Department of Masters of Business Administration

Course File

STRATEGIC COST AND MANAGEMENT ACCOUNTING
(Course Code: A93006/F)
II M.B.A I Semester

2023-24

Dr. S. NAGARAJU
Professor

Ananthagiri, Kodad, Telangana 508 206, India.

Department of Masters of Business Administration

STRATEGIC COST AND MANAGEMENT ACCOUNTING

Check List

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Department of Masters of Business Administration

ANURAG ENGINEERING COLLEGE

II Year MBA –I Semester **SCMA-Course Code: A93006/F**

Unit – I: Introduction to Cost and Management Accounting, Cost Analysis and Control: Management Accounting Vs. Cost Accounting Vs. Financial Accounting, Role of Accounting Information Planning and Control, Strategic Decisions and the Management Accountant. Enhancing the value of Management Accounting Systems. Cost Concepts and Managerial use of Classification of Costs, Cost Analysis and Control: Direct and Indirect Expenses, Allocation and Apportionment of Overheads, Calculation of Machine Hour rate.

Unit – II: Costing for Decision making: Unit Costing, Job Costing, Cost Sheet and tender and Process Costing and their Variants, Treatment of Normal Losses and Abnormal Losses, Inter- process Profits, Costing for By-products and Equivalent Production. Application of Managerial Costing for Control, Profit Planning, Closing down of a Plant, Dropping a Product line, Charging General and Specific Fixed Costs, Fixation of Selling Price, Make or Buy Decisions, Key or Limiting Factor. Selection of Suitable Product Mix, Desired level of Profits, Diversification of Products, Closing down or suspending activities,

UNIT – III: Cost-Volume-Profit (CVP) Analysis and Activity-Based Costing (ABC): Essentials of CVP Analysis. The Breakeven Point using Equation Method, Contribution Margin Method and Graph Method. Target Operating Income. Target Net Income and Income Taxes. Breakeven Analysis for Decision making. Margin of Safety. Application of BEP for various Business Problems. CVP analysis in Service and Nonprofit Organizations. Activity Based Cost (ABC) Systems: Comparison of Traditional and Activity Based Cost Systems. Emergence of ABC Systems. Activity Hierarchies. Tracing Costs to Activities, Tracing Costs from Activities to Products, Customer Profitability, Process Efficiency. Activity Based Management. ABC Systems in Service Organizations. The Technological Edge of using ABC Systems.

Unit – IV: Budgetary Control: Budget, Budgetary Control, Steps in Budgetary Control, Flexible Budget, and Different Types of Budgets: Sales Budget, Cash Budget, Production Budget, Performance Budgets and Computerized Budgeting. Activity Based Budgeting. Budgeting Process in Non-Profit Organizations. Zero Based Budgeting. Criticisms of Budgeting. An Introduction to Cost Audit and Managerial Audit.

UNIT – V: Standard Costing and Variance Analysis: Standard Costing – Establishing cost standards, Standard Cost and Standard Costing, Standard Costing Vs Budgetary Control, Standard Costing Vs Estimated Cost, Standard Costing and Marginal Costing, Analysis of Variance, Material Variance, Labour Variance and Sales Variance. Reconciling Budgeted Profit and Actual Profit. Standard Absorption Costing. Volume Efficiency and Capacity Variance.

Suggested Readings:

- S. P. Jain and K. L. Narang, Cost and Management Accounting, Kalyani Publishers, New Delhi, 6e,2019.
- James Jiambalvo, Managerial Accounting, John Wiley & Sons, Inc. New Delhi,7e, 2019. N R Parasuraman, Financial Management-step by step approach, Cengage, 1e,2014.

Department of Masters of Business Administration

TIMETABLE

II M.B.A. I Semester

STRATEGIC COST AND MANAGEMENT ACCOUNTING

(Course Code: A93006/F)

Day/Hour	9.30-10.20	10.20-11.10	11.20-12.10	12.10-1.00	1.00-1.40	1.40-2.25	2.25-3.10	3.15-4.00
Monday			SCMA					
Tuesday				SCMA				
Wednesday				SCMA				
Thursday							SCMA	
Friday		SCMA						
Saturday								

Department of Masters of Business Administration

Vision of the Institute

To be a premier Institute in the country and region for the study of Engineering, Technology and Management by maintaining high academic standards which promotes the analytical thinking and independent judgment among the prime stakeholders, enabling them to function responsibly in the globalized society.

Mission of the Institute

To be a world-class Institute, achieving excellence in teaching, research and consultancy in cutting-edge Technologies and be in the service of society in promoting continued education in Engineering, Technology and Management.

Quality Policy

To ensure high standards in imparting professional education by providing world-class infrastructure, top-quality-faculty and decent work culture to sculpt the students into Socially Responsible Professionals through creative team-work, innovation and research.

Vision of the Department:

To achieve academic excellence and managerial relevance through interaction with the corporate world.

Mission of the Department

To provide students with excellent professional skills by cooperating closely with corporate partners and by exposing them to a dynamic and intercultural business environment.

Quality Policy:

To pursue global standards of excellence in all our endeavors namely teaching, research, consultancy and continuing education to remain accountable in our core and support functions through processes of self evaluation and continuous improvement.

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Program Educational Objectives (M.B A)

Post Graduates will be able to

PEO1: To teach the fundamental key elements of a business organization and providing theoretical knowledge and practical approach to various functional areas of management.

PEO2: To develop analytical skills to identify the link between the management practices in the functional areas of an organization and research culture in business environment.

PEO3: To provide insights on latest technology, business communication, management concepts to build team work and leadership skills within them and aimed at self- actualization and realization of ethical practices.

Program Outcomes (M.B.A)

At the end of the Program, a post graduate will have the ability to

Po 1: To Gain The Knowledge On Various Concepts Of Business Management And Approaches.

Po 2: To understand and analyze the interconnections between the development of key functional areas of business organization and the management thought process.

Po 3: To recognize and adapt to the opportunities available and face the challenges in the national and global business.

Po 4: To possess analytical skills to carry out research in the field of management.

Po 5: To acquire team management skills to become a competent leader, who possesses complex and integrated real world skills.

Po 6: To be ethically conscious and socially responsible managers, capable of contributing to the development of the nation and quality of life.

Po 7: To develop a systematic understanding of changes in business environment.

Po 8: To understand professional integrity.

Po 9: An ability to use information and knowledge effectively.

Po 10: To analyze a problem and use the appropriate managerial skills for obtaining its solution.

Po 11: To understand a various legal acts in business.

Po 12: To build a successful career and immediate placement

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COURSE OBJECTIVES

On completion of this Subject/Course the student shall be able to:

S.No.	Objectives
1	To provide understanding of various aspects in strategic cost and management accounting.
2	To elucidate the role of cost accounting for better managerial decision making.
3	To impart knowledge of various aspects in CVP and ABC analysis.
4	To discuss in detail various aspects in budget and budgetary control.
5	To help understand the variances and their importance in cost accounting.

COURSE OUTCOMES

The expected outcomes of the Course/Subject are:

S.No.	Outcomes
1.	Understand the cost analysis and control.
2.	Learn the relevance of unit, job, and process costing for strategic decisions.
3.	Learn various aspects of activity-based management.
4.	Understand the role of types of budgets and the budgeting process in non-profit organizations.
5.	Identify the need for establishing cost standards

Signature of faculty

Note: Please refer to Bloom's Taxonomy, to know the illustrative verbs that can be used to state the outcomes.

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GUIDELINES TO STUDY THE COURSE / SUBJECT

Course Design and Delivery System (CDD):

- The Course syllabus is written into number of learning objectives and outcomes.
- Every student will be given an assessment plan, criteria for assessment, scheme of evaluation and grading method.
- The Learning Process will be carried out through assessments of Knowledge, Skills and Attitude by various methods and the students will be given guidance to refer to the text books, reference books, journals, etc.

The faculty be able to –

- Understand the principles of Learning
- Understand the psychology of students
- Develop instructional objectives for a given topic
- Prepare course, unit and lesson plans
- Understand different methods of teaching and learning
- Use appropriate teaching and learning aids
- Plan and deliver lectures effectively
- Provide feedback to students using various methods of Assessments and tools of Evaluation
- Act as a guide, advisor, counselor, facilitator, motivator and not just as a teacher alone

Signature of HOD

Signature of faculty

Date:

Date:

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COURSE SCHEDULE

The Schedule for the whole Course / Subject is:

S. No.	Description	Duration (Date)		Total No. of Periods
		From	To	
1.	**Unit – I: Introduction to Cost and Management Accounting, Cost Analysis and Control:** Management Accounting Vs. Cost Accounting Vs. Financial Accounting, Role of Accounting Information Planning and Control, Strategic Decisions and the Management Accountant. Enhancing the value of Management Accounting Systems. Cost Concepts and Managerial use of Classification of Costs, Cost Analysis and Control: Direct and Indirect Expenses, Allocation and Apportionment of Overheads, Calculation of Machine Hour rate.	4-9-2023	20-9-2023	11
2.	**Unit – II: Costing for Decision making:** Unit Costing, Job Costing, Cost Sheet and Tender and Process Costing and heir Variants, Treatment of Normal Losses and Abnormal Losses, Inter- process Profits, Costing for By-products and equivalent Production. Application of Managerial Costing for Control, Profit Planning, Closing down of a Plant, Dropping a Product line, Charging General and Specific Fixed Costs, Fixation of Selling Price, Make or Buy Decisions, Key or Limiting actor. Selection of Suitable Product Mix, Desired level of Profits, Diversification of Products, Closing down or Suspending activities	21-9-2023	13-10-2023	15
3.	**UNIT – III: Cost-Volume-Profit (CVP) Analysis and Activity-Based Costing (ABC):** Essentials of CVP Analysis. The Breakeven Point using Equation Method, Contribution Margin Method and Graph Method. Target Operating Income. Target Net Income and Income Taxes. Breakeven Analysis for Decision making. Margin of Safety. Application of BEP for various Business Problems. CVP analysis in Service and	16-10-2023	21-11-2023	19

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	Nonprofit Organizations. **Activity Based Cost (ABC) Systems**: Comparison of Traditional and Activity Based Cost Systems. Emergence of ABC Systems. Activity Hierarchies. Tracing Costs to Activities, Tracing Costs from Activities to Products, Customer Profitability, Process Efficiency. Activity Based Management. ABC Systems in Service Organizations. The Technological Edge of using ABC Systems			
4.	**Unit – IV: Budgetary Control**: Budget, Budgetary Control, Steps in Budgetary Control, Flexible Budget, and Different Types of Budgets: Sales Budget, Cash Budget, Production Budget, Performance Budgets and Computerized Budgeting. Activity Based Budgeting. Budgeting Process in Non-Profit organizations. Zero Based Budgeting. Criticisms of Budgeting. An Introduction to Cost Audit and Managerial Audit	22-11-2023	8-12-2023	12
5.	**UNIT – V: Standard Costing and Variance Analysis:** Standard Costing – Establishing cost standards, Standard Cost and Standard Costing, Standard Costing Vs Budgetary Control, Standard Costing Vs Estimated Cost, Standard Costing and Marginal Costing, Analysis of Variance, Material Variance, Labour Variance and Sales Variance. Reconciling Budgeted Profit and Actual Profit. Standard Absorption Costing. Volume Efficiency and Capacity Variance.	11-12-2023	3-1-2024	15

Total No. of Instructional periods available for the course: 72Hours

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SCHEDULE OF INSTRUCTIONS - COURSE PLAN

Unit No.	Lesson No.	Date	No. of Periods	Topics / Sub-Topics	Objectives & Outcomes Nos.	References (Textbook, Journal)
1.	1	4-Sep-23	1	Introduction to Cost and Management Accounting	1 1	S. P. Jain and K. L. Narang, Cost and Management Accounting
	2	5-Sep-23	1	Management Accounting Vs. Cost Accounting	1 1	S. P. Jain and K. L. Narang, Cost and Management Accounting
	3	6-Sep-23	1	Role of Accounting Information Planning and Control,	1 1	S. P. Jain and K. L. Narang, Cost and Management Accounting
	4	8-Sep-23	1	Strategic Decisions and the Management Accountant	1 1	S. P. Jain and K. L. Narang, Cost and Management Accounting
	5	11-Sep-23	1	Enhancing the value of Management Accounting Systems.	1 1	S. P. Jain and K. L. Narang, Cost and Management Accounting
	6	12-Sep-23	1	Cost Concepts and Managerial use of Classification of Costs,	1 1	S. P. Jain and K. L. Narang, Cost and Management Accounting
	7	13-Sep-23	1	Cost Analysis and Control:	1 1	S. P. Jain and K. L. Narang, Cost and Management Accounting
	8	14-Sep-23	1	Direct and Indirect Expenses	1 1	S. P. Jain and K. L. Narang, Cost and Management Accounting
	9	15-Sep-23	1	Allocation and Apportionment of Overheads	1 1	S. P. Jain and K. L. Narang, Cost and Management Accounting
	10	19-Sep-23	1	Calculation of Machine Hour rate.	1 1	S. P. Jain and K. L. Narang, Cost and Management Accounting
	11	20-Sep-23	1	Calculation of Machine Hour rate problems	1 1	S. P. Jain and K. L. Narang, Cost and Management Accounting
2.	1	21-Sep-23	1	Unit costing	2 2	S. P. Jain and K. L. Narang, Cost and Management Accounting
	2	22-Sep-23	1	Unit Costing problems	2 2	S. P. Jain and K. L. Narang, Cost and Management Accounting

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	3	25-Sep-23	1	Cost Sheet and Tender and Process	2 2	S. P. Jain and K. L. Narang, Cost and Management Accounting
	4	26-Sep-23	1	Treatment of Normal Losses and Abnormal Losses	2 2	S. P. Jain and K. L. Narang, Cost and Management Accounting
	5	27-Sep-23	1	Inter- process Profits,	2 2	S. P. Jain and K. L. Narang, Cost and Management Accounting
	6	29-Sep-23	1	Costing for By-products and Equivalent Production	2 2	S. P. Jain and K. L. Narang, Cost and Management Accounting
	7	3-Oct-23	1	Profit Planning	2 2	S. P. Jain and K. L. Narang, Cost and Management Accounting
	8	4-Oct-23	1	Closing down of a Plant	2 2	S. P. Jain and K. L. Narang, Cost and Management Accounting
	9	5-Oct-23	1	Dropping a Product line,	2 2	S. P. Jain and K. L. Narang, Cost and Management Accounting
	10	6-Oct-23	1	Charging General and Specific Fixed Costs	2 2	S. P. Jain and K. L. Narang, Cost and Management Accounting
	11	9-Oct-23	1	Key or Limiting Factor	2 2	S. P. Jain and K. L. Narang, Cost and Management Accounting
	12	10-Oct-23	1	Selection of Suitable Product Mix	2 2	S. P. Jain and K. L. Narang, Cost and Management Accounting
	13	11-Oct-23	1	Desired level of Profits	2 2	S. P. Jain and K. L. Narang, Cost and Management Accounting
	14	12-Oct-23	1	Diversification of Products	2 2	S. P. Jain and K. L. Narang, Cost and Management Accounting
	15	13-Oct-23	1	Closing down or Suspending activities	2 2	S. P. Jain and K. L. Narang, Cost and Management Accounting
3.	1	16-Oct-23	1	Essentials of CVP Analysis.	3 3	S. P. Jain and K. L. Narang, Cost and Management Accounting
	2	17-Oct-23	1	The Breakeven Point using Equation Method,	3 3	S. P. Jain and K. L. Narang, Cost and Management Accounting

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	3	18-Oct-23	1	Break even problems discussion	3 3	S. P. Jain and K. L. Narang, Cost and Management Accounting
	4	19-Oct-23	1	Break even problems discussion	3 3	S. P. Jain and K. L. Narang, Cost and Management Accounting
	5	20-Oct-23	1	Contribution Margin Method	3 3	S. P. Jain and K. L. Narang, Cost and Management Accounting
	6	30-Oct-23	1	Target Net Income and Income Taxes.	3 3	S. P. Jain and K. L. Narang, Cost and Management Accounting
	7	31-Oct-23	1	Breakeven Analysis for Decision making	3 3	S. P. Jain and K. L. Narang, Cost and Management Accounting
	8	1-Nov-23	1	Margin of Safety	3 3	S. P. Jain and K. L. Narang, Cost and Management Accounting
	9	2-Nov-23	1	Application of BEP for various Business Problems	3 3	S. P. Jain and K. L. Narang, Cost and Management Accounting
	10	3-Nov-23	1	CVP analysis in Service and Nonprofit Organizations.	3 3	S. P. Jain and K. L. Narang, Cost and Management Accounting
	11	9-Nov-23	1	Activity Based Cost (ABC) Systems	3 3	S. P. Jain and K. L. Narang, Cost and Management Accounting
	12	10-Nov-23	1	Comparison of Traditional and Activity Based Cost Systems	3 3	S. P. Jain and K. L. Narang, Cost and Management Accounting
	13	13-Nov-23	1	Emergence of ABC Systems.	3 3	S. P. Jain and K. L. Narang, Cost and Management Accounting
	14	14-Nov-23	1	Activity Hierarchies	3 3	S. P. Jain and K. L. Narang, Cost and Management Accounting
	15	15-Nov-23	1	Tracing Costs to Activities	3 3	S. P. Jain and K. L. Narang, Cost and Management Accounting
	16	16-Nov-23	1	Tracing Costs from Activities to Products,	3 3	S. P. Jain and K. L. Narang, Cost and Management Accounting
	17	17-Nov-23		Customer Profitability	3 3	S. P. Jain and K. L. Narang, Cost and Management Accounting

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	18	20-Nov-23		ABC Systems in Service Organizations.	3 3	S. P. Jain and K. L. Narang, Cost and Management Accounting
	19	21-Nov-23		The Technological Edge of using ABC Systems	3 3	S. P. Jain and K. L. Narang, Cost and Management Accounting
4	1	22-Nov-23	1	Budget, Budgetary Control	4 4	S. P. Jain and K. L. Narang, Cost and Management Accounting
	2	23-Nov-23	1	Steps in Budgetary Control	4 4	S. P. Jain and K. L. Narang, Cost and Management Accounting
	3	24-Nov-23	1	Flexible Budget	4 4	S. P. Jain and K. L. Narang, Cost and Management Accounting
	4	28-Nov-23	1	Cash Budget	4 4	S. P. Jain and K. L. Narang, Cost and Management Accounting
	5	29-Nov-23	1	Production Budget	4 4	S. P. Jain and K. L. Narang, Cost and Management Accounting
	6	30-Nov-23	1	Performance Budgets	4 4	S. P. Jain and K. L. Narang, Cost and Management Accounting
	7	1-Dec-23	1	Computerized Budgeting	4 4	S. P. Jain and K. L. Narang, Cost and Management Accounting
	8	4-Dec-23	1	Budgeting Process in Non-Profit Organizations.	4 4	S. P. Jain and K. L. Narang, Cost and Management Accounting
	9	5-Dec-23	1	Zero Based Budgeting	4 4	S. P. Jain and K. L. Narang, Cost and Management Accounting
	10	6-Dec-23	1	Criticisms of Budgeting	4 4	S. P. Jain and K. L. Narang, Cost and Management Accounting
	11	7-Dec-23	1	An Introduction to Cost Audit and Managerial Audit	4 4	S. P. Jain and K. L. Narang, Cost and Management Accounting
	12	8-Dec-23	1	An Introduction to Cost Audit and Managerial Audit	4 4	S. P. Jain and K. L. Narang, Cost and Management Accounting
5	1	11-Dec-23	1	Standard Costing – Establishing cost standards	5 5	S. P. Jain and K. L. Narang, Cost and Management Accounting

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	2	12-Dec-23	1	Standard Cost and Standard Costing	5 5	S. P. Jain and K. L. Narang, Cost and Management Accounting
	3	13-Dec-23	1	Standard Costing Vs Budgetary Control	5 5	S. P. Jain and K. L. Narang, Cost and Management Accounting
	4	14-Dec-23	1	Standard Costing Vs Estimated Cost,	5 5	S. P. Jain and K. L. Narang, Cost and Management Accounting
	5	15-Dec-23	1	Standard Costing and Marginal Costing	5 5	S. P. Jain and K. L. Narang, Cost and Management Accounting
	6	18-Dec-23	1	Material Variance	5 5	S. P. Jain and K. L. Narang, Cost and Management Accounting
	7	19-Dec-23	1	Material Variance problems	5 5	S. P. Jain and K. L. Narang, Cost and Management Accounting
	8	20-Dec-23	1	Labour Variance	5 5	S. P. Jain and K. L. Narang, Cost and Management Accounting
	9	21-Dec-23	1	Labour Variance problems	5 5	S. P. Jain and K. L. Narang, Cost and Management Accounting
	10	22-Dec-23	1	Sales Variance	5 5	S. P. Jain and K. L. Narang, Cost and Management Accounting
	11	27-Dec-23	1	Reconciling Budgeted Profit and Actual Profit	5 5	S. P. Jain and K. L. Narang, Cost and Management Accounting
	12	28-Dec-23		Standard Absorption Costing.	5 5	S. P. Jain and K. L. Narang, Cost and Management Accounting
	13	29-Dec-23		Standard Absorption Costing problems	5 5	S. P. Jain and K. L. Narang, Cost and Management Accounting
	14	2-Jan-24		Revision of problems	5 5	S. P. Jain and K. L. Narang, Cost and Management Accounting
	15	3-Jan-24		Revision of problems	5 5	S. P. Jain and K. L. Narang, Cost and Management Accounting

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Signature of HOD

Date:

Signature of faculty

Date:

Note:

1. Ensure that all topics specified in the course are mentioned.
2. Additional topics covered, if any, may also be specified in bold.
3. Mention the corresponding course objective and outcome numbers against each topic.

