persons who possess adequate knowledge of accounting concepts and conventions and are well conversant to the practice of accounting.

Though cost accounting came into existence to remove the limitations of financial accounting but its scope as compared to management accounting is limited as it deals primarily with the cost data. In actual practice, cost accountants are doing the jobs of management accountants.

Characteristics of Management Accounting:

(i) Technique of Selective Nature:

Management Accounting is a technique of selective nature. It takes into consideration only that data from the income statement and position state merit which is relevant and useful to the management. Only that information is communicated to the management which is helpful for taking decisions on various aspects of the business.

(ii) Provides Data and not the Decisions:

The management accountant is not taking any decision bu.: provides data which is helpful to the management in decision-making. It can inform but cannot prescribe. It is just like a map which guides the traveller where he will be if he travels in one direction or another. Much depends on the efficiency and wisdom of the management for utilizing the information provided by the management accountant.

(iii) Concerned with Future:

Management accounting unlike the financial accounting deals with the forecast with the future. It helps in planning the future because decisions are always taken for the future course of action.

(iv) Analysis of Different Variables:

Management accounting helps in analysing the reasons as to why the profit or loss is more or less as compared to the past period. Moreover, it tries to analyse the effect of different variables on the profits and profitability of the concern.

(v) No Set Formats for Information:

Management accounting will not provide information in a prescribed proforma like that of financial accounting. It provides the information to the management in the form which may be more useful to the management in taking various decisions on the various aspects of the business.

Scope of Management Accounting:

The scope of management accounting is very wide and broad-based. It includes all information which is provided to the management for financial analysis and interpretation of the business operations.

24. b. Cost Sheet of Raja Sekhar Ltd

Particulars	Amount (Rs.)	
Opening Stock	75,000	
Add : Purchase of Raw Materials	66,000	
Expenses on Purchase	1,500	
	1,42,500	
Less : Closing Stock	91,500	
Raw Materials Consumed		51,000
Direct Wages		52,000
Prime Cost		1,03,000
Factory Overhead		

Indirect Wages	2,750	
Depreciation of Plant and Machinery	3,500	
Factory rent, rates and power	15,000	21,250
Gross Profit Cost		1,24,750
Add: Opening Work-in-progress		28,000
		1,52,000
Less : Closing Work-in-progress		35,000
Works Cost		1,17,750
Add : Administrative Overhead		
Office rent and taxes		2,500
Gross Cost of Production		1,20,250
Add : Opening Stock of finished goods		54,000
		1,74,250
Less : Closing Stock of finished goods		31,000
Cost of Production		1,43,250
Add: Sales Overhead		
Carriage Outwards	2,500	
Advertising	3,500	
Travellers Wages and Commission	6,500	12,500
Cost of Sales		1,55,750
Profit (Balancing Figure)		55,250
Sales		2,11,000

25. a. How Management accounting differ from Financial accounting and Cost accounting?

Management Accounting and Financial Accounting

- *Aggregation.* Financial accounting reports on the results of an entire business. Managerial accounting almost always reports at a more detailed level, such as profits by product, product line, customer, and geographic region.
- *Efficiency.* Financial accounting reports on the profitability (and therefore the efficiency) of a business, whereas managerial accounting reports on specifically what is causing problems and how to fix them.
- *Proven information.* Financial accounting requires that records be kept with considerable precision, which is needed to prove that the financial statements are correct. Managerial accounting frequently deals with estimates, rather than proven and verifiable facts.
- *Reporting focus.* Financial accounting is oriented toward the creation of financial statements, which are distributed both within and outside of a company. Managerial accounting is more concerned with operational reports, which are only distributed within a company.
- *Standards.* Financial accounting must comply with various accounting standards, whereas managerial accounting does not have to comply with any standards when information is compiled for internal consumption.
- *Systems.* Financial accounting pays no attention to the overall system that a company has for generating a profit, only its outcome. Conversely, managerial accounting is interested in the

location of bottleneck operations, and the various ways to enhance profits by resolving bottleneck issues.

- *Time period.* Financial accounting is concerned with the financial results that a business has already achieved, so it has a historical orientation. Managerial accounting may address budgets and forecasts, and so can have a future orientation.
- *Timing.* Financial accounting requires that financial statements be issued following the end of an accounting period. Managerial accounting may issue reports much more frequently, since the information it provides is of most relevance if managers can see it right away.
- *Valuation.* Financial accounting addresses the proper valuation of assets and liabilities, and so is involved with impairments, revaluations, and so forth. Managerial accounting is not concerned with the value of these items, only their productivity.

Management Accounting and Cost Accounting

- The accounting related to the recording and analysing of cost data is cost accounting. The accounting related to the producing information which is used by the management of the company is management accounting.
- Cost Accounting provides quantitative information only. On the contrary, Management Accounting provides both quantitative and qualitative information.
- Cost Accounting is a part of Management Accounting as the information is used by the managers for making decisions.
- The primary objective of the Cost Accounting is the ascertainment of cost of producing a product, but the main objective of the management accounting is to provide information to managers for setting goals and future activity.
- There are specific rules and procedure for preparing cost accounting information while there is no specific rules and procedures in case of management accounting information.
- The scope of Cost Accounting is limited to cost data however the Management Accounting has a wider area of operation like tax, budgeting, planning and forecasting, analysis, etc.
- Cost accounting is related to ascertainment, allocation, distribution and accounting face of cost. On the flip side, management accounting is associated with impact and effect aspect of cost.
- Cost accounting stresses on short-range planning, but management accounting focuses on long and short range planning, for which it uses high level techniques such as probability structure, sensitivity analysis etc.
- While management accounting can't be installed in the absence of cost accounting, cost accounting has no such requirement, it can be installed without management accounting.

25. b. Break Even Point = Fixed Cost / Contribution x Sales

$$\begin{aligned}\text{Contribution} &= \text{Sales} - \text{Variable Cost} \\ &= 1,70,000 - 34,000 = 1,36,000\end{aligned}$$

For X Ltd

$$\begin{aligned}\text{BEP (in Rs.)} &= 85,000 / 1,36,000 \times 1,70,000 \\ &= 1,06,250\end{aligned}$$

$$\begin{aligned}\text{BEP (in Units)} &= \text{Sales} / \text{Contribution per unit} \\ &= 1,70,000 / 17,000 = 10 \text{ units}\end{aligned}$$

For Y Ltd

$$\begin{aligned}\text{BEP (in Rs.)} &= 834,000 / 1,36,000 \times 1,70,000 \\ &= 42,500\end{aligned}$$

$$\begin{aligned}\text{BEP (in Units)} &= \text{Sales} / \text{Contribution per unit} \\ &= 1,70,000 / 17,000 = 10 \text{ units}\end{aligned}$$

26. a. Determine the Various Functions of Management Accounting?

Managerial accounting involves collecting, analyzing, and reporting information about the operations and finances of a business. These reports are generally directed to the managers of a business, rather than to any external entities, such as shareholders or lenders. The functions of managerial accounting include:

- *Margin analysis.* Determining the amount of profit or cash flow that a business generates from a specific product, product line, customer, store, or region.
- *Break even analysis.* Calculating the mix of contribution margin and unit volume at which a business exactly breaks even, which is useful for determining price points for products and services.
- *Constraint analysis.* Understanding where the primary bottlenecks are in a company, and how they impact the ability of the business to earn revenues and profits.
- *Target costing.* Assisting in the design of new products by accumulating the costs of new designs, comparing them to target cost levels, and reporting this information to management.
- *Inventory valuation.* Determining the direct costs of cost of goods sold and inventory items, as well as allocating overhead costs to these items.
- *Trend analysis.* Reviewing the trend line of various costs incurred to see if there are any unusual variances from the long-term pattern, and reporting the reasons for these changes to management.
- *Transaction analysis.* After spotting a variance through trend analysis, a person engaged in managerial accounting might dive deeper into the underlying information and examine individual transactions, in order to understand exactly what caused the variance. This information is then aggregated into a report to management.

- *Capital budgeting analysis.* Examining proposals to acquire fixed assets, both to determine if they are needed, and what the appropriate form of financing may be with which to acquire them. Given the broad range of investigative and analysis activities noted above, we could state that managerial accountants acts in an advisory role, to warn managers of impending issues and to direct their attention toward possibly profitable opportunities.

The other type of accounting is financial accounting, which is concerned with the proper recordation and reporting of accounting transactions to be in compliance with the applicable accounting framework (such as Generally Accepted Accounting Principles or International Financial Reporting Standards). The primary output of financial accounting is the financial statements.

26.b.

a. Profit Volume Ratio = Contribution / Sales * 100

$$\begin{aligned}\text{Contribution} &= \text{Sales} - \text{Variable Cost} \\ &= 15,000 - 7,500 = 7,500 \\ \text{BEP} &= 7,500 / 15,000 * 100 = 50\%\end{aligned}$$

b. Break Even Point = Fixed Cost / Contribution * Sales

$$= 4,500 / 7,500 * 15,000 = 9,000$$

c. Profit = Total Sales – Total Cost

$$= 15,000 - 12,000 = 3,000$$

d. Margin of Safety = Profit / PV Ratio

$$= 3,000 / 50 * 100 = 6,000$$

e. Volume of Sales to earn profit of Rs. 6,000

$$\begin{aligned}&= \text{Fixed Cost} + \text{Profit described} / \text{PV Ratio} * 100 \\ &= 4,500 + 6,000 / 50 * 100 \\ &= 10,500 / 50 * 100 = 21,000\end{aligned}$$