Department of Masters of Business Administration

LESSON PLAN (U-I)

Lesson No: Unit1/ 1-6 Duration of Lesson: 5 hrs.

Lesson Title: Introduction to Cost and Management Accounting.

Instructional / Lesson Objectives:

- To make students Understanding Cost and Management Accounting Concepts
- To familiarize students Differentiate between cost accounting, management accounting, and financial accounting.
- To understand students Costing Methods and Techniques
- To provide knowledge on Decision Making and Relevant Costing.

Teaching AIDS : PPTs, Digital Board
Time Management of Class :

5 min for taking attendance 40 min for the lecture delivery 5 min for doubts session

Assignment / Questions:
Refer assignment – I & tutorial-I sheets

Signature of faculty

Department of Masters of Business Administration

LESSON PLAN (U-II)

Lesson No: Unit 1/7-11 Duration of Lesson: 4.16 hrs.

Lesson Title: Cost Analysis and Control

Instructional / Lesson Objectives:

- To make students Understanding Cost Analysis and Control Concepts.
- To familiarize students importance of cost analysis and control in business operations.
- To understand students Cost Behavior and Cost Structure.
- To provide information on Methods of Cost Allocation.

Teaching AIDS : PPTs, Digital Board
Time Management of Class :

5 mins for taking attendance 40 min for lecture delivery 5 min for doubts session

Assignment / Questions:

Refer assignment – I & tutorial-I sheets

Signature of faculty

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LESSON PLAN (U-I)

Lesson No: Unit-2/ 1-6 Duration of Lesson: 5 hrs
Lesson Title: Costing for Decision making

Instructional / Lesson Objectives:

- To make students Understanding Cost Concepts for Decision Making:
- To familiarize students Cost Sheet and tender and Process.
- To understand students Treatment of Normal Losses and Abnormal Losses
- To provide knowledge on Decision making based on cost.

Teaching AIDS : PPTs, Digital Board
Time Management of Class :

5 min for taking attendance 40 min for the lecture delivery 5 min for doubts session

Assignment / Questions:
Refer assignment – I & tutorial-I sheets

Signature of faculty

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LESSON PLAN (U-II)

Lesson No: Unit2/7-15 Duration of Lesson: 7.5 hrs

Lesson Title: Profit planning

Instructional / Lesson Objectives:

- To make students understand Make or Buy Decisions,
- To familiarize students Selection of Suitable Product Mix.
- To understand students how to get Desired level of Profits,
- To provide Knowledge on Closing down or suspending activities.

Teaching AIDS : PPTs, Digital Board
Time Management of Class :

5 min for taking attendance 40 min for the lecture delivery 5 min for doubts session

Assignment / Questions:
Refer assignment – I & tutorial-I sheets

Signature of faculty

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LESSON PLAN (U-I)

Lesson No: Unit-3/ 1-10 Duration of Lesson: 8.3 hrs
Lesson Title: Cost-Volume-Profit (CVP) Analysis

Instructional / Lesson Objectives:

- To make students understand CVP Analysis Concepts:
- To familiarize students Calculation of Contribution Margin.
- To understand students Break-Even Analysis
- To provide knowledge on importance of CVP analysis in decision making.

Teaching AIDS : PPTs, Digital Board
Time Management of Class :

5 min for taking attendance 40 min for the lecture delivery 5 min for doubts session

Assignment / Questions:
Refer assignment – I & tutorial-I sheets

Signature of faculty

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LESSON PLAN (U-II)

Lesson No: Unit3/11-19 Duration of Lesson: 7.5 hrs

Lesson Title: Activity-Based Costing (ABC

Instructional / Lesson Objectives:

- To make students understand Activity-Based Costing (ABC) Concepts.
- To familiarize students on Components of Activity-Based Costing.
- To understand students Steps in Implementing ABC.
- To provide knowledge on Cost Driver Selection and Analysis.

Teaching AIDS : PPTs, Digital Board
Time Management of Class :

5 min for taking attendance 40 min for the lecture delivery 5 min for doubts session

Assignment / Questions:
Refer assignment – I & tutorial-I sheets

Signature of faculty

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LESSON PLAN (U-I)

Lesson No: Unit-4/ 1-8 Duration of Lesson: 6.6 hrs
Lesson Title: Budgetary Control

Instructional / Lesson Objectives:

- To make students understand Budgetary Control Concepts
- To familiarize students Types of Budgets.
- To understand students Budget Preparation Process.
- To provide Knowledge on how to implement budgetary control systems in an organization.

Teaching AIDS : PPTs, Digital Board
Time Management of Class :

5 min for taking attendance 40 min for the lecture delivery 5 min for doubts session

Assignment / Questions:
Refer assignment – I & tutorial-I sheets

Signature of faculty

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LESSON PLAN (U-II)

Lesson No: Unit4/9-12 Duration of Lesson: 3.3 hrs

Lesson Title: Budgeting Process in Non-Profit Organizations.

Instructional / Lesson Objectives:

- To make students understand the Role of Budgeting in Non-Profit Organizations
- To familiarize students Types of Budgets in Non-Profit Organization.
- To understand students Budgeting Process and Cycle.
- To provide Knowledge on Developing a Budget.

Teaching AIDS : PPTs, Digital Board
Time Management of Class :

5 min for taking attendance 40 min for the lecture delivery 5 min for doubts session

Assignment / Questions:
Refer assignment – I & tutorial-I sheets

Signature of faculty

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LESSON PLAN (U-I)

Lesson No: Unit-5/ 1-6 Duration of Lesson: 5 hrs
Lesson Title: Standard Costing

Instructional / Lesson Objectives:

- To make students understand Standard Costing Concept
- To familiarize students on Establishing Standard Costs.
- To understand students Components of Standard Costs.
- To provide Knowledge on Integration with Budgeting and Forecasting.

Teaching AIDS : PPTs, Digital Board
Time Management of Class :

5 min for taking attendance 40 min for the lecture delivery 5 min for doubts session

Assignment / Questions:
Refer assignment – I & tutorial-I sheets

Signature of faculty

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LESSON PLAN (U-II)

Lesson No: Unit5/7-15 Duration of Lesson: 7.5 hrs

Lesson Title Variance Analysis

Instructional / Lesson Objectives:

- To make students to understand Variance Analysis Concepts
- To familiarize students on Calculating Variances.
- To understand students the Performance Measurement and Control
- To provide knowledge on Variance Analysis in Decision Making.

Teaching AIDS : PPTs, Digital Board
Time Management of Class :

5 min for taking attendance 40 min for the lecture delivery 5 min for doubts session

Assignment / Questions:
Refer assignment – I & tutorial-I sheets

Signature of faculty

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ASSIGNMENT – 1

This Assignment corresponds to Unit No. 1

Question No.	Question	Objective No.	Outcome No.
1	What is Cost Accounting, and also explain the advantages of Cost Accounting?	1	1
2	Explain detail the classification of costs.	1	1

Signature of HOD

Date:

Signature of faculty

Date:

Department of Masters of Business Administration

ASSIGNMENT – 2

This Assignment corresponds to Unit No. 2

Question No.	Question	Objective No.	Outcome No.
1	Define job costing and similarly explain which steps followed by job costing process	2	2
2	Write about Process costing and describe the characteristics of process costing.	2	2

Signature of HOD

Date:

Signature of faculty

Date:

Department of Masters of Business Administration

ASSIGNMENT – 3

This Assignment corresponds to Unit No. 3

Question No.	Question	Objective No.	Outcome No.
1	Discuss the marginal costing and its characteristics	3	3
2	What is ABC costing and explain its steps and advantages?	3	3

Signature of HOD

Date:

Signature of faculty

Date:

Department of Masters of Business Administration

ASSIGNMENT – 4

This Assignment corresponds to Unit No. 4

Question No.	Question	Objective No.	Outcome No.
1	Define budget and also explain budgetary control objectives.	4	4
2	Discuss about Zero Based Budgeting	4	4

Signature of HOD

Date:

Signature of faculty

Date:

Department of Masters of Business Administration

ASSIGNMENT – 5

This Assignment corresponds to Unit No. 5

Question No.	Question	Objective No.	Outcome No.
1	Write about standard costing and its advantages.	5	5
2	Detail about variance analysis types	5	5

Signature of HOD

Date:

Signature of faculty

Date:

Department of Masters of Business Administration

TUTORIAL – 1

This tutorial corresponds to Unit No. 1 (Objective Nos.: 1, Outcome Nos.: 1)

Q1. Cost Accounting Advantages to_____? ( )

A) Investors B) Workers C) Management D) All

Q2. What is the Basis for Rent_____? ( )

A) No. of Employees B) Floor area C) Machine D) H.P

Q3. In Cost sheet Prime cost=_____? ( )

A) Direct Expenses B) Direct Labour C) Direct material D) All of these

Q4. Define Costing and Explain objectives and Functions of Cost Accounting.

Signature of HOD

Date:

Signature of faculty

Date:

Department of Masters of Business Administration

TUTORIAL – 2

This tutorial corresponds to Unit No. 2 (Objective Nos.: 2, Outcome Nos.: 2)

Q1. Job Costing is a_____Costing? ( )

A)Specific Order Costing B)Method of Costing

C) Homogeneous product costing D) All of these

Q2. Process costing passes through different____? ( )

A)States B) Products C)Departments D) Persons

Q3. Excess of Normal loss is_____Loss ( )

A) Abnormal B)Normal C) Accidental D)Financial Loss

Q4. Define Job costing and explain procedure of Job costing?

Signature of HOD

Date:

Signature of faculty

Date:

Department of Masters of Business Administration

TUTORIAL SHEET – 3

This tutorial corresponds to Unit No. 3 (Objective Nos.: 3, Outcome Nos.: 3)

Q1. Contribution=_____ ( )

A) Sales- Variable cost B) Fixed cost+ Profit

C) Fixed Cost- Loss D) all are correct

Q2. Formula of P/V ratio is_____ ( )

A) Sales-Variable Cost/Sales*100 B) Contribution/Sales*100

C) Changes in profit/ Changes in sales *100 D) All

Q3. The following are the advantages of ABC _____ ( )

(A) Accurate Product Cost (B) Information about Cost Behavior

(C) Tracing of Overhead Costs (D) All of these

Q4) from the following data Find BEP units and BEP in Rupees.

Total Fixed cost=12,000

Selling price Rs.12 per unit

Variable cost=Rs. 9 per unit..

Signature of HOD Signature of faculty

Date: Date:

Department of Masters of Business Administration

TUTORIAL – 4

This tutorial corresponds to Unit No. 4 (Objective Nos.: 4, Outcome Nos.: 4)

Q1.) Which are the objectives of budgeting_____ ( )

(A) Planning (B)Co-ordination (C) Control (D) All the above

Q2.) In which budget Costs are analyzed into Fixed and Variable ( )

(A) Fixed (B) Master (C) Flexible (D)Cash

Q3.) ZBB stands for_____Budgeting ( )

(A) Zero based (B) Zink based (C) Zebra (D) None of these

Q4.) Define Budget explain characteristics of Budget?

Signature of HOD

Date:

Signature of faculty

Date:

Department of Masters of Business Administration

TUTORIAL SHEET – 5

This tutorial corresponds to Unit No. 5 (Objective Nos.: 5, Outcome Nos.: 5)

Q1. The word standard means _____ ( )
(A) Norm (B) criterion (C) Both (D) None of these

Q2 Difference between standard and actual is known as—( )

(A) Variance (B) Non Variance (C) Standard(D)None

Q3. Material Cost variance=_____( )

(A) SC-AC (B)(SQxSP)-(AQxAP) (C) Both (D) None

Q4. Quantity of Material Required 3kg. Price of Material Rs. 2.50Per kg. Actual Production data. Production during the month 1,000kg Quantity of material used 3,500kg Price of material Rs. 3 kg Cal: MCV, MPV and MUV

Signature of HOD

Signature of faculty

Date:

Date:

Department of Masters of Business Administration

EVALUATION STRATEGY

Target (s)

a. Percentage of Pass : 95%

Assessment Method (s) (Maximum Marks for evaluation are defined in the Academic Regulations)

a. Daily Attendance
b. Assignments
c. Online Quiz (or) Seminars
d. Continuous Internal Assessment
e. Semester / End Examination

List out any new topic(s) or any innovation you would like to introduce in teaching the subjects in this semester

Case Study of any one existing application

Signature of HOD

Date:

Signature of faculty

Date:

Department of Masters of Business Administration

COURSE COMPLETION STATUS

Actual Date of Completion & Remarks if any

Units	Remarks	Objective No. Achieved	Outcome No. Achieved
Unit 1	completed on 20-9-2023	1	1
Unit 2	completed on 13-10-2023	2	2
Unit 3	completed on 21-11-2023	3	3
Unit 4	completed on 08-12-2023	4	4
Unit 5	completed on 03-1-2024	5	5

Signature of HOD

Date:

Signature of faculty

Date:

Department of Masters of Business Administration

Mappings

1. Course Objectives-Course Outcomes Relationship Matrix

(Indicate the relationships by mark "X")

Course-Outcomes / Course-Objectives	1	2	3	4	5
1	H		H		
2		H			
3			H		
4				H	
5					H

2. Course Outcomes-Program Outcomes (POs) & PSOs Relationship Matrix

(Indicate the relationships by mark "X")

P-Outcomes / C-Outcomes	a	b	c	d	e	f	g	h	i	j	k	l	PSO 1	PSO 2
1	H			M									H	
2		M	H			H							H	H
3					H				M		H			H
4						M	M						H	
5										H				

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Rubric for Evaluation

Performance Criteria	Unsatisfactory	Developing	Satisfactory	Exemplary
	1	2	3	4
Research & Gather Information	Does not collect any information that relates to the topic	Collects very little information some relates to the topic	Collects some basic Information most relates to the topic	Collects a great deal of Information all relates to the topic
Fulfill team role's duty	Does not perform any duties of assigned team role.	Performs very little duties.	Performs nearly all duties.	Performs all duties of assigned team role.
Share Equally	Always relies on others to do the work.	Rarely does the assigned work - often needs reminding.	Usually does the assigned work - rarely needs reminding.	Always does the assigned work without having to be reminded
Listen to other team mates	Is always talking—never allows anyone else to speak.	Usually doing most of the talking-- rarely allows others to speak	Listens, but sometimes talks too much.	Listens and speaks a fair amount.

Continuous Internal Assessment (R-22)

Programme**: M.B.A** Year: **II** Course: **Theory** **A.Y: 2023-24**

Course: Strategic Cost and Management Accounting Section: A

Faculty Name: Dr. S.NAGARAJU

S. No	Roll No	MID-I (30M)	MID-II (30M)	Avg. of MID I & II	Viva-Voce/Poster Presentation (5M)	Total Marks (40)
1	22C11E0002					
2	22C11E0003					
3	22C11E0004	35	35	35	5	40
4	22C11E0005					
5	22C11E0006					
6	22C11E0007	33	35	34	5	39
7	22C11E0008	34	35	35	5	40
8	22C11E0009					
9	22C11E0010	34	35	35	5	40
10	22C11E0011	34	34	34	5	39
11	22C11E0012					
12	22C11E0013	34	33	34	5	39
13	22C11E0014					
14	22C11E0016					
15	22C11E0017					
16	22C11E0020	33	35	34	5	39
17	22C11E0021					
18	22C11E0022					

No. of Absentees: 00

Total Strength: 07

Signature of Faculty

: **Signature of HoD**

ANURAG Engineering College

(An Autonomous Institution)
Ananthagiri (V&M), Kodad, Suryapet (DT)
II MBA I Semester II Mid Examinations, JAN-2024

Branch: MBA **Max. Marks: 30**
Date:06-01-2024 AN **Subject: Strategic Cost Management Accounting** **Time: 120 Minutes**

PART-A

Answer All Questions Each Question Carry Equal Marks **10 X 1 =10 Marks**

Q.NO	QUESTIONS	Revised Bloom's Level	Outcomes CO	Outcomes PO
1.	The design of ABC system involves following stages _( ) (A) Identifying activities (B) Assigning costs to activity cost centres (C) Selecting appropriate cost drivers (D)All of these	L1	CO3	PO9
2.	The Act preparing budget is called as_____ ( ) (A) Budgeting (B)Project ((C) Forecast (D)Predict	L1	CO3	PO9
3.	ZBB stands for_____Budgeting( ) (A) Zero based(B) Zink based (C)Zebra (D) None	L1	CO4	PO1 PO2
4.	Which are the objectives of budgeting_____( ) (A) Planning (B)Co-ordination (C) Control (D) All the above	L1	CO4	PO1 O02
5.	Limitations of Budgetary Control System are_____( ) (A) Based on Estimates: (B) More Expensive (C) Time factor (D) All of the above	L1	CO4	PO1 PO2
6.	Costs are analyzed into Fixed and Variable in ( ) which budget_____ (A) Fixed (B)Master (C)Flexible (D)Cash	L1	CO4	PO1 PO2
7.	Difference between standard and actual is known as—( ) (A) Variance (B) Non Variance (C)Standard (D)None	L1	CO5	PO10
8.	MCV=_____( ) (A) MPV+MUV (B) MUV+MMV (C)MMV+MYV (D)None	L1	CO5	PO10
9.	Favorable variance will be designated by_____( ) (A) F (B) A (C) P (D) S	L1	CO5	PO10
10.	Material Cost variance=_____( ) (A) SC-AC (B)(SQxSP)-(AQxAP) (C) Both (D) None	L1	CO5	PO10

PART-B

Answer any four questions. Each Question Carry Equal Marks 4 X 5=20 Marks

Q.NO	QUESTIONS	Revised Bloom's Level	Outcomes CO	Outcomes PO
11.	Write Steps in ABC	L2	CO3	PO9
12.	Discuss the Summary Traditional Costing and Activity-Based Costing System.	L2	CO3	PO9
13.	Prepare a Flexible budget for production at 80% and 100% activity on the basis on the basis of the following information. Production 50% capacity 5,000 Raw materials Rs. 80Per unit Direct Labour Rs.50 per unit Direct expenses Rs. 15 per unit Factory Expenses Rs. 50000(50% Fixed) Administration expenses Rs. 60,000(60% Fixed).	L2	CO4	PO1 PO2
14.	Prepare a Cash budget A company is expecting to have Rs. 25,000 cash in hand on 1st April 2016, and it requires you to prepare a cash budget, for three months. April to June 2016.The following information is supplied you.(All are in Rs.)	L3	CO4	PO1 PO2

Month	Sales	Purchases	Wages	Expenses
Feb.	70,000	40,000	8,000	6,000
Mar.	80,000	50,000	8,000	7,000
Apr	92,000	52,000	9,000	7,000
May	1,00,000	60,000	10,000	8,000
June	1,20,000	55,000	12,000	9,000

1. Period of Credit allowed by suppliers 2M.
2. 25% of sale is Cash and the period of credit allowed to customers for credit sale is one month.
3. Delay in payment of wages and expenses one month
4. Income tax Rs. 25,000is to be paid in June.

15.	Quantity of Material Required 3kg. Price of Material Rs. 2.50Per kg. Actual Production data. Production during the month 1,000kg Quantity of material used 3,500kg Price of material Rs. 3 kg Cal: MCV, MPV and MUV	L2	CO5	PO10
16.	Standard Output 500Units. Actual Output 450Units Standard time 1000hrs. Standard rate Rs. 20 per hour. Calculate Labour Yield Variance.	L3	CO5	PO10

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Ananthagiri (V & M), Kodad, Suryapet (Dist), Telangana.

Program		
B.Tech.	M.Tech.	M.B.A. ✓

HALL TICKET NO.									
2	2	C	1	1	E	0	0	2	0

Course: Strategic cost & management accounting

Q.No. and Marks Awarded										
1	2	3	4	5	6	7	8	9	10	11

YEAR	SEMESTER	MID EXAMINATION
II	I	II

Regulation: R22 | Branch or Specialization: MBA

Signature of Student: P. Uma

Signature of invigilator with date: 06/01/24

Signature of the Evaluator:

Maximum Marks: 30 | Marks Obtained: 30

(Start Writing From Here)

Part - A

1. (D)
2. (A)
3. (A)
4. (D)
5. (D)
6. (C)
7. (A)
8. (A)
9. (A)
10. (A)

10

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Part - B

11. steps in ABC

1. Identifying activities
2. Assigning cost to activity cost centres
3. selecting appropriate cost drivers.

1. Identifying activities:—

the first step of ABC costing is identifying activities we are different levels in the Activity based costing.

(i) unit level activity
(ii) batch level activity
iii) production level activity.

2. Assigning cost to activity cost centres:—

the second step of ABC costing is Assigning cost to the activity cost centre. after identifying the activities. next step is Assigning cost to activity cost centres. we are Assigning the cost to the different levels of cost centres.

3. selecting appropriate cost drivers:—

the third step of Activity based costing is selecting appropriate cost drivers from the different levels of cost centres. after selecting the appropriate cost drivers. we are apply the Activity based costing.

these are the three steps involved into the Activity based costing.

Activity based costing means based on the activity we are assigning the cost choose the selecting appropriate cost drivers.

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these are the three steps in the ABC costing. Identifying the activities, Assigning costs to activity cost centres. selecting appropria means selecting the suitable cost drivers of overall costs centres having the different levels i) unit level (ii) productes level, (iii) batch level.

Flexible budget.

particulars	Per unit	80%	Per unit	100%
Raw material	80	3,200,000	80.	4100,000
Direct Labour	50	2100,000	50	2,50,000
Direct Expenses	15	601000	15	751000
Prime cost	145	6160,000	145	7,25000
Factory Expenses.				
Fixed expenses	5	25000	5	25000
variable expenses	4	25000	31.25.	25000
work cost		50000	36.25	50,000
Adminstration Expenses				
Fixed Expenses	7.2	36000	7.2	36000
variable Expenses	4.8	24000	3.0.	24000
production cost	12.	601000	90.2	601000.

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These are the Summary of Traditional costing & ABC costing.

15. Calculation of mcv (material cost variance)

Quantity of material required 3kg

Price of the material ₹ 2.50 kg

Actual Production during the month 1,000kg

Quantity of material used ~~3kg~~ = 3,500kg

Price of material Rs. 3kg.

mcv = (SQ × SP) − (AQ × AP)

= (3000 × 2.50) − (3500 × 3)

= 7500 − 10,500

= −3000 (A)

mpv = (AP − SP) × SQ

= (3 − 2.50) × 3000

= 0.5 × 3000

= 1500 (F)

mUv = (SQ − AQ) × AP

= (3000 − 3500) × 3

= −500 × 3

= −1500 (A)

mcv = mpv + mUV

−3000 = 1500 + (−1500)

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1. Prepare cost sheet

Particulars	Amount	Total Amount
Raw material consumed	15,000	
direct Labour	9,000	
Prime cost		24,000
Production / Factory cost		
Machine hour worked 900 hrs		
machine hour Rate Rs. 5 (900 × 5)		4,500
Work cost		28,500
Administration 0·H (28,500 × 20/100)		5,700
Production cost		34,200
closing stock of cost sheet not on a April 3rd (11,00 × 2)		2,200
		32,000
(16,000 × 0·50) sales cost		8,000
		40,000
Sales of cost (16,000 × 4)		64,000
Profit		24,000
Sales		64,000

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Ananthagiri (V & M), Kodad, Suryapet (Dist), Telangana.

Program			YEAR	SEMESTER	MID EXAMINATION
ch.	M.Tech.	M.B.A. ✓	II	I	I

Regulation : 22 — Branch or Specialization: MBA

HALL TICKET NO.: C 1 1 E 0 0 1 3

Signature of Student: P. Sateesh

Strategic cost & Management Accounting

Signature of invigilator with date: [signature] 08/11/23

Signature of the Evaluator: [signature]

Q.No. and Marks Awarded

3	4	5	6	7	8	9	10	11

Maximum Marks: 30.

Marks Obtained: 29

(Start Writing From Here)

PART- A

B

D

B

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in the cost Accounting are to be helped by them they have been reliable proces into the decision making. It is a regularity to be participated them are to be part of firm. It will be generated by a regular proce to be implemented them.

* Cost Conflict :-

It is a generally Accumulated by the proces of cost conflict It will be reduced by the cost are to be part of firm. It shows are to being the narrated by the cost consuming Procesing it generally helpful to us, It has to been are provide with allocated by the conflict of the cost.

* Price Inflation :-

If the price Inflation will be high some time but we are assumed that the value of Asset price It is a discriminated to the price Inflation are to be part of firm. It is a provide with to allocate by the people to be reduce by the price Inflation.

---

13 Defination :- The proces of costing will be applied in the cost method it will be determined the proces of the Cost Accounting are to be utilized them. They will be reduced by a procesority of the Location based proces costing are to be implemented. It will be regular proces in

12 Functional of Cost Accounting

* Cost Measurement
* Cost Control
* Decision Making
* Cost Conflict
* price Inflation.

* Cost Measurement :-

Cost measurement we con utilized by the calculation of cost sheet are to be performed by them. It will be regulated Transaction proces are to be imple-ted to the cost measurement. It will be provide with all together. They have been regarding to the cost sheet are to be each and every transaction record to the cost Accounting.

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* Cost Control :-

Cost control is a major function of the cost Accounting are to be implement progras in the cost Analysis It will be reduced by the cost control are to be implemented them. They were are to be evaluted by a procen to a prievious formula basid on the cost control Are to be utilited them. They have been legal proces in the cost control.

* Decision making :-

of our the cost control. They have been are to be performed of our them. It might be prohibited to the cost Accounting are to by analog themselves. It has to cost control are efficient of work to be generated by them.

* Cost Inflation :-

Cost Inflation It will Inflated by the cost Accounting are to be enhanced by them. It take to the regarded of our service to provide with them. It may be progress to be evaluled them. They were are to be clasified into cost Inflation It work on it.

* Price Fixation :-

If the cost Accounting provide into the cost fixation It involues to the generated by the Accounting problems to solve the price will be Implemented to the price fixation. They have effected by them It will be reduced by the material charges are to Incorrepted them.

* Intial Improvement :-

The Intial Improvement which was to be produced in the cost Accounting are to be proces on to be utilized them. They have been legal Proces are to be control it was in the Intial Improvement in the cost Accoun

Characteristics of process costing :-

* Homogenous products
* Uniform production process
* Cost concentration
* operation production
* Inventory products

* Homogenous products :-

It Homogenous product are to be implemented In the cost process it will be denied from the Job method are to be accumulated by them It have been to reduce by the process of the Homogenous products are to be implemented them.

* Uniform production process :-

Uniform production process is a single variable of the process costing to be proclimed of are the effected by they probability to be a regulated of are utilized by the process of the uniform to earn by the money to be performed of them.

* Cost concentration :-

The cost concentralization are to be prepare by a cost sheet of the process cost to be helped ed by them It will be regulated by a allocated to the cost concentration are to be helpful to [illegible]

derived from the cost centres in the Simultaneous step-Ladder method to be incurred by them.

* operational production :-

If the operational production are to be characterised by them. It will be regular purposed by the trialed by them are to be equally extrimed in the auto characterised by the overness by the operational production. It is a process at product to be generated by them. They never give are to be big level of the operational management.

* Inventory products :-

Inventory products are reliable products to be reduces in the effectent process to the costing. It will be generated by a organized by the Inventory products to be utilited by them. In which cases are to be generally Accepted by them. It has been reliable process in the Inventory market to available all type of product to be utilited them. It Hence to be proclimed to the organisation in Innovation product to be implemented them.

1. Prepare cost sheet

Particulars	Amount	Total Amount
Raw material consumed	15,000	
direct Labour	9,000	
Prime cost		24,000
Production / Factory cost		
Machine hour worked 900 hrs		
machine hour Rate Rs. 5 (900 × 5)		4,500
Work cost		28,500
Administration 0·H (28,500 × 20/100)		5,700
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		40,000
Sales of cost (16,000 × 4)		64,000
Profit		24,000
Sales		64,000

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II M.B.A I Semester II Mid Assignment Question paper, JAN-2024

Subject: STRATEGIC COST AND MANAGEMENT ACCOUNTING

Max. Marks: 5

Answer all the questions **5x1M=5 Marks**

Q.NO.	Question	Course Outcome	Bloom's Level
	UNIT-III		
1.	What is ABC costing and explain its steps and advantages?	**Co3**	**L1**
	UNIT-IV		
2.	Define budget and also explain budgetary control objectives.	**Co4**	**L1**
3.	Discuss about Zero Based Budgeting.	**Co4**	**L2**
	UNIT-V		
4.	Write about standard costing and its advantages.	**Co5**	**L2**
5.	Detail about variance analysis types.	**Co5**	**L2**

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Ananthagiri (V&M), Kodad, Suryapet (Dt.), Telangana, Pin: 508 206.

MASTER OF BUSINESS ADMINISTRATION

MID I ASSIGNMENT

YEAR & SEMESTER:	II ~~nd~~ year 1st Sem
HALL TICKET NO.:	22C11E0007
STUDENT NAME:	M. Nagajarajwathi
COURSE NAME:	Strategic Cost and Management ~~Accounting~~
SUBMISSION DATE:	04-11-2023

1.	2.	3.	4.	5.
5	5	5	5	5

25/5

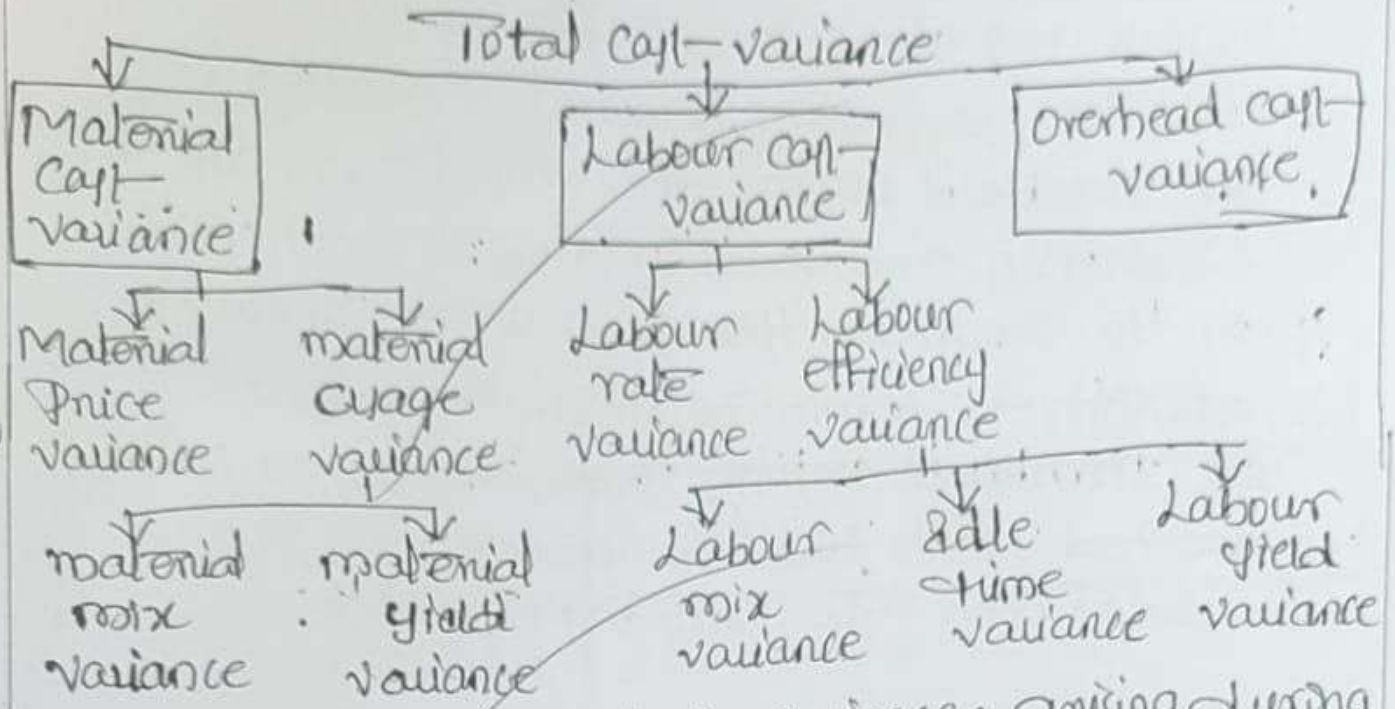
5/5

Nagajarajwathi. M
STUDENT SIGNATURE

FACULTY SIGNATURE

Detail about variances - Analysis and types of cost variance.

Variance analysis :- Variance analysis is the study of deviations of actual behaviour versus forecasted or planned behaviour in budgeting or management accounting.



a) Material - The two basic variances arising during material consumption are material usage and material Price variance.

i) Material cost variance : (SQ x SP) - (AQ x AP)

ii) Material Price variance : (AQ x SP - AP)

iii) Material Usage variance : SP x (SQ - AQ)

b) Labour - similar to material Usage variance labour efficiency efficiency variance measures the variance of labour by identify the difference between the actual hours worked and the hours which should have been worked as per the established standards.

i) Labour cost variance = (SH x SR) - (AH x AR)

ii) Labour rate variance = AH x (SR - AR)

iii) Labour efficiency = SR x (SH - AH)

4) Write definition of standard costing and Advantages of standard costing.

Standard :- It is a predetermined measurable quantity set on defined conditions.

Definations :-

Standard cost - is defined as a pre determined cost which is calculated from managements standard of efficient operation and the relevant necessary expenditure. It may be used as a basis for price fixation and for cost control through variance analysis.

[CIMA-UK]

Advantages of standard costing :

Measurement of efficiency :-

Standard costs can be compared with actual costs. When actual costs are equal to or less than standard costs. This reflects the organizations efficiency.

When standard costs are less than actual costs this indicates a degree of inefficiency on the organizations.

Determination of employee responsibilities :-

Standard are determined separately for various activities and sub-activities which helps the management determine whether employees are working efficiently or not.

Helpful to determine production costs :-

Most of the time Production Prices are quoted and advertised by Products on the market even before Production is completed.

if the package is consistent with the overall objectives of the organization the cost of minimum efforts required to sustain the decision should be determined.

⇒ Alternatives for each decisions package are considered in order to select better and cheapter options.

Limitations of Zero Based Budgetting

⇒ It is a very detailed procedure and naturally it time consuming and lot of paper work is involved in the same.

⇒ Cost involved in Preparation and implementation of this system is very high.

⇒ morale of staff may be very low as they might feel threatened if a particular activity is discontinued.

⇒ Ranking of activities and decision-making may become subjective at time.

⇒ It may not advisable to apply this method when there are non-financial considerations such as ethical and social responsibility because this will dictate rejecting a budget claim on low ranking projects.

2. Budgeting is a coordinated exercise and hence combines the ideas of different levels of management in Preparation of the same.
3. Any budget cannot be prepared in isolation and therefore coordination among various departments is facilitated automatically.
4. Budgeting helps planning and controlling income and expenditure so as to achieve higher Profitability and also act as a guider for variables management decisions.

3. Discuss about zero based Budgeting?

Zero Base Budgeting:— Zero Based Budgeting is method of budgeting where by all activities are evaluated each time budget is formulated and every item of expenditure in the budget is fully justified. They of the Zero Base Budgeting involves from scratch or zero.

Applications of zero based Budgeting

The following stages/steps are involved in the application of zero Based Budgeting.

⇒ Each separate activity of the organization is identified and is called as a decision package. decision Package is actually nothing but a document that is identified and describes an activity in such a manner.

⇒ It should be ensured that each decision Package is justified in the sense it should be ascertained whether the package is consistent with goal of the organization or not.

Define Budget and expand the objectives of Budget Control.

objectives of Budgeting control :-

Planning :- Planning is necessary for doing any work in a systematic manner. A well-Prepared Plan helps the organization to use the scare resources in a efficient manner and thus achiving the predetermined targets becomes easy.

A budget is always prepared for future Period and it lays down target regarding various aspects like purchase Production, sales, man Power planning etc.

Co-ordination :- for achieving the Predetermined objectives a part from planning coordinated efforts are required. Budgeting facilities coordination in the sense that budgets cannot be developed in isolation.

Control :- Planning is looking ahead while Controlling is looking back preparation of budgets involves detailed planning about various activities like purchase sales Production and other functions like marketing sales promotion, manpower planning.

Benefits of budgeting

Budgeting plays an important role in planning and controlling. It helps in directing the scare resources to the most production use and thus overall efficiency in the organization.

1. Budgeting facilitates planning of variables activities and ensures that the working of the organization is systematic and smooth.

Activity cost :- Activity Based Costing is a costing system that focuses on the activities conducted in Producing the products.

Benefits to service industry :- service organizations such as banks hospitals, service of the service is consumed when it is produced.

Better decision making :- ABC improves greatly the managers decision making as they can use more reliable Products cost data.

More Precise cost allocation, improved process efficiency and better decision making.

3) Define job costing and similarly explain which steps followed by job costing Process.

Job costing is a method used by businesses to calculate the cost incurred for a specific job or project. It's particularly common in industries like construction manufacturing and consulting the job costing process typically involves several steps.

Identifying the job :-

Define the specific task or project for which you need to calculate the costs. This could be anything from building a house to designing a website.

Cost categories :-

Determine the cost categories relevant to the job this includes direct materials direct labour and overhead costs. Direct costs can be traced directly to the job while overhead costs are allocated on a predetermined rate.

Cost estimation :-

Estimate the costs for each category. this involves predicting how much materials will be needed how many labour hours will be worked and the overhead costs associated with the job.

Cost accumulation :-

Keep detailed records of all costs associated with the job. This includes receipts for materials time card for labour and records of overhead expenses.

Allocation of overhead :-

Allocate overhead costs to the job based on a predetermined rate. This rate is often calculated as a percentage often calculated as a percentage of direct labour costs or machine hours.

4) Write about - process costing and describe the characteristics of - Process costing.

Process costing is a method used to determine the cost of producing identical or similar products in a continuous manufacturing process.

- Here are the key characteristics of process costing.

Uniform products :-

Process costing is suitable for industries where products are homogeneous meaning they are similar and interchangeable - examples include beverages chemicals and processed foods.

Continuous production :-

Process costing is applied in industry where production occurs continuously without distinct batches. The manufacturing process is ongoing and products are processed in a sequential manner.

Mass production :-

Large quantities of - products are produced in a continuous flow. The costs incurred in each production dept are accumulated over a specific period - typically a month.

Multiple processes or Departments :-

The products process is divided into different system stages or departments. - each department performs a specific operation and products move from one dept. to another until they are completed.

Accumulation of costs :-

Costs are accumulation for each department - including direct materials, direct labour and manufacturing overhead. These costs are then averaged over the units produced during the period to calculated the cost per

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Job cost calculation :-
Once the job is completed ensure that all costs are accurately recorded.
Job completion :-
Sum up all the direct materials direct labour and allocated overhead costs to calculate the total job cost.
Job Profitability analysis :-
Compare the total job cost with the revenue generated from the job to determine the Profitability. This analysis helps in evaluating the success of the Project and making information buyiness decisions.
Documentation :-
Maintain detailed total job cost with the revenue generated from the job to determine the profitability this analysis helps in evaluating the success of the Project and making informed buyiness decisions.
Analysis and improvement :-
Analyze the job costing data to identify areas where costs can be reduced or processes can be optimized continues improvement is key to enhancing effectency and Profitability.

Cost calculation :-
The total costs incurred in each department are divided by the number of units produced to determine the cost per unit. This uniform cost per unit is used to value the work in process and finished goods inventories.
Cost tracking :-
Process costing involves the continuous tracking of costs in each department allowing management to monitor the efficiency of production process and make necessary adjustments.
Use of cost flows :-
Cost flow through the production dept's starting from raw materials and ending with finished goods. at the end of each accounting period the costs are transferred to finished goods and ultimately to cost of goods sold when the products are sold.
Standardization of Processes :-
Products processes are standardized ensure consistency in quality and cost variations in costs and production methods are minimized to maintain uniformity in the cost per unit.

example the cost of raw material used in a product.

Indirect costs :-

Indirect costs cannot be traced directly to a specific cost object. These costs are incurred for the benefit of multiple cost objects like overhead costs for a production facility.

Product costs :-

These costs are associated with the production of goods and include direct materials direct labour and manufacturing overhead.

Period costs :-

Period costs are not tied to the production of goody or service and are expensed during the period incurred examples include selling and administrative expenses.

Opportunity costs :-

These costs represent the benefits foregone when one alternative is chosen over another. It is value of the next best alternative for gone.

Sunk costs :-

Sunk costs are costs that have already been incurred and cannot be recovered. They are not relevant for future decision making processes.

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efficiency improvement :- By identifying ineffici and areas of wastage cost accounting helps busines stream lone their operations and improve overall efficiency.

Inventory valuation :- cost accounting methods such as FIFO or LIFO are used to value inventory this effects financial statement and taxation.

Compliance :-

Cost accounting ensures compliance with financial regulations and reporting to stakeholders and regulatory authority.

2) Explain detail the classification of costs?

Costs can be classified in various ways based on different criteria. Here are some common classifications of costs.

Fixed costs :-

These costs remain constant regardless of the level of production or sales. Examples include rent salaries of permanent staff and insurance premiums.

Variable costs :-

Variable costs fluctuate with the level of production or sales. Examples include size of raw materials direct labour for production and sales commission.

Semi-variable costs :-

Also known as mixed costs these costs have both fixed and variable components. for example a sales person's salary might have a fixed base salary and commission based on sales.

Direct costs :-

Direct costs can be directly attributed to a specific cost object such as a product or department

What is cost accounting and explain the advantages of cost Accounting?

Cost accounting is a branch of accounting that focuses on analyzing recording and controlling a company cost. It involves the process of identifying measuring and analyzing various costs associated with producing goods or services.

Advantages of cost accounting include

Cost control :- cost accounting helps businesses monitor and control their costs allowing them to identify areas where costs can be reduced or eliminated leading to increased profitability.

Budgeting and Planning :-

By analyzing historical cost and data cost accountants assist in setting budgets and making future projections this aids in effective planning and resource allocation.

Product Pricing :-

Cost accounting helps in determining the appropriate pricing for products or services by considering all costs involved. This ensures that products are priced competitively while covering all expenses and generating profits.

Performance evaluation :-

Cost accounting provides data for evaluating the performance of different departments. Products or Projects within an organization managers can make data driven decisions based on this analysis.

Decision making :- Managers set on cost accounting information to make strategic decision such as whether to continue or discontinue a product like make or buy decisions and investment choices.

Standardization of activities :- Due to standard costing standards are fixed for various activities. This helps the employees to work efficiently.

Helpful in managerial activities :- standard costing enables management to exercise effective control over production activities helping them make decisions regarding the various elements of cost.

opportunities to improve production quality :- Under standard costing the emphasis on cost efficiencies and quality proper emphasis is given to improving the quality of production.

opportunities to minimize production costs :- In standard costing production prices can be minimized which helps to increase the volume of sales, and the company's profits.

A93006/F: STRATEGIC COST AND MANAGEMENT ACCOUNTING
II Year MBA –I Semester

UNIT – I

Introduction to Cost and Management Accounting, Cost Analysis and Control

According to the dictionary meaning cost is the price paid for something. In other words cost is the amount of resources used for something which must be measured in terms of money. Cost is defined as the amount of expenditure whether actual or notional incurred on or attributable to a given thing or to ascertain the cost of a given thing.

According to CIMA, London, ―costing is the techniques and processes of ascertaining cost.

In simple, it is the methods used and the actual process involved in cost finding. The technique of costing involves two fundamental steps namely:

a. Collection and classification of expenditure according to the cost elements and,

b. Allocation and apportionment of the expenditure to the cost centers or cost units.

Cost Accounting deals with collection, analysis of relevance of cost data for interpretation and presentation. **CIMA defines** cost accounting ―as the process of accounting for costs from the point at which the expenditure is incurred or committed to the establishment of its ultimate relationship with cost centers and cost units.‖

Cost management is the process of planning and controlling the budget of a business. Cost management is a form of management accounting that allows a business to predict impending expenditures to help reduce the chance of going over budget.

Cost management is the process of effectively planning and controlling the costs involved in a business. It is considered one of the more challenging tasks in business management. Generally, the costs or the expenses in a business are recorded by a team of experts using expense forms. The process involves various activities such as collecting, analyzing, evaluating and reporting cost statistics for budgeting. By implementing an effective cost management system, a company‘s overall budgeting can be brought under control.

Relationship b/w cost, financial, & management accounting?			
Basis	Finacial Accounting	Cost Accounting	Management Accounting
Objects	Record transactions & determine financial position & profit or loss.	Ascertainment, allocation, accumulation &, accounting for cost	To assist the management in decision-making & policy formulation.
Nature	Concerned with historical data	Concerned with both past & present recorded (historical in nature)	Deals with projection of data for the future (futuristic nature).
Principle Followed	Governed by GAAP	Certain principles followed for recording costs.	No set principles are followed in it.
Data Used	Data Qualitative aspects are not recorded	Only quantitative aspect used recorded	Uses both quantitative & qualitative concepts.

COSTING COST ACCOUNTING AND COST ACCOUNTANCY:

Cost accounting may be regarded as a specialized branch of accounting which involves classification, accumulation, assignment and control of costs.

The Costing terminology of C.I.M.A. London defines cost accounting as 'The establishment of budgets, standard costs and actual costs of operations, processes, activities or products, and the analysis of variances, profitability or the social use of funds".

`Weldon defines cost accounting as "classifying, recording and appropriate allocation of expenditure for determination of costs of products or services and for the presentation of suitably arranged data for purposes of control and guidance of management". It is thus, a formal mechanism by means of which costs of products or services are ascertained and controlled.

Cost accounting is different from costing in the sense that the former provides only the basis and information for ascertainment of costs. Once the information is made available, costing can be carried out arithmetically by means of memorandum statements or by method of integral accounting.

Cost Accountancy:

Cost Accountancy has been defined as "the application of costing and cost accounting principles, methods and techniques to the science, art and practice of cost control and the ascertainment of profitability. It includes the presentation of information derived there from for the purpose of managerial decision making".

OBJECTIVES OF COST ACCOUNTING:

Cost accounting aims at systematic recording of expenses and analysis of the same so as to ascertain the cost of each product manufactured or service rendered by an organisation. Information regarding cost of each product or service would enable the management to know where to economize on costs, how to fix prices, how to maximize profits and so on. Thus, the main objects of cost accounting are the following:

(1) To analyse and classify all expenditures with reference to the cost of products and operations.

(2) To arrive at the cost of production of every unit, job, operation, process, department or service and to develop cost standard.

(3) To indicate to the management any inefficiencies and the extent of various forms of waste, whether of materials, time, expenses or in the use of machinery, equipment and tools. Analysis of the causes of unsatisfactory results may indicate remedial measures.

(4) To provide data for periodical profit and loss accounts and balance sheets at such intervals, e.g. weekly, monthly or quarterly, as may be desired by the management during the financial year, not only for the whole business but also by departments or individual products. Also, to explain in detail the exact reasons for profit or loss revealed in total, in the profit and loss account.

(5) To reveal sources of economies in production having regard to methods, types of equipment, design, output and layout. Daily, weekly, monthly or quarterly information may be necessary to ensure prompt and constructive action.

(6) To provide actual figures of cost for comparison with estimates and to serve as a guide for future estimates or quotations and to assist the management in their price-fixing policy.

(7) To show, where standard costs are prepared, what the cost of production ought to be and with which the actual costs which are eventually recorded may be compared.

(8) To present comparative cost data for different periods and various volumes of output.

(9) To provide a perpetual inventory of stores and other materials so that interim profit and loss account and balance sheet can be prepared without stock taking and checks on stores and adjustments are made at frequent intervals. Also to provide the basis for production planning and for avoiding unnecessary wastages or losses of materials and stores.

(10) To provide information to enable management to make short-term decisions of various types, such as quotation of price to special customers or during a slump, make or buy decision, assigning priorities to various products, etc.

The cost management aims:

1. To develop a system such that the product costs / service costs can be accurately calculated.

2. To assess the overall performance of a product through its life cycle.

3. To find out the process of linking the various activities in a logical and rational manner so that they can be improved upon.

4. To control the costs at every stage as much as possible.

5. To evaluate the measures to be introduced in the process of controlling the costs.

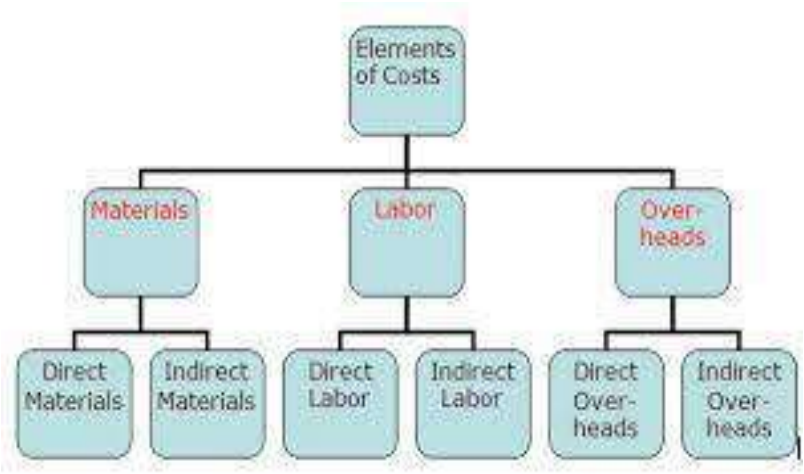
6. To link all the activities of the organization to the basic management objectives.

7. To measure the variances form the actually planned goals.

8. To reset the activities towards the organizational goals.

Elements of costs

Basic cost elements are:



1. Raw materials
2. Labor
3. expenses/overhead
4. Material (Material is a very important part of business) Direct material/Indirect material
5. Labor Direct labor/Indirect labor
6. Overhead (Variable/Fixed)
7. Production or works overheads
8. Administration overheads Selling overheads
9. Distribution overheads
10. Maintenance & Repair
11. Supplies
12. Utilities
13. Other Variable Expenses
14. Salaries
15. Occupancy (Rent)
16. Depreciation
17. Other Fixed Expenses

There are broadly three elements of cost - (1) material, (2) labour and (3) expenses:

The substance from which the product is made is known as material. It may be in a raw state-raw material, e.g., timber for furniture and leather for shoe, etc. It may j also be in manufactured state-components, e.g., battery for car, speaker for radio, etc, Materials can be direct and indirect.

Direct Material: All materials which become an integral part of the finished product, the cost of which are directly and completely assigned to the specific physical units and charged to the prime cost, are known as direct material. The following are some of the materials that fall under this category:

(a) Materials which are specifically purchased; acquired or produced for a particular job, order or process.

(b) Primary packing material (e.g. carton, wrapping, cardboard, etc.)

(c) Materials passing from one process to another as inputs.

In order to calculate the cost of material, expenses such as import duties, dock charges, transport cost of materials are added to the invoice price.

Material considered direct at one time may be indirect on other occasion. Nail used in manufacturing wooden box is treated as direct material, but treated as indirect material when used to repair the factory building.

Indirect Material: All materials, which cannot be conveniently assigned to specific physical units, are termed as 'indirect material'. Such commodities do not form part of the finished products. Consumable stores, lubrication oil, stationery and spare parts for the machinery are termed as indirect materials.

Labour : Human efforts used for conversion of materials into finished products or doing various jobs in the business are known as labour. Payment made towards the labour is called labour cost. It can also be direct and indirect.

Direct Labour: Direct labour is all labour expended and directly involved in altering the condition, composition or construction of the product. The wages paid to skilled and unskilled workers for manual work or mechanical work for operating machinery, which can be specifically allocated to a particular unit of production, is known as direct wages or direct labour cost. Hence, 'direct wage' may be defined as the measure of direct labour in terms of money. It is specifically and conveniently traceable to the specific products Wages paid to the goldsmith for making gold ornament is an example of direct labour.

Indirect Labour: Labour employed to perform work incidental to production of goods or those engaged for office work, selling and distribution activities are known as 'indirect labour'. The wages paid to such workers are known as 'indirect wages' or indirect labour cost.

Example: Salary paid to the driver of the delivery van used for distribution of the product.

Expenses: **All** expenditures other than material and labour incurred for manufacturing a product or rendering service are termed as 'expenses'. Expenses may be direct or indirect.

Direct Expenses: Expenses which are specifically incurred and can be directly and wholly allocated to a particular product, job or service are termed as 'direct expenses'. Examples of such expense are: hire charges of special machinery hired for the fob, carriage inward, royalty, cost of special and specific drawings, etc. These are also known as 'chargeable expenses'.

Indirect Expenses: All expenses excluding indirect material and indirect labour, which cannot be directly and wholly attributed to a particular product, job or service, are termed as 'indirect expenses'. Some examples of such expenses are: repairs to machinery, insurance, lighting and rent of the buildings.

Classification of Costs

Costs may be classified on different bases. They can be classified as follows:

1. By time (historical, predetermined)
2. By nature of elements (material, labour, overhead)
3. By association (product or period)

4. By traceability (direct, indirect)
5. By changes in activities or volume (fixed, variable, semi-variable)
6. By function (manufacturing, administration, selling, research and development)
7. Controllability (controllable, non-controllable)
8. Analytical and decision-making (marginal, uniform, opportunity, sunk, differential etc.)
9. By nature of expense (capital, revenue)
10. Miscellaneous (conversion, traceable, normal, total)

Classification on the Basis of Time

Costs can be classified into historical costs and predetermined costs.

Historical costs: Historical costs are determined after they are incurred actually. When production is completed, i.e., products reached their final stage of finished status, costs are available and on that basis costs are ascertained. Only on the basis of actual operations, costs are accumulated. Hence they are objective in nature.

Predetermined costs: Costs are calculated before they are incurred, i.e., before the production process is completed.

These predetermined costs may further be classified into estimated costs and standard costs

Estimated costs: Costs are estimated before goods are produced. As these are purely estimates, they lack accuracy.

Standard costs: These costs are also predetermined. But certain factors are analysed with care before setting up costs. Standard cost is not only a concept of cost but a technique or method of costing also.

Classification by Nature or Elements

Elements of costs may be broadly divided into material, labour and expenses.

Direct costs

In general, production is carried on in different cost centres. Costs which can be directly identifiable with cost centres, processes or production units are known as direct costs.

Indirect Costs

If costs cannot be identifiable with cost centres or cost units, they are termed as ―indirect costs‖. Such costs that cannot be easily identifiable with cost centres have to be apportioned on some equitable basis. These terms should be understood properly, as the same will be applied in case of materials, labour and wages.

Material Costs

Commodities or substances from which products are produced are called materials. They may be further divided into direct and indirect. The term ―direct‖ means that which can be identified with and allocated to cost centres and cost units. The term ―indirect‖ means that which cannot be allocated but can be apportioned to, or absorbed by, cost centres and cost units.

Direct Materials

Direct materials are those materials which enter into and form part of the product, e.g., wood in furniture, chemicals in drugs, leather in shoes.

Direct materials include:

1. All materials specially purchased or requisitioned for a particular process or job or order.

2. All components—purchased or produced.

3. All materials passing from one process to another

4. All primary Packing Material.

Indirect materials: Materials which cannot be traced as part of the product are known as indirect materials. Indirect materials include:

1. Fuel, lubricating oil, grease etc. (for maintenance of plant and machinery)

2. Tools of small value for general use.

3. Consumable stores

4. Printing and stationery materials

5. Stores of small value used

Labour Costs

It can also be classified into direct labour and indirect labour.

Direct labour

Where employees are employed directly in making the product and their work can be easily identified in the process of conversion of raw materials into finished goods, such labour is called direct labour. The cost incurred on direct labour is called direct wages. Example: Wages paid to the driver of a bus in a transport service.

Indirect labour

Labour employed in the works on factory which is ancillary to production is known as indirect labour. The cost incurred on indirect labour is called indirect wages. These costs may not be traced to specific units of output. Wages which cannot be directly identified with a job or process are treated as indirect wages. Example: wages of store keepers, time keepers, supervisors etc.

Expenses Costs

Expenses also can be direct and indirect.

Direct expenses

Direct expenses do not include direct material cost and direct labour cost. These expenses are incurred in respect of a specific product. Example: cost of special pattern, drawing or layout; secret formula, hire charges of machinery to execute an order, consultancy fees to a specific job. The latest trend in cost accounting is that these expenses are not taken into account. The terminology of CIMA is also of this view. Generally, direct expenses form a small part of total cost.

Indirect expenses: Expenses which cannot be charged to production directly and which are neither indirect material cost nor indirect wages costs are treated as indirect expenses. Examples: Rent, rates, taxes, power, insurance, depreciation.

Overheads

Overheads include the cost of indirect material, indirect labour and indirect expenses. Overheads may be classified into (i) production or manufacturing overheads, (ii) administrative overheads), (iii) selling overheads and (iv) distribution overheads.

Production or factory overhead: It is the aggregate of indirect material cost, indirect wages and indirect expenses incurred in respect of manufacturing activity. It commences with the supply of raw materials and ends with the primary packing of finished goods.

Administration overhead: It is the aggregate of indirect material cost, indirect wages and indirect expenses incurred for policy formulation, control and administration. Example: Directors‘ remuneration.

Selling overhead: It is the cost of creating sales and retaining customers. It is the aggregate of all indirect material costs, indirect wages and indirect expenses incurred in creating and stimulating demand for a firm‘s products and securing orders. Example: advertisement, publicity expenses.

Distribution overhead: It is the aggregate of indirect material cost, indirect wages and indirect expenses incurred in preparing the packed products for dispatch and making them available to customers. Example: rates and taxes for finished goods, godown expenses.

Association with the Product (Costs in Their Relation to Product)

Prime Cost

Prime cost is the aggregate of direct material cost, direct wages and direct expenses.

Conversion cost: Conversion cost is the aggregate of direct wages and factory overhead. It is the cost incurred in the factory for the conversion of raw materials into finished goods.

Product Cost: Product Costs included in inventory values are called product costs. In manufacturing organizations, raw material costs and cost incurred in the conversion of raw materials into finished products are called product cost or inventory cost.

Period costs: Period costs are costs that are charged against the revenue of a period of time in which they are incurred. Period costs are incurred on the basis of time like rent and salaries. Period costs include selling and distribution costs and administration costs. Since they are not directly associated with the product, they are not assigned to the product. They are charged to the period in which they are incurred and are to be treated as expenses. In this context, one has to distinguish between expense and expenditure. Expense is nothing but expired cost or expenditure. An organization incurs expenditure in order to acquire goods and services. The same can be said to have expired when consumption takes place, meaning thereby that it has given the intended benefit. Thus, the cost of acquisition of goods for re-sale is expenditure. But it becomes an expense when the goods are sold and is shown in the profit and loss account.

Joint costs: Joint costs arise when two or more products are processed at the same time or in a single operation or from a common material. To apportion joint costs among products is not an easy affair. If two or more products are produced from the same raw materials (e.g., petrol, diesel, kerosene), joint costs are incurred up to the point of separation.

Accounting Period - Wise Classification of Costs

Capital expenditure: It may be defined as expenditure which results in the acquisition of or increase in an asset, or pertains to the extension or enhancement of earning capacity at a smaller cost. A capital expenditure is intended to benefit future periods. It is classified as a fixed asset. Example: Costs of acquiring land, building and machinery.

Revenue expenditure: This expenditure occurs for the maintenance of assets in working condition and not intended for increasing the revenue-earning capacity. A revenue expenditure benefits the current accounting period. It is treated as an expense.

For matching of costs and revenues, the distinction between capital expenditure and revenue expenditure is inevitable.

Behaviour-Wise Classification of Costs

Variable Cost :The terminology of CIMA defines variable cost as ―a cost which tends to follow (in the short-term) the level of activity‖. Variable costs are also known as marginal costs. Variable costs vary directly and proportionally with the output. Variable cost per unit is constant but the total costs change corresponding to the levels of output. Variable cost is expressed in terms of units only. Variable costs are synonymous with engineered costs.

Example: Materials used to manufacture a product, wages of workers in a manufacturing process. To illustrate, let direct material cost to produce one unit of a product be Rs. 25. The existing volume of production is 10,000 units per annum, then the existing direct material cost is 10,000 units × Rs. 25 = Rs. 2,50,000. In case, if the production increases to 20,000 units, the direct material cost would be Rs. 25 × 20,000 units = Rs. 5,00,000. This shows that the direct material cost per unit remains constant but total material cost rises with an increase in activity level.

Fixed Cost

The terminology of CIMA defines fixed cost as ―the cost which accrues in relation to the passage of time and which, within certain limits, tends to be unaffected by fluctuations in the level of activity‖.

Fixed costs are those which are not expected to change in total within the current budget year, irrespective of variations in the volume of activity. Such costs are fixed for a given period over a relevant range of output, on the assumption that technology and methods of manufacturing remain unchanged.

For the purpose of cost analysis, fixed costs may be classified as follows:

Committed Costs: These costs cannot be eliminated instantly. These costs are incurred to maintain basic facilities. Example: Rent, rates, taxes, insurance.

Policy and managed costs: Policy costs are incurred in enforcing management policies. Example: Housing scheme for employees. Managed costs are incurred to ensure the operating existence of the company. Example: Staff services.

Discretionary costs: These are not related to operations. These can be controlled by the management. These occur at the discretion of the management.

Semi-Variable Costs :The terminology of CIMA defines semi-variable cost as ―a cost containing both fixed and variable elements which is thus partly affected by fluctuations in levels of activity‖ Semi-variable costs consist of features of both fixed and variable costs.

These costs vary in total with changes in the level of activity—not in direct proportion. Due to the fixed part of the element, they do not change in direct proportion to output. Due to the variable part of the element, they tend to change with volume. Semi-variable costs change in the same direction of output but not in the same proportion. Example: electricity charges, stationery, telephone expenses.

To illustrate, telephone expenses is a semi-variable cost. Annual rental is Rs.1000. For every call used the charge per call is Re. 1. Here the annual rental is the fixed part of the element—remains unchanged—whereas the call made forms the variable element.

Total Fixed Cost

Fixed Cost Per Unit

Functional Classification of Costs Production costs: They are the cost of operating a production department in which manual and machine operations are performed directly upon any part of product manufactured. This includes the cost of direct materials, direct labour, direct expenses, primary packing expenses and all overhead expenses pertaining to production.

Administration costs: These expenses include all indirect expenses incurred in formulating the policy, directing the organization and controlling the operation of a concern. The expenses relating to selling and distribution, production, development and research functions are not to be included under this head.

Selling and distribution costs: These expenses include all expenses incurred with selling and distribution functions.

Research and development costs: These include the cost of discovering new ideas, processes or products by research and the cost of implementation of such results on a commercial basis.

Preproduction costs: when a new manufacturing unit is started or a new product is launched, certain expenses are incurred. There would be trial runs. All such costs are called preproduction costs. They are charged to the cost of future production because they are treated as deferred revenue expenditure.

Costs for Planning and Control

Controllable cost: The terminology of CIMA defines controllable cost as ―a cost which can be influenced by the action of specified member of an undertaking‖. It refers to those costs which may be regulated at a specified level of authority (management) within a specified time period. The term ―controllable costs‖ means variable costs. Cost-control factor depends on time factor and level of managerial authority. If the time period is sufficiently long, cost can be well controlled. Proper delegation of authority with responsibility facilitates the task of control of costs.

Uncontrollable costs: Uncontrollable cost is defined as the ―cost which cannot be influenced by the action of a specified member of an undertaking‖. This cost is not subject to control at any level.

The difference between the terms is important for the purpose of cost control, and responsibility accounting costs which are not subject to the control of a person should not be charged to that person. For instance, a foreman should not be charged with the plant superintendent salary.

Budget: A budget is a plan for a future period. It is expressed in monetary terms. The terminology of CIMA defines a budget as ― 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 also a tool of control.

Standard costs: Standard costs are closely related to budgets, and both are said to be complementary to each other. It is a basic accounting tool. A standard cost is a predetermined calculation of how much costs should be under specific working conditions. It is built up from an assessment of the value of cost elements and correlates technical specifications and quantification of material, labour and other costs to the prices and/or wage raves expected to apply during the period in which standard cost is intended to be used. Its main purposes are to provide bases for control through variance accounting, for valuation of stock, and work-in-progress and in some cases, for fixing selling prices.

Costs for Analytical and Decision-Making Purposes

Imputed costs: Imputed costs do not involve actual cash outlay (cash payment). They are not recorded in the books of accounts. They are not measurable accurately. However, imputed costs are useful while taking decisions. Imputed costs can be estimated from similar situations. Imputed costs can be estimated from similar situations outside the organization. Although these are hypothetical costs, in making comparison, in performance evaluation, in making decision, the inclusion of imputed costs is inevitable. Examples: Interest on invested

capital, rental value of company-owned building, salaries of owner-directors of sole proprietorship firms.

Sunk costs: Sunk cost is invested cost or recorded cost. A sunk cost is one which has been incurred already and cannot be avoided by decision taken in future. Sunk cost may be defined as ―an expenditure for equipment or productive resources which has no economic relevance to the present decision-making process‖. Sunk cost is a past cost which cannot be taken into account in decision making. Sunk cost may also be defined as the difference between the purchase price of an asset and its salvage value. Non-incremental costs (i.e., cost which do not increase) are also, at times, termed as sunk costs (one specific group of non-incremental costs).

Differential costs: Differential costs arise on account of the change in total costs associated with each alternative. In the language of the AAA committee, ―it is the increase or decrease in total costs, or the changes in the specific elements of cost that results from any variation in operation.‖ Differential cost consists of both variable and fixed costs. The differential cost between any two levels of production is (i) the difference between two marginal costs (variable cost) at these two levels and (ii) the increase or decrease in fixed costs. A distinction has to be understood between differential cost and incremental cost. Incremental cost applies to increase in production and restricted to cost only, whereas differential cost confines to both increase and decrease in output. Differential cost is of much use in decision-making process, especially in choosing the best alternative and in ascertaining profit where additional investments are introduced in the business.

Opportunity costs:

Opportunity costs are the economic resources which have been foregone as the result of choosing one alternative instead of another. The unique feature of an opportunity cost is that no cash has changed hands. There is no exchange of economic resources. It results from sacrificing some action. They are never shown in regular cost accounting records.

Postponable costs: These are costs which may be postponed to the future with little or no effect on current operations. Actually it means deferring the expenditure to some future date.

It does not mean that the cost is avoided and rejected summarily. Example: Repairs and maintenance.

Avoidable costs: By choosing one alternative, costs may be saved. That means by avoiding one, and choosing another, costs can be saved. Example: By not manufacturing a new product, the appropriate direct material, labour and variable costs can be avoided.

Out-of-pocket costs: Out-of-pocket cost means those elements of cost which warrant cash payment in the period under consideration. This is helpful in deciding whether a particular venture will at least return the cash expenditure caused by the expected project. Example: Taxes, insurance premium, salaries of supervisory staff, etc.

Relevant costs: Relevant costs are those expected future costs that differ between alternatives. It is a cost affected by a decision at hand. Historical costs are irrelevant to a decision. It is reasonable because it helps to ascertain whether the costs are relevant to a particular decision at the present condition. In general, variable costs are affected by a decision and so they are considered relevant.

Uniform costs: Generally they are not distinct costs as such. According to this, common costing principles and procedures are being adopted by a number of firms. These costs are mainly intended for inter-firm comparison.

Marginal costs: It is the aggregate of variable costs. It is useful in various ways for the management.

Common costs: Common costs are those costs which are incurred for more than one produce, job territory or any other specific costing object. The National Association of Accountants defines common costs as ―the cost of services employed in the creation of two or more outputs, which is not allocable to those outputs on a clearly justified basis‖.

Other Costs:

Normal cost: This cost is incurred at a given level of output in the conditions that level of output is achieved.

Traceable cost: This cost can be easily identified with a product or job or process.

Total costs: It denotes the sum of all costs in respect of a particular process or unit or job or department or even the entire organization.

Methods of Costing

Different industries follow different methods to establish the cost of their product. This varies by the nature and specifics of each business. There are different principles and procedures for performing the costing. However, the basic principles and procedures of costing remain the same. Some of the methods are mentioned below:
Unit costing

- Job costing
- Contract costing
- Batch costing
- Operating costing
- Process costing
- Multiple costing
- Uniform costing

Different Methods of Costing

Here's a breakdown of each different method of costing:

Unit costing: This method is also known as "single output costing." This method of costing is used for products that can be expressed in identical quantitative units. Unit costing is suitable for products that are manufactured by continuous manufacturing activity: for example, brick making, mining, cement manufacturing, dairy operations, or flour mills. Costs are ascertained for convenient units of output.

Job costing: Under this method, costs are ascertained for each work order separately as each job has its own specifications and scope. Job costing is used, for example, in painting, car repair, decoration, and building repair.

Contract costing: Contract costing is performed for big jobs involving heavy expenditure, long periods of time, and often different work sites. Each contract is treated as a separate unit for costing. This is also known as terminal costing. Projects requiring contract costing include construction of bridges, roads, and buildings.

Batch costing: This method of costing is used where units produced in a batch are uniform in nature and design. For the purpose of costing, each batch is treated as an individual job or separate unit. Industries like bakeries and pharmaceuticals usually use the batch costing method.

Operating costing or service costing: Operating or service costing is used to ascertain the cost of particular service-oriented units, such as nursing homes, busses, or railways. Each particular service is treated as a separate unit in operating costing. In the case of a nursing home, a unit is treated as the cost of a bed per day, while, for busses, operating cost for a kilometer is treated as unit.

Process costing: This kind of costing is used for products that go through different processes. For example, the manufacturing of clothes involves several processes. The first process is spinning. The output of that spinning process, yarn, is a finished product which can either be sold on the market to weavers, or used as a raw material for a weaving process in the same manufacturing unit. To find out the cost of the yarn, one needs to determine the cost of the spinning process. In the second step, the output of the weaving process, cloth, can also can be sold as a finished product in the market. In this case, the cost of cloth needs to be

evaluated. The third process is converting the cloth to a finished product, for example a shirt or pair of trousers. Each process that can result in either a finished good or a raw material for the next process must be evaluated separately. In such multi-process industries, process costing is used to ascertain the cost at each stage of production.

Multiple costing or composite costing: When the output is comprised of many assembled parts or components, as with television, motor cars, or electronic gadgets, costs have to be ascertained for each component, as well as with the finished product. Such costing may involve different methods of costing for different components. Therefore, this type of costing is known as composite costing or multiple costing.

Uniform costing: This is not a separate method of costing, but rather a system in which a number of firms in the same industry use the same method of costing, using agreed-on principles and standard accounting practices. This helps in setting the price of the product and in inter-firm comparisons.

Cost Management Tools

With the focus on cost reduction for various functions, the management looks at various tools for managing and cost control in the challenging business environment. The emphasis is on serving the customers 'needs through different tools. The following are the various tools used in strategic cost management

1. Activity based costing and activity based management.
2. Benchmarking.
3. Just-in-time.
4. Economic Value Addition.
5. Target Costing.
6. Balanced Scorecard.
7. Strategic Cost Management.
8. Value analysis and strategic positional analysis.
9. Managing the capacity costs using the flexible budget techniques
10. Using cost conformance techniques with the cost of quality.

Cost Sheet

Cost sheet is a statement of costs which show the various elements of the cost of goods produced in terms of prime cost, factory cost, cost of production, cost of goods sold, cost of sales and profit or loss. This is typically prepared in regular intervals such as weekly, monthly, quarterly, annually depending on the requirements of the organization.

The format of cost sheet is as under:-

Particulars	**Amount**	**Amount**
Opening Stock of Raw Material	***	
Add: Purchase of Raw materials	***	
Add: Purchase Expenses	***	
Less: Closing stock of Raw Materials	***	
Raw Materials Consumed	***	
Direct Wages (Labour)	***	
Direct Charges	***	
Prime cost (1)		***
Add :- Factory Over Heads:	***	
Factory Rent	***	
Factory Power	***	
Indirect Material	***	
Indirect Wages Supervisor Salary	***	
Drawing Office Salary	***	
Factory Insurance	***	
Factory Asset Depreciation	***	
Works cost Incurred	***	
Add: Opening Stock of WIP	***	
Less: Closing Stock of WIP	***	
Works cost (2)		***
Add:- Administration Over Heads:-	***	
Office Rent	***	
Asset Depreciation	***	
General Charges	***	
Audit Fees	***	
Bank Charges	***	

Counting house Salary Other Office Expenses	*** ***	
Cost of Production (3)	***	***
Add: Opening stock of Finished Goods	***	
Less: Closing stock of Finished Goods	***	
Cost of Goods Sold	****	***
Add:- Selling and Distribution OH:- Sales man Commission Sales man salary Traveling Expenses Advertisement Delivery man expenses Sales Tax Bad Debts	*** *** *** *** *** *** *** ***	
Cost of Sales (5)	***	***
Profit (balancing figure)	***	***
Sales	***	***

Notes:-
(1) Factory Over Heads are recovered as a percentage of direct wages
(2) Administration Over Heads, Selling and Distribution Overheads are recovered as a percentage of works cost.

UNIT – II: COSTING FOR DECISION MAKING

Unit costing, job costing, cost sheet and tender and process costing and their variants, treatment of normal losses and abnormal losses.

Introduction

Under costing, the role of unit costing is an inevitable tool for the industries not only to identify the volume of costs incurred at every level but also to determine the rational price on the commodities in order to withstand among the competitors. The determination of the selling price is being done through the process of determining the cost of the product. After having finalized the cost of the product, the profit margin has to be added in order to derive the final selling price of the product.

Cost sheet is a statement which is prepared periodically to provide detailed cost of a cost unit or cost centre. A cost sheet not only shows the total cost but also the various components of the total cost. Period covered by a cost sheet may be a year, a month or a week, etc.
Cost sheet serves the following purposes:

- It discloses various elements of cost,
- It discloses the per unit cost as well as total cost of production,
- It facilitates preparation of tender price, and
- It facilitates comparison of total cost.

Unit or output costing

Unit or output costing is one of the important objectives of Cost Accounting. For this, it is essential to classify cost into certain constituents or categories. These are known as elements of cost.

COST SHEET

Cost sheet is "A document which provides for the assembly of the detailed cost of a cost centre or cost unit". Cost sheet is a statement, which shows various components of total cost of a product. It classifies and analyses the components of cost of a product. Previous periods data is given in the cost sheet for comparative study. It is a statement which shows per unit cost in addition to Total Cost. Selling price is ascertained with the help of cost sheet.

Cost sheet for the period

Production units

Particulars		Cost Per unit	Total cost
Opening stock of Raw Material	xxx		
Add: Purchases	xxx		
Add: Expenses for purchases	xxx		
	xxx		
Less: Closing stock raw material	xxx		
Cost of material consumed	xxx	xxx	
Direct wages		xxx	
Direct Expenses		xxx	

A Prime Cost →	**xxx**	
Add: Factory Overheads	xxx	
Add : Opening stock of work in progress	xxx	
Less: Closing stock of work in progress	xxx	
B Factory cost or Works cost →	**xxx**	
Add: Administration Expenses	xxx	
C Cost of Production →	**xxx**	
Add: Opening stock of Finished Goods	xxx	
Less: Closing stock of Finished Goods	xxx	
D Cost of Goods Sold →	**xxx**	
Add: Selling and Distribution Overheads	xxx	
E Cost of Sales →	**xxx**	
Profit (or Loss)	xxx	
F Sales →	xxx	

Items not included in cost sheet:

The following items are of financial nature and thus not included while preparing a cost sheet

1. Cash discount
2. Interest paid
3. Preliminary expenses written off
4. Goodwill written off
5. Provision for taxation
6. Provision for bad debts
7. Transfer to reserves
8. Donations
9. Income tax paid
10. Dividends paid
11. Profit/loss on sale of fixed assets
12. Damages payable at law etc.,

Price Quotations or Tenders

Quite often the management has to quote prices of its products in advance or has to submit tenders for goods to be supplied. For this purpose an estimated cost sheet has to be prepared. Such an estimated cost is prepared to show the estimated cost of products to be manufactured. In this cost sheet, cost of direct materials, direct wages and various types of overheads are pre-determined on the basis of past costs after taking into account the present conditions and also the anticipated changes in the future prices level. Overheads are absorbed on the basis of a suitable method of absorption like percentage of direct materials, or wages or machine hour rate etc.

Methods of Costing

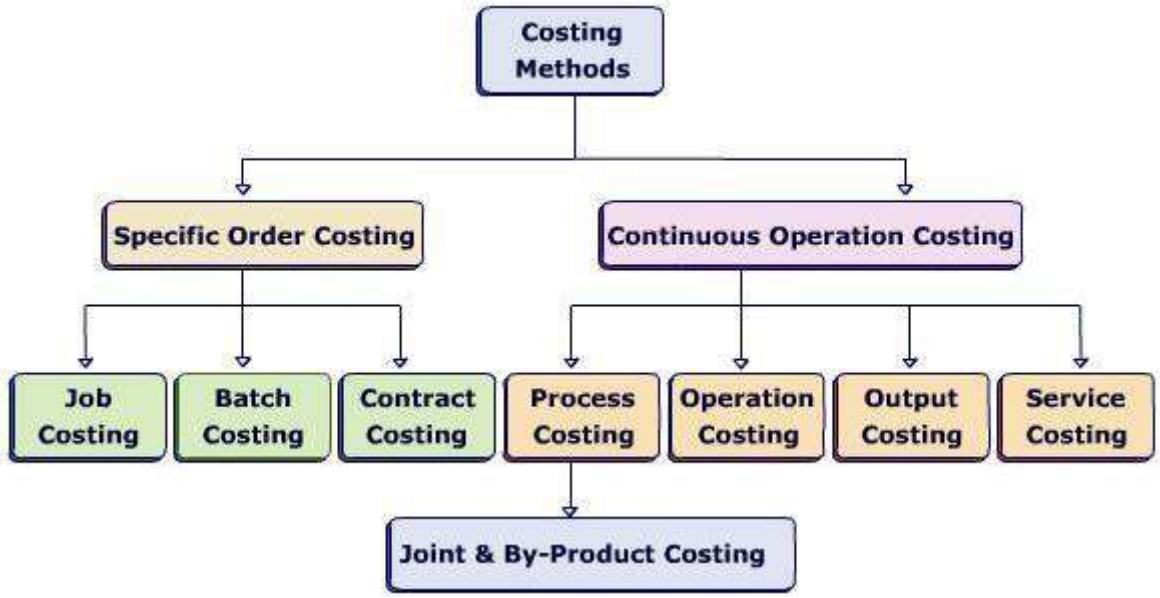
The methods used for the ascertainment of cost of production primarily depend on the manufacturing process and the methods of measuring the departmental and finished goods. Basically, there are two methods of costing:

i. **Specific Order Costing:** This method is applicable where the work consists of separate jobs, batches or contracts authorized by a specific order. Job costing, batch costing and contract costing belong to this category.

ii. **Operation Costing or Continuous Operation Costing:** This method is applicable where standardized goods or services result from a sequence of repetitive and more or less continuous process or operation, to which costs are charged. These costs are averaged over the units produced during the period. Process costing, and service costing can be included in this category.

The following figure shows the different types of costing methods.

Figure 1: Method of Costing



JOB COSTING

Job costing is a type of specific order costing where work is undertaken as an identifiable unit and manufactured according to customer's specific requirement. Under job costing, an individual job or work order is ascertained separately. Job costing is ideal where the products are dissimilar and non-repetitive in nature. Industries where this method of costing is generally applied are printing press, automobile garage, repair shop, ship-building, house building, engine and machine construction, etc.

Objectives of Job Costing

The objectives of job order costing are as follows:

a. To find the cost of production of every job or order and to know the profit or loss made in its execution. This ultimately helps the management to judge the profitability of each job and decide the future course of action.

b. To make more accurate estimates for costs of similar jobs to be executed in future.

c. To control the operational inefficiency by making a comparison of actual costs with estimated costs.

d. To provide a valuation of work-in-progress.

Features of Job Costing

Costs are collected and accumulated for each job, work order or project separately. Each job can be separately identified and hence it becomes essential to analyze the costs according to each job. This method of costing should possess the following features:

- The production is generally against the customers' order but not for stock.
- Each job has its own characteristics and needs special treatment.
- There is no uniformity in the flow of production from department to department.
- Each job is treated as a cost unit under this method of costing.
- Each job is distinctively identified by a production order throughout the production stage.
- The cost of production of every job is ascertained after its completion.

Situations: Job costing is used in the following situations:

a. When jobs are executed for different customers according to their specifications.
b. When no two orders are alike in all respects and each order/job needs special treatment.
c. Where WIP differs from period to period on the basis of the number of jobs in hand at different degrees of completion.
d. When the flow of production from one department to another is not uniform.

Pre-requisites of Job Costing

In order to achieve the purpose of job order costing a considerable amount of clerical work will be involved and to ensure effective and workable system, the following factors are necessary.

a. An appropriate time booking system using either time sheets or piece work tickets.
b. A sound system of production control.
c. Works order, operation tickets, bills of materials and tool requisitions etc., are comprehensive works documentation.

Advantages of Job Costing

The main advantages of job costing are as follows:

i. It provides detailed analysis of costs, which enable the management to determine the operating efficiency of the different factors of production.
ii. Profitability of a job can be known by following this method.
iii. It provides a useful basis for making estimates for similar jobs in the future.
iv. It is very useful in cost plus contracts.
v. It facilitates comparison.
vi. It helps the management in minimizing the spoilage

Disadvantages of Job Costing

i. It is expensive as it involves great deal of clerical work.
ii. It does not facilitate control of costs unless it is used with standard costing.

Batch Costing

This method is also a type of job costing. A batch of similar products is regarded as one job and the cost of this complete batch is ascertained. It is then used to determine the unit cost of the articles produced. It should, however, be noted that the articles produced should not lose their identity in manufacturing operations.

Contract Costing

Although contract costing does not differ in principle from job costing, it is convenient to treat contract cost accounts separately. The term is usually applied to the costing method adopted where large scale contracts at different sites are carried out, as in the case of building construction.

Process Costing

Where a product passes through distinct stages or processes, the output of one process being the input of the subsequent process, it is frequently desired to ascertain the cost of each stage or process of production. This is known as process costing. This method is used where it is difficult to trade the item of prime cost to a particular order because its identity is lost in volume of continuous production. Process costing is generally adopted in textile industries, chemical industries, oil refineries, soap manufacturing, paper manufacturing, tanneries, etc.

Features of Process Costing

The objective of process costing is to find out the cost of each process by identifying the direct costs with the particular process and apportioning the indirect costs i.e. overheads to each process on some suitable basis. The units coming out the process as the finished output are uniform in all the respects and hence the cost per unit is computed by dividing the total cost by the total production units. In case, some units are incomplete at the end of a particular period, equivalent units are worked out of such incomplete units and then the cost per unit is computed

1. The production is in continuous flow and is uniform. All units coming out as finished products are uniform with each other in all respects.
2. The product is manufactured in a continuous flow and hence individual units lose their identity.
3. The unit cost is obtained by dividing the total cost for a particular period by the total output. This is the average cost of the product units.
4. Cost per process is ascertained and cost of each process is transferred to the subsequent process until the finished product emerges.
5. In a particular process normal and abnormal losses emerge. Normal loss is a loss, which is inevitable in any process and thus cannot be avoided or controlled. Any loss, which, is over and above, the normal loss is called as abnormal loss and is to be accounted for separately. For example, if 1000 units are put in Process 1 and it is anticipated that there will be a normal loss of 1% in the process, the output expected is 1,000 – 1% of 1,000 that is 990. If actual production is 980, there is an abnormal loss of 10 units. On the other hand if the production is 995, there is an abnormal gain of 5 units. Abnormal gain and abnormal loss are to be accounted for in the process cost accounts.

6. Sometimes each process may be treated as profit center and so while transferring the cost from one process to another, a percentage of profit is added in the cost of that process. This is known as inter process profit and needs to be accounted for in the process cost accounts.
7. Though the cost per unit is computed by dividing the total cost by the number of units, there can be a problem on incomplete units at the end of a particular accounting period. In such cases equivalent units have to be worked out for computing the cost per unit.

Process costing Procedure:

The essential stages in process costing procedure are:

1. The factory is divided into a number of processes and an account is maintained for each process.
2. Each process account is debited with material cost, labour cost, direct expenses and overheads, allocated or apportioned to the process
3. The output of a process is transferred to the next process in the sequence
4. The finished output of the last process is transferred to the Finished Goods Account

Process Account Format

Particulars	Qty	Rate	Amount	Particulars	Qty	Rate	Amount
To Direct Materials				By Normal Loss			
To Direct Labour				By Abnormal Loss			
To Overheads				By output (Transferred to Nest Process)			
To Abnormal Gain							

Note: Process II and subsequent Process Accounts will be prepared in the same fashion. In the final process, the cost and output will be transferred to the finished goods stock account.

Accounting Adjustments in Process Costing:

In process costing, the following four type's adjustments need to be made in accounts

1. Process Losses – Normal and Abnormal
2. Valuation of work in progress – Equivalent Production
3. Joint Products and by products
4. Inter process profits

Process Losses

Loss of material is inherent during processing operation. The loss of material under different processes arises due to reasons like evaporation or a change in the moisture content etc. Process loss is defined as the loss of material arising during the course of a processing operation and is equal to the difference between the input quantity of the material and its output.

There are two types of material losses

1. Normal Loss
2. Abnormal Loss

Normal Process Loss

That amount of loss which cannot be avoided because of the nature of material, or process is normal process loss. Such a loss is quite expected under normal conditions. It is caused by factors like chemical change, evaporation, withdrawals for tests or sampling, unavoidable spoiled quantities, etc

Accounting Treatment for Normal Loss

The fundamental principle of costing is that the good units should bear the amount of normal loss. Normal loss is anticipated and in a process it is inevitable. The cost of normal loss is therefore not worked out. The number of units of normal loss is credited to the Process Account and if they have some scrap value or realizable value the amount is also credited to the process account. If there is no scrap value or realizable value, only the units are credited to the process account.

Abnormal Loss:

It is defined as the loss in excess of the pre-determined loss (Normal process loss). This type of loss may occur due to the carelessness of workers, a bad plant design or operation, Sabotage etc. Such a loss cannot obviously be estimated in advance. But it can be kept under control by taking suitable measures.

Accounting Treatment for Abnormal Loss

The following procedure followed

1. Allow for Normal Loss
2. After considering Normal Loss, find out the cost per unit in that process. This is done by following formula

$$\text{Cost per unit} = \frac{\text{Total cost – Value of Normal Loss}}{\text{Units Introduced – Normal Loss units}}$$

3. Multiply the cost per unit by the number of units of abnormal units of abnormal loss. This gives the total value of abnormal loss.
4. Credit the relevant Process Account with the quantity and value of abnormal loss
5. The balance figure in the Process Account is the cost of good units produced in the process. This can also be found by multiplying cost per unit with the number of good units produced.
6. Open "Abnormal Loss Account" and debit it with the quantity and value of Abnormal Loss shown in the Process Account. Sale proceeds from Abnormal Loss are credited to Abnormal Loss Account. Any balance left in this account is net loss and transferred to Costing Profit and Loss Account.

Abnormal Gain or Effectiveness

If the actual production units are more than the anticipated units after deducting the normal loss, the difference between the two is known as abnormal gain. The valuation of abnormal gain is done in the same manner like that of the Abnormal Loss. The units and the amount is debited to the relevant Process Account and credited to the Abnormal Gain Account, it is ultimately transferred to Costing Profit and Loss Account.

Work in Progress

Process costing mainly deals with continuous type of production. At the end of the accounting period, there may be some work-in-progress is done in terms of equivalent or effective production.

Equivalent Production

In the case of process type of industries, it is possible to determine the average cost per unit by dividing the total cost incurred during a given period of time by the total number of units produced during the same period. But this is hardly the case in most of the process type industries where manufacturing is a continuous activity. The reason is that the cost incurred in

such industries represents the cost of work carried on opening work-in-progress, closing work-in- progress and completed units. Thus to ascertain the cost of each completed unit it is necessary to ascertain the cost of work-in-progress in the beginning and at the end of the process.

The valuation of work-in-progress presents a good deal of difficulty because it has units under different stages of completion from those in which work has just begun to those which are only a step short of completion. Work-in-progress can be valued on actual basis, *i.e.*, materials used on the unfinished units and the actual amount of labour expenses involved. However, the degree of accuracy in such a case cannot be satisfactory. An alternative method is based on converting partly finished units into equivalent finished units.

Equivalent production represents the production of a process in terms of completed units. Work-in-progress at the end of an accounting period are covered into equivalent completed units. This is done by the following formula

Equivalent units = No. of units work in progress X Degree of completion in %

Evaluation of Equivalent Production

After work-in-progress has been converted into equivalent completed units, the following steps are taken to evaluate it.

a) Find out the total cost(net) for each element of cost, i.e., material, labour and overhead, Scrap value of Normal Loss is deducted form the Material cost.
b) Ascertain the cost per unit of equivalent production separately for each element of cost. This is done by dividing the total cost of each element by the respective number of equivalent units.
c) At this rate of cost per unit, ascertain the value of finished production and work-in-progress

For the purpose of computation of equivalent production and its evaluation the following three statements are generally prepared.

1. Statement of Equivalent Production
2. Statement of Cost (Per Unit)
3. Statement of Evaluation

Valuation of work-in-progress

For the valuation of work-in-progress following three methods are available:

a. First-in-First out (FIFO) method.
b. Last-in-First out (LIFO) method.
c. Average Cost method (or weighted average cost method).

(1) First-in-first-out method*:* Under this method the units completed and transferred include completed units of opening work-in-progress and subsequently introduced units. Proportionate cost to complete the opening work-in-progress and that to process the completely processed units during the period are derived separately. The cost of opening work-in-progress is added to the proportionate cost incurred on completing the same to get the complete cost of such units. Complete cost of such units plus cost of units completely processed constitute the total cost of units transferred. In this method the closing stock of Work in progress is valued at current cost.

(2) Last-in first-out Method: According to this method units lastly entering in the process are the first to be completed. This assumption has a different impact on the costs of the completed units and the closing inventory of work-in-progress. The completed units will be shown at their current cost and the closing inventory of work-in-progress will continue to appear at the cost of the opening inventory of work-in-progress.

(3) ***Average Cost Method:*** Under this method, the cost of opening work-in-progress and cost of the current period are aggregated and the aggregate cost is divided by output in terms of completed units. The equivalent production in this case consists of work-load already contained in opening work-in-process and work-load of current period.
The main difference between FIFO method and average method is that units of opening work in progress and their cost are taken in full under average method while under FIFO method only the remaining work done now is considered.

Joint products and By Products
Agricultural product industries, chemical process industries, sugar industries, and extractive industries are some of the industries where two or more products of equal or unequal importance are produced either simultaneously or in the course of processing operation of a main product.

In all such industries, the management is faced with the problems such as, valuation of inventory, pricing of product and income determination, problem of taking decision in matters of further processing of by-products and/or joint products after a certain stage etc. In fact the various problems relate to

(i) Apportionment of common costs incurred for various products and
(ii) Aspects other than mere apportionment of costs incurred upto the point of separation.

Joint Products **-** Joint products represent "two or more products separated in the course of the same processing operation usually requiring further processing, each product being in such proportion that no single product can be designated as a major product".

In other words, two or more products of equal importance, produced, simultaneously from the same process, with each having a significant relative sale value are known as joint products.
For example, in the oil industry, gasoline, fuel oil, lubricants, paraffin, coal tar, asphalt and kerosene are all produced from crude petroleum. These are known as joint products.

Co-Products **-** Joint products and co-products are used synonymously in common parlance, but strictly speaking a distinction can be made between two. Co-products may be defined as two or more products which are contemporary but do not emerge necessarily from the same material in the same process. For instance, wheat and gram produced in two separate farms with separate processing of cultivation are the co-products. Similarly timber boards made from different trees are co-products.

By-Products **-** These are defined as "products recovered from material discarded in a main process, or from the production of some major products, where the material value is to be considered at the time of severance from the main product." Thus by-products emerge as a result of processing operation of another product or they are produced from the scrap or waste of materials of a process. In short a by-product is a secondary or subsidiary product which emanates as a result of manufacture of the main product.
The point at which they are separated from the main product or products is known as split-off point. The expenses of processing are joint till the split –off point.

Examples of by-products are molasses in the manufacture of sugar, tar, ammonia and benzole obtained on carbonisation of coal and glycerine obtained in the manufacture of soap.

Distinction between Joint-Product and By-Product - The main points of distinction as apparent from the definitions of Joint Products and By-Products are :

a) Joint products are of equal importance whereas by-products are of small economic value.

b) Joint products are produced simultaneously but the by-products are produced incidentally in addition to the main products.

Joint Products:

Joint products are the result of utilization of the same raw material and same processing operations. The processing of a particular raw material may result into the output of two or more products.

- All the products emerging from the manufacturing process are of the same economic importance. In other words, the sales value of those products may be more or less same and none of them can be termed as the major product.
- The products are produced intentionally which implies that the management of the concerned organization has intention to produce all the products.
- Some of joint products may require further processing or may be sold directly after the split off point.
- The manufacturing process and raw material requirement is common up to a certain stage of manufacturing. After the stage is crossed, further processing becomes different for each product. This stage is known as 'split off' point. The expenditure incurred up to the split off point is called as joint cost and the apportionment of the same to different products is the main objective of the joint product accounting.
- The management has little or no control over the relative quantities of the various products that will result.
- Joint products are commonly produced in industries like, chemicals, oil refining, mining, meatpacking, automobile etc. In oil refining, fuel, oil, petrol, diesel, kerosene, lubricating oil are few examples of the joint products.

By –Products:

By-Product: The term 'by-products' is sometimes used synonymously with the term 'minor products'. The by-product is a secondary product, which incidentally results from the manufacture of a main product. By–products are also produced from the same raw material and same process operations but they are secondary results of operation. The main difference between the joint product and byproduct is that there is no intention to produce the by-product while the joint products are produced intentionally. The relationship between the by-product and the main product changes with changes in economic or industrial conditions or with advancement of science. What was once a by-product of an industry may become a main product and one time main product may become a by-product subsequently? For example, during the Second World War, glycerin, a by-product in soap making was in such a demand that it became virtually the main product while the soap was reduced to the by product. What is by-product of one industry may be a main product of another industry. Normally in continuous process industry, the by–products emerge. Some of the examples of by-products are given below:

- In sugar manufacturing, bagasse [residual of sugarcane after the juice is extracted], molasses [residual of sugarcane juice after the impurities are taken out] and press mud are the three by-products, which emerge at different stages of manufacturing.

- In cotton textile, the cotton-seed, which is taken out before the manufacturing process, is a byproduct.
- The term 'multi product' or 'co-products is occasionally used synonymously with the term joint products. However the difference between the multi-products and co-products is that co-products do not necessarily arise from the same process. Similarly change in the production of the co-product will not necessarily result in change in the production of the other.

Split off Point:
This is a point up to which, input factors are commonly used for production of multiple products, which can be either joint products or by-products. After this point, the joint products or byproducts gain individual identity. In other words, up to a certain stage, the manufacturing process is the same for all the products and a stage comes after which, the individual processing becomes different and distinct. For example, in a dairy, several products like, milk, ghee, butter, milk powder, ice-cream etc. may be produced. The common material is milk. The pasteurization of milk is a common process for all the products and after this process, each product has to be processed separately. This point is of special significance in the accounting of joint product and by-products because the joint cost incurred before this point is to be apportioned appropriately in the joint products.

Joint Costs:
Joint cost is the pre separation cost of commonly used input factors for the production of multiple products. In other words, all costs incurred before or up to the split off point are termed as joint costs or pre separation costs and the apportionment of these costs is the main objective of joint product accounting. Costs incurred after the split off point are post separation costs and can be easily identified with the products.

Accounting for Joint Product Cost
The manufacturing process is same up to a certain stage and after crossing that stage; each product has distinct manufacturing process. Therefore the main problem is apportionment of the joint cost or the cost incurred up to the split off point. The total cost of production of the joint product will be cost incurred up to the split off point duly apportioned plus the cost incurred after the split off point. There is no problem of charging the cost incurred after the split off point as the cost can be identified easily. The main problem therefore is that of apportionment of the joint cost and the following methods are used for apportioning the same. Methods of Apportionment of Joint Costs to Joint Products: The following methods are used for apportionment:

I. Physical Quantity Method:
Under this method, cost apportionment is made in proportion to the volume of production. These physical measures may be units, pounds, liters, kilos, tones, gallons etc. The following example will clarify the point.

Product	Quantity - kg	Proportion to total	Cost allocated	Cost per kg
A	30, 000	1/2	Rs.1,80,000	Rs.6
B	20, 000	1/3	Rs.1,20,000	Rs.6
C	10, 000	1/6	Rs.60,000	Rs.6
Total	60, 000		Rs.3,60,000	Rs.6

II. Average Unit Cost Method:

Under this method, the joint cost is apportioned to the joint products by computing the average unit cost of the product units. The average unit cost is computed by dividing the total manufacturing cost by the total number of units produced of all products. This method is useful where all the products produced are uniform with each other in all the respects. This method will not be useful if the production units are not similar with each other.

III. Weighted Average Method:

Under this method, weights are assigned to each unit based upon size of the units, difference in type of labor employed, material consumption, market share, efforts of labor required and so on. The joint cost is apportioned on the basis of the weights assigned to each product. This method is highly useful if the weights assigned are on objective basis. If subjective element creeps in, the method may not give accurate results.

IV. **Selling Price Method*:***

Under this method, the joint cost is apportioned on the basis of sales value at the split off point. The logic is that a product should bear the share of the joint cost according to its sale price. If sales price is higher than that of the other products, more share of joint cost should be charged to that product and if it is comparatively less than that of other products, less share of joint cost should be charged to the same. Though logically this method seems to be sound, in practice, charging higher share of joint cost to the product with higher sales value may not be justified due to the fact that lesser efforts are required for manufacturing of the same.

Accounting for by-products

By-products are jointly produced products of minor importance and do not have separate costs until the split off point. They are not produced intentionally but are emerging out of the manufacturing process of the main products. The following methods are used for accounting of by-products. The methods are broadly divided into Non-Cost Methods and Cost Methods.

Non-Cost Methods: The following methods are included in this category.

I. Other income or miscellaneous income method:

Under this method, sales value of by-products is credited to the Profit and Loss Account and no credit is given in the cost accounts. The credit to the profit and loss account is treated as other income or miscellaneous income. No effort is made for ascertaining the cost of the product. No valuation of inventory is made and all costs and expenses are charged to the main product. This is the least scientific method and is used where the sales value of the by-product is negligible.

II. Total sales less total cost:

Under this method, sales value of by-product is added to the sales value of the main product. Further the total cost of the main product including the cost of the by-product is deducted from the sales revenue of the main product and by-product. All costs and expenses are charged to the main product.

III. Total cost less sales value of by-product:

In this method, the total cost of production is reduced by the sales value of the by-product. This method seems to be more acceptable because like waste and scrap, by-product revenue reduces the cost of major products.

IV. Total cost less sales value of by-products after setting off selling and distribution overheads of by-products:

Sales value of the by-product minus the selling and distribution overheads of byproduct is deducted from the total cost. Selling and distribution overheads are charged against by-products actually sold.

V. **Reverse cost method*:***

This method is based on the view that the sales value of the by-product contains an element of profit. It is agreed that this element of profit should not be credited to the profit and loss account. The cost of by-product is arrived at by working backwards. Selling price of the by-product is deflated by an assumed gross profit margin. Thus under this method, sales value of the by-product is first reduced by, an estimated profit margin, selling and distribution expenses and then the post split off costs and then the cost of the main product is thus reduced by this net figure.

Cost Methods: The following methods are included in this category.

I. Replacement or opportunity cost method:

If the by-products are consumed captively, they are valued at the opportunity cost method or replacement cost method. This means the cost which would have been incurred had the by-product been purchased from outside. For example, bagasse, which is one of the main by-product of sugar industry and which is used for the factory as a fuel in the boiler is valued at the market value, i.e. the price that would have been paid if it would have been purchased from outside.

II. Standard cost method:

Under this method, the by-product is valued at the standard cost determined for each product. The standard cost may be based on technical assessment. Standard cost of the by-product is credited to the process account of the main product. Accordingly, the cost control of main product can be exercised effectively.

III. Joint cost proration:

Where the by-product is of some significance, it is appropriate that the joint costs should be apportioned between the main products and by-products on a most suitable and acceptable method. Thus in this method, no distinction is made between the joint product and byproduct. Industries, where the by-products are quite important, use this method. For example, in a petroleum refinery, gas was earlier considered as a by-product. Now it has assumed the importance like petrol, diesel etc. and is being treated as joint product. Accordingly, the joint cost is prorated between the joint product and the by-product.

Inter Process Profits

The output of one process is transferred to the subsequent process at cost price. However sometimes, the transfer is made at cost + certain percentage of profit. This is done when each process is treated as a profit center. In such cases, the difference between the debit and credit side of the process account represents profit or loss and is transferred to the Profit and Loss Account. The stocks at the end and at the beginning contain an element of unrealized profits, which have to be written back in this method. If the profit element contained in the closing inventory is more than the profit element in the opening inventory, profit will be overstated and vice versa. Profit is realized only on the goods sold, thus to obtain the actual profit the main task would be to calculate the profit element contained in the inventories. In order to compute the profit element, in closing inventory and to obtain the net realized profit for a period, three columns have to be shown in the ledger for showing the cost, unrealized profit and the transfer price.

Advantages:

1. Comparison between the cost of output and its market price at the stage of completion is facilitated.
2. Each process is made to stand by itself as to the profitability.

Disadvantages:
1. The use of inter-process profits involves complication.
2. The system shows profits which are not realised because of stock not sold out.

Operation Costing

This method is adopted when it is desired to ascertain the cost of carrying out an operation in a department, for example, welding. For large undertakings, it is frequently necessary to ascertain the cost of various operations.

Unit or Single or Output or Single-output Costing

This method is used where a single article is produced or service is rendered by continuous manufacturing activity. The cost of whole production-cycle is ascertained as a process or series of processes and the cost per unit is arrived at by dividing the total cost by the number of units produced. The unit of costing is chosen according to the nature of the product. Cost statements or cost sheets are prepared under which various items of expenses are classified and the total expenditure is divided by total quantity produced in order to arrive at unit cost of production. This method is suitable in industries like brick-making, collieries, flour mills, cement manufacturing, etc. This method is useful for the assembly department in a factory producing a mechanical article e.g., bicycle.

Operating Costing

This method is applicable where services are rendered rather than goods produced. The procedure is same as in the case of single output costing. The total expenses of the operation are divided by the units and cost
per unit of service is arrived at. This method is employed in railways, road transport, water supply undertakings, telephone services, electricity companies, hospital services, municipal services, etc.

Multiple or Composite Costing

Some products are so complex that no single system of costing is applicable. It is used where there are a variety of components separately produced and subsequently assembled in a complex production. Total cost is ascertained by computing component costs which are collected by job or process costing and then aggregating the costs through use of the single or output costing system. This method is applicable to manufacturing concerns producing motor cars, aeroplanes, machine tools, type-writers, radios, cycles, sewing machines, etc.

TECHNIQUES OF COSTING

The following techniques of costing are used by the management for controlling costs and making managerial decisions:

Historical (or Conventional) Costing

It refers to the determination of costs after they have been actually incurred. It means that cost of a product can be calculated only after its production. This system is useful only for determining costs, but not useful for exercising any control over costs. It can serve as a guidance for future production only when conditions continue to be the same in future.

Standard Costing

It refers to the preparation of standard costs and applying them to measure the variations from standard costs and analysing the variations with a view to maintain maximum efficiency in production. What is done in this case is that costs of each article are determined before-hand under current and anticipated conditions, but sometimes they are determined before-hand under normal or ideal conditions. Then actual costs are compared with the pre-determined costs and deviations known as variances are noted down. Thereafter, the reasons for the variances are ascertained and necessary steps are taken to prevent their recurrence.

Marginal Costing

It refers to the ascertainment of marginal costs by differentiating between fixed costs and variable costs and the effect on profit of the changes in volume or type of output. In this case, only the variable costs are charged to products or operations while fixed costs are charged to profit and loss account of the period in which they arise.

Uniform Costing

A technique where standardized principles and methods of cost accounting are employed by a number of different companies and firms, is termed as uniform costing. This helps in comparing performance of one firm with that of another.

Direct Costing

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

Absorption Costing

The practice of charging all costs both variable and fixed to operation, process or products or process is termed as absorption costing.

Activity Based Costing

In a business organization, Activity-Based Costing (ABC) is a method of assigning the organization's resource costs through activities to the products and services provided to its

customers. It is defined as a technique of cost attribution to cost units on the basis of benefits received from indirect activities, e.g. ordering, setting up, assuring quality. ABC involves identification of costs with each cost driving activity and making it as the basis of apportionment of costs over different products or jobs on the basis of the number of activities required for their completion. It is basically used for apportionment of overheads costs in an organisation having products that differ in volume and complexity of production. Under this technique, the overhead costs of the organisation are identified with each activity which is acting as a cost driver i.e. the the cause for incurrence of overhead cost. Such cost drivers may be purchase orders issued, quality inspections, maintenance requests, material receipts, inventory movements, power consumed, machine time, etc. Having identified the overhead costs with each cost centre, cost per unit of cost driver can be ascertained. The overhead costs can be assigned to jobs on the basis of number of activities required for their completion. This is generally used as a tool for understanding product and customer cost and profitability. As such, ABC has predominately been used to support strategic decisions such as pricing, outsourcing and identification and measurement of process improvement initiatives.

ABC principles are used: (i) to focus management attention on the total cost to produce a product or service, and (ii) as the basis for full cost recovery. Support services are particularly suitable for activity-based resourcing because they produce identifiable and measurable units of output.

Activity-Based Costing encourages managers to identify which activities are value added—those that will best accomplish a mission, deliver a service, or meet a customer demand. It improves operational efficiency and enhances decision-making through better, more eaningful cost information.

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Subject Code	**: 14MBAFM305**	**IA Marks**	**: 50**
No. of Lecture Hours/Week	**: 04**	**Exam Hours**	**: 03**
Total No. of Lecture Hours	**: 56**	**Exam Marks**	**: 100**
Practical Component	**: 01 Hour / Week**		

Module I

Introduction to Cost Management – Cost Accounting to Cost Management – Elements of costs – classification of costs – Methods of costing – Cost Management Tools – A Strategic View to Cost Management – Preparation of a Cost Sheet.

Module II

Overheads, Classification and Collection, Difference between Cost Allocation and Cost Apportionment, (Full-fledged Problems on Primary and secondary distribution, Simultaneous equations, Absorption of overhead, Theory on under and Over absorption of Overhead).

Module III

Marginal Costing – Nature and Scope – Applications – Break even charts and Point, Decision Making (all types with full problems) Differential Cost Analysis, Advantages and Disadvantages of Marginal Costing.

Module IV

Budgetary Control – Objectives of Budgetary control, Functional Budgets, Master Budgets, Key Factor Problems on Production and Flexible Budgets.

Standard Costing – Comparison with Budgetary Control, analysis of variances, simple problems on Material and Labour Variances Only.

Module V

Demerits of Traditional Costing, Activity Based Costing, Cost Drivers, Cost Analysis under ABC (Unit level, Batch level and Product Sustaining Activities), Benefits and weaknesses of ABC, Simple Problems under ABC.

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Module VI

Cost Audit – Objectives, Advantages, Areas and Scope of Cost Audit, Cost Audit in India – Practical – Read the contents of the report of Cost Audit and the annexure to the Cost Audit Report.

Management Audit – Aims and the objectives, Scope of Management Audit.

Module VII

Reporting to Management – Purpose of reporting – Requisites of a good report, Classifications of Report, Segment reporting, Applicability of Accounting Standard 17, Objectives, Users of Segment reporting. Cost Reduction, and Cost Control, Target Costing – its Principles, Balanced Scorecard as a performance measure – Features, Purpose, Reasons for use of Balanced Scorecard.

RECOMMENDED BOOKS:

1. Cost Accounting: Theory & Practice – Bhabatosh Banerjee 13/e, PHI.
2. A text book of cost and management accounting – Arora M N, 11/e, Vikas.
3. Cost Accounting – Jawaharlal & Seema Srivastava, 4/e, TMH.
4. Accounting & Costing for Management – Sinha P K, Excel Books, 2010

REFERENCE BOOKS:

1. Cost Accounting – Khan & Jain, TMH.
2. Principles and Practice of Cost Accounting – Bhattacharyya, 3/e, PHI.
3. Management Accounting – Khan M Y & Jain P K, 6/e, McGraw Hill, 2012.

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Module I

Introduction to Cost Management – Cost Accounting to Cost Management – Elements of costs – classification of costs – Methods of costing – Cost Management Tools – A Strategic View to Cost Management – Preparation of a Cost Sheet.

Cost Accounting to Cost Management

According to the dictionary meaning cost is the price paid for something. In other words cost is the amount of resources used for something which must be measured in terms of money. Cost is defined as the amount of expenditure whether actual or notional incurred on or attributable to a given thing or to ascertain the cost of a given thing.

According to CIMA, London, "costing is the techniques and processes of ascertaining cost".

In simple, it is the methods used and the actual process involved in cost finding. The technique of costing involves two fundamental step namely:

a. Collection and classification of expenditure according to the cost elements and,

b. Allocation and apportionment of the expenditure to the cost centers or cost units.

Cost Accounting deals with collection, analysis of relevance of cost data for interpretation and presentation. CIMA defines cost accounting "as the process of accounting for costs from the point at which the expenditure is incurred or committed to the establishment of its ultimate relationship with cost centers and cost units."

Cost management is the process of planning and controlling the budget of a business. Cost management is a form of management accounting that allows a business to predict impending expenditures to help reduce the chance of going over budget.

Cost management is the process of effectively planning and controlling the costs involved in a business. It is considered one of the more challenging tasks in business management. Generally, the costs or the expenses in a business are recorded by a team of experts using expense forms. The process involves various activities such as collecting, analyzing, evaluating and reporting cost statistics for budgeting. By implementing an effective cost management system, a company's overall budgeting can be brought under control.

The cost management aims:

1. To develop a system such that the product costs / service costs can be accurately calculated.
2. To assess the overall performance of a product through its life cycle.
3. To find out the process of linking the various activities in a logical and rational manner so that they can be improved upon.
4. To control the costs at every stage as much as possible.
5. To evaluate the measures to be introduced in the process of controlling the costs.
6. To link all the activities of the organization to the basic management objectives.
7. To measure the variances form the actually planned goals.
8. To reset the activities towards the organizational goals.

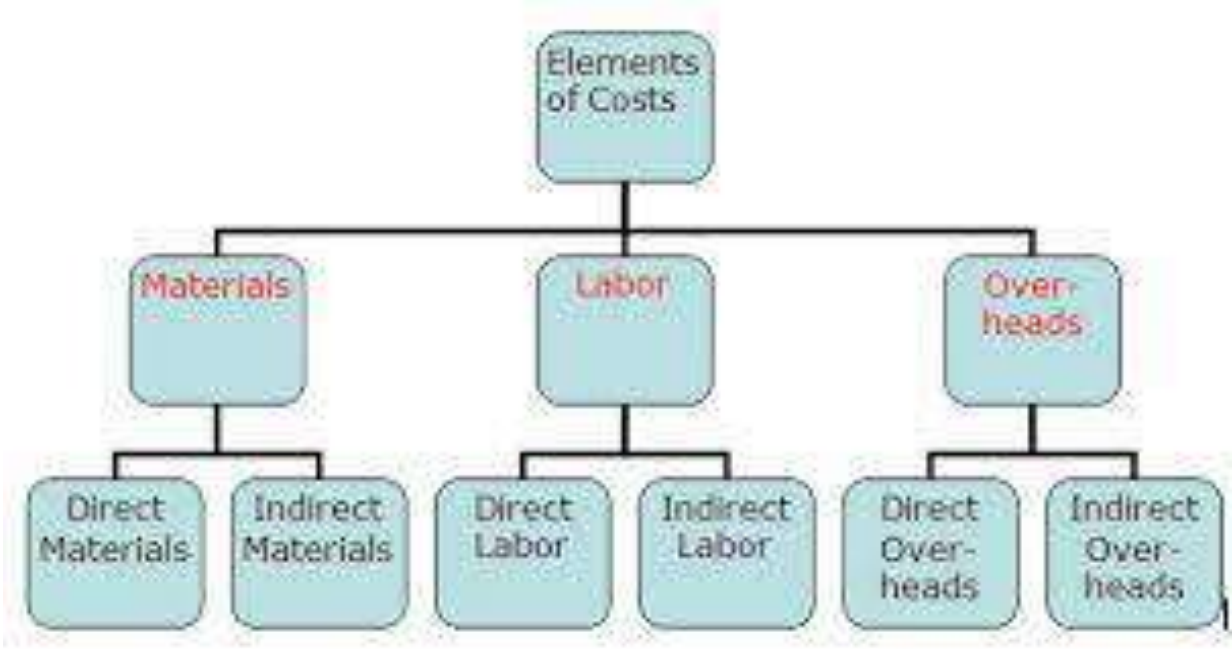
Elements of costs

Basic cost elements are:

1. Raw materials
2. Labor
3. expenses/overhead

- Material (Material is a very important part of business)
  - Direct material/Indirect material
- Labor
  - Direct labor/Indirect labor
- Overhead (Variable/Fixed)
  - Production or works overheads
  - Administration overheads
  - Selling overheads

- Distribution overheads
- Maintenance & Repair
- Supplies
- Utilities
- Other Variable Expenses
- Salaries
- Occupancy (Rent)
- Depreciation
- Other Fixed Expenses



There are broadly three elements of cost - (1) material, (2) labour and (3) expenses.:

The substance from which the product is made is known as material. It may be in a raw state-raw material, e.g., timber for furniture and leather for shoe, etc. It may j also be in manufactured state-components, e.g., battery for car, speaker for radio, etc, Materials can be direct and indirect.

Direct Material

All materials which become an integral part of the finished product, the cost of which are directly and completely assigned to the specific physical units and charged to the prime cost, are known as direct material. The following are some of the materials that fall under this category:

(a) Materials which are specifically purchased; acquired or produced for a particular job, order or process.

(b) Primary packing material (e.g. carton, wrapping, cardboard, etc.)

(c) Materials passing from one process to another as inputs.

In order to calculate the cost of material, expenses such as import duties, dock charges, transport cost of materials are added to the invoice price.

Material considered direct at one time may be indirect on other occasion. Nail used in manufacturing wooden box is treated as direct material, but treated as indirect material when used to repair the factory building.

Indirect Material: All materials, which cannot be conveniently assigned to specific physical units, are termed as 'indirect material'. Such commodities do not form part of the finished products. Consumable stores, lubrication oil, stationery and spare parts for the machinery are termed as indirect materials.

Labour

Human efforts used for conversion of materials into finished products or doing various jobs in the business are known as labour. Payment made towards the labour is called labour cost. It can also be direct and indirect.

Direct Labour: Direct labour is all labour expended and directly involved in altering the condition, composition or construction of the product. The wages paid to skilled and unskilled workers for manual work or mechanical work for operating machinery, which can be specifically allocated to a particular unit of production, is known as direct wages or direct labour cost. Hence, 'direct wage' may be defined as the measure of direct labour in terms of money. It is specifically and conveniently traceable to the specific products Wages paid to the goldsmith for making gold ornament is an example of direct labour.

Indirect Labour: Labour employed to perform work incidental to production of goods or those engaged for office work, selling and distribution activities are known as 'indirect labour'. The wages paid to such workers are known as 'indirect wages' or indirect labour cost.

Example: Salary paid to the driver of the delivery van used for distribution of the product.

Expenses

All expenditures other than material and labour incurred for manufacturing a product or rendering service are termed as 'expenses'. Expenses may be direct or indirect.

Direct Expenses: Expenses which are specifically incurred and can be directly and wholly allocated to a particular product, job or service are termed as 'direct expenses'. Examples of such expense are: hire charges of special machinery hired for the fob, carriage inward, royalty, cost of special and specific drawings, etc. These are also known as 'chargeable expenses'.

Indirect Expenses: All expenses excluding indirect material and indirect labour, which cannot be directly and wholly attributed to a particular product, job or service, are termed as 'indirect expenses'. Some examples of such expenses are: repairs to machinery, insurance, lighting and rent of the buildings.

Classification of Costs

Costs may be classified on different bases. They can be classified as follows:

1. By time (historical, predetermined)
2. By nature of elements (material, labour, overhead)
3. By association (product or period)
4. By traceability (direct, indirect)
5. By changes in activities or volume (fixed, variable, semi-variable)
6. By function (manufacturing, administration, selling, research and development)
7. Controllability (controllable, non-controllable)
8. Analytical and decision-making (marginal, uniform, opportunity, sunk, differential etc.)

9. By nature of expense (capital, revenue)

10. Miscellaneous (conversion, traceable, normal, total)

Classification on the Basis of Time

Costs can be classified into historical costs and predetermined costs.

Historical costs: Historical costs are determined after they are incurred actually. When production is completed, i.e., products reached their final stage of finished status, costs are available and on that basis costs are ascertained. Only on the basis of actual operations, costs are accumulated. Hence they are objective in nature.

Predetermined costs: Costs are calculated before they are incurred, i.e., before the production process is completed.

These predetermined costs may further be classified into estimated costs and standard costs

Estimated costs: Costs are estimated before goods are produced. As these are purely estimates, they lack accuracy.

Standard costs: These costs are also predetermined. But certain factors are analysed with care before setting up costs. Standard cost is not only a concept of cost but a technique or method of costing also.

Classification by Nature or Elements

Elements of costs may be broadly divided into material, labour and expenses.

Direct costs

In general, production is carried on in different cost centres. Costs which can be directly identifiable with cost centres, processes or production units are known as direct costs.

Indirect Costs

If costs cannot be identifiable with cost centres or cost units, they are termed as "indirect costs". Such costs that cannot be easily identifiable with cost centres have to be apportioned on some equitable basis. These terms should be understood properly, as the same will be applied in case of materials, labour and wages.

Material Costs

Commodities or substances from which products are produced are called materials. They may be further divided into direct and indirect. The term "direct" means that which can be identified with and allocated to cost centres and cost units. The term "indirect" means that which cannot be allocated but can be apportioned to, or absorbed by, cost centres and cost units.

Direct Materials

Direct materials are those materials which enter into and form part of the product, e.g., wood in furniture, chemicals in drugs, leather in shoes.

Direct materials include:

1. All materials specially purchased or requisitioned for a particular process or job or order.
2. All components—purchased or produced.
3. All materials passing from one process to another
4. All primary Packing Material.

Indirect materials: Materials which cannot be traced as part of the product are known as indirect materials. Indirect materials include:

1. Fuel, lubricating oil, grease etc. (for maintenance of plant and machinery)
2. Tools of small value for general use.
3. Consumable stores
4. Printing and stationery materials
5. Stores of small value used

Labour Costs

It can also be classified into direct labour and indirect labour.

Direct labour

Where employees are employed directly in making the product and their work can be easily identified in the process of conversion of raw materials into finished goods, such labour is called

direct labour. The cost incurred on direct labour is called direct wages. Example: Wages paid to the driver of a bus in a transport service.

Indirect labour

Labour employed in the works on factory which is ancillary to production is known as indirect labour. The cost incurred on indirect labour is called indirect wages. These costs may not be traced to specific units of output. Wages which cannot be directly identified with a job or process are treated as indirect wages. Example: wages of store keepers, time keepers, supervisors etc.

Expenses Costs

Expenses also can be direct and indirect.

Direct expenses

Direct expenses do not include direct material cost and direct labour cost. These expenses are incurred in respect of a specific product. Example: cost of special pattern, drawing or layout; secret formula, hire charges of machinery to execute an order, consultancy fees to a specific job. The latest trend in cost accounting is that these expenses are not taken into account. The terminology of CIMA is also of this view. Generally, direct expenses form a small part of total cost.

Indirect expenses: Expenses which cannot be charged to production directly and which are neither indirect material cost nor indirect wages costs are treated as indirect expenses. Examples: Rent, rates, taxes, power, insurance, depreciation.

Overheads

Overheads include the cost of indirect material, indirect labour and indirect expenses. Overheads may be classified into (i) production or manufacturing overheads, (ii) administrative overheads), (iii) selling overheads and (iv) distribution overheads.

Production or factory overhead: It is the aggregate of indirect material cost, indirect wages and indirect expenses incurred in respect of manufacturing activity. It commences with the supply of raw materials and ends with the primary packing of finished goods.

Administration overhead: It is the aggregate of indirect material cost, indirect wages and indirect expenses incurred for policy formulation, control and administration. Example: Directors' remuneration.

Selling overhead: It is the cost of creating sales and retaining customers. It is the aggregate of all indirect material costs, indirect wages and indirect expenses incurred in creating and stimulating demand for a firm's products and securing orders. Example: advertisement, publicity expenses.

Distribution overhead: It is the aggregate of indirect material cost, indirect wages and indirect expenses incurred in preparing the packed products for despatch and making them available to customers. Example: rates and taxes for finished goods, godown expenses.

Association with the Product (Costs in Their Relation to Product)

Prime Cost

Prime cost is the aggregate of direct material cost, direct wages and direct expenses.

Conversion cost:

Conversion cost is the aggregate of direct wages and factory overhead. It is the cost incurred in the factory for the conversion of raw materials into finished goods.

Product Cost

Product Costs included in inventory values are called product costs. In manufacturing organizations, raw material costs and cost incurred in the conversion of raw materials into finished products are called product cost or inventory cost.

Period costs:

Period costs are costs that are charged against the revenue of a period of time in which they are incurred. Period costs are incurred on the basis of time like rent and salaries. Period costs include selling and distribution costs and administration costs. Since they are not directly associated with the product, they are not assigned to the product. They are charged to the period in which they are incurred and are to be treated as expenses. In this context, one has to distinguish between expense and expenditure. Expense is nothing but expired cost or expenditure. An organization incurs expenditure in order to acquire goods and services. The

same can be said to have expired when consumption takes place, meaning thereby that it has given the intended benefit. Thus, the cost of acquisition of goods for re-sale is an expenditure. But it becomes an expense when the goods are sold and is shown in the profit and loss account.

Joint costs: Joint costs arise when two or more products are processed at the same time or in a single operation or from a common material. To apportion joint costs among products is not an easy affair. If two or more products are produced from the same raw materials (e.g., petrol, diesel, kerosene), joint costs are incurred up to the point of separation.

Accounting Period - Wise Classification of Costs

Capital expenditure: It may be defined as expenditure which results in the acquisition of or increase in an asset, or pertains to the extension or enhancement of earning capacity at a smaller cost. A capital expenditure is intended to benefit future periods. It is classified as a fixed asset. Example: Costs of acquiring land, building and machinery.

Revenue expenditure: This expenditure occurs for the maintenance of assets in working condition and not intended for increasing the revenue-earning capacity. A revenue expenditure benefits the current accounting period. It is treated as an expense.

For matching of costs and revenues, the distinction between capital expenditure and revenue expenditure is inevitable.

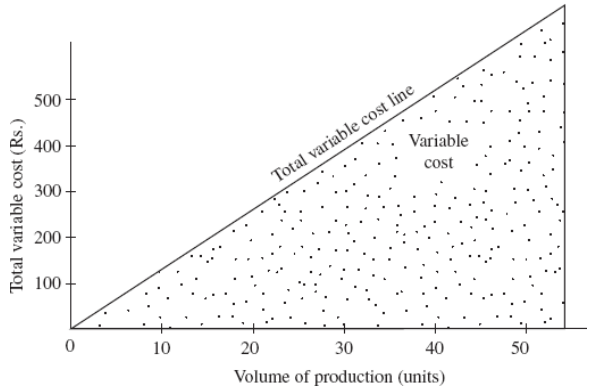
Behaviour-Wise Classification of Costs

Variable Cost

The terminology of CIMA defines variable cost as "a cost which tends to follow (in the short-term) the level of activity". Variable costs are also known as marginal costs. Variable costs vary directly and proportionally with the output. Variable cost per unit is constant but the total costs change corresponding to the levels of output. Variable cost is expressed in terms of units only. Variable costs are synonymous with engineered costs.

Example: Materials used to manufacture a product, wages of workers in a manufacturing process. To illustrate, let direct material cost to produce one unit of a product be Rs. 25. The existing volume of production is 10,000 units per annum, then the existing direct material cost is

10,000 units × Rs. 25 = Rs. 2,50,000. In case, if the production increases to 20,000 units, the direct material cost would be Rs. 25 × 20,000 units = Rs. 5,00,000. This shows that the direct material cost per unit remains constant but total material cost rises with an increase in activity level.



Fixed Cost

The terminology of CIMA defines fixed cost as "the cost which accrues in relation to the passage of time and which, within certain limits, tends to be unaffected by fluctuations in the level of activity".

Fixed costs are those which are not expected to change in total within the current budget year, irrespective of variations in the volume of activity. Such costs are fixed for a given period over a relevant range of output, on the assumption that technology and methods of manufacturing remain unchanged.

For the purpose of cost analysis, fixed costs may be classified as follows:

Committed Costs: These costs cannot be eliminated instantly. These costs are incurred to maintain basic facilities. Example: Rent, rates, taxes, insurance.

Policy and managed costs: Policy costs are incurred in enforcing management policies. Example: Housing scheme for employees. Managed costs are incurred to ensure the operating existence of the company. Example: Staff services.

Discretionary costs: These are not related to operations. These can be controlled by the management. These occur at the discretion of the management.

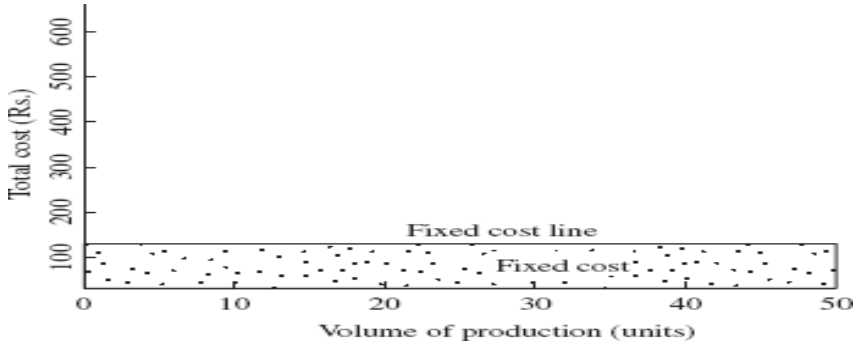
Semi-Variable Costs

The terminology of CIMA defines semi-variable cost as "a cost containing both fixed and variable elements which is thus partly affected by fluctuations in levels of activity" Semi-variable costs consist of features of both fixed and variable costs.

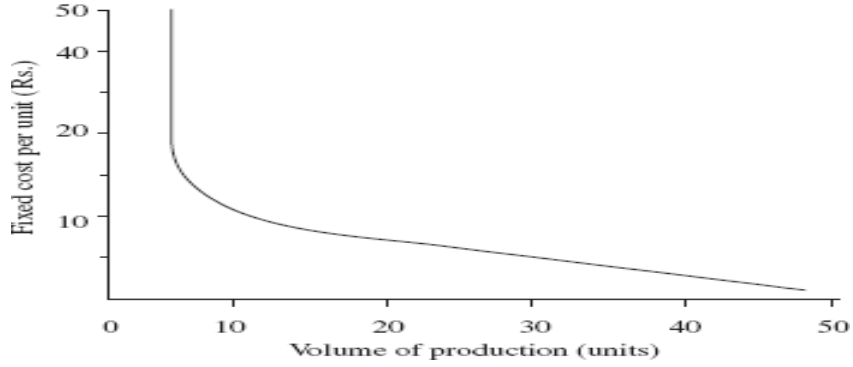
These costs vary in total with changes in the level of activity—not in direct proportion. Due to the fixed part of the element, they do not change in direct proportion to output. Due to the variable part of the element, they tend to change with volume. Semi-variable costs change in the same direction of output but not in the same proportion. Example: electricity charges, stationery, telephone expenses.

To illustrate, telephone expenses is a semi-variable cost. Annual rental is Rs.1000. For every call used the charge per call is Re. 1. Here the annual rental is the fixed part of the element—remains unchanged—whereas the call made forms the variable element.

Total Fixed Cost



Fixed Cost Per Unit



Functional Classification of Costs

Production costs: They are the cost of operating a production department in which manual and machine operations are performed directly upon any part of product manufactured. This includes the cost of direct materials, direct labour, direct expenses, primary packing expenses and all overhead expenses pertaining to production.

Administration costs: These expenses include all indirect expenses incurred in formulating the policy, directing the organization and controlling the operation of a concern. The expenses relating to selling and distribution, production, development and research functions are not to be included under this head.

Selling and distribution costs: These expenses include all expenses incurred with selling and distribution functions.

Research and development costs: These include the cost of discovering new ideas, processes or products by research and the cost of implementation of such results on a commercial basis.

Preproduction costs: when a new manufacturing unit is started or a new product is launched, certain expenses are incurred. There would be trial runs. All such costs are called preproduction costs. They are charged to the cost of future production because they are treated as deferred revenue expenditure.

Costs for Planning and Control

Controllable cost: The terminology of CIMA defines controllable cost as "a cost which can be influenced by the action of specified member of an undertaking". It refers to those costs which may be regulated at a specified level of authority (management) within a specified time period. The term "controllable costs" means variable costs. Cost-control factor depends on time factor and level of managerial authority. If the time period is sufficiently long, cost can be well controlled. Proper delegation of authority with responsibility facilitates the task of control of costs.

Uncontrollable costs: Uncontrollable cost is defined as the "cost which cannot be influenced by the action of a specified member of an undertaking". This cost is not subject to control at any level.

The difference between the terms is important for the purpose of cost control, and responsibility accounting costs which are not subject to the control of a person should not be charged to that person. For instance, a foreman should not be charged with the plant superintendent salary.

Budget: A budget is a plan for a future period. It is expressed in monetary terms. The terminology of CIMA defines a budget as " 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 also a tool of control.

Standard costs: Standard costs are closely related to budgets, and both are said to be complementary to each other. It is a basic accounting tool. A standard cost is a predetermined calculation of how much costs should be under specific working conditions. It is built up from an assessment of the value of cost elements and correlates technical specifications and quantification of material, labour and other costs to the prices and/or wage raves expected to apply during the period in which standard cost is intended to be used. Its main purposes are to provide bases for control through variance accounting, for valuation of stock, and work-in-progress and in some cases, for fixing selling prices.

Costs for Analytical and Decision-Making Purposes

Imputed costs: Imputed costs do not involve actual cash outlay (cash payment). They are not recorded in the books of accounts. They are not measurable accurately. However, imputed costs are useful while taking decisions. Imputed costs can be estimated from similar situations. Imputed costs can be estimated from similar situations outside the organization. Although these are hypothetical costs, in making comparison, in performance evaluation, in making decision, the inclusion of imputed costs is inevitable. Examples: Interest on invested capital, rental value of company-owned building, salaries of owner-directors of sole proprietorship firms.

Sunk costs: Sunk cost is invested cost or recorded cost. A sunk cost is one which has been incurred already and cannot be avoided by decision taken in future. Sunk cost may be defined as "an expenditure for equipment or productive resources which has no economic relevance to the present decision-making process". Sunk cost is a past cost which cannot be taken into account in decision making. Sunk cost may also be defined as the difference between the purchase price of

an asset and its salvage value. Non-incremental costs (i.e., cost which do not increase) are also, at times, termed as sunk costs (one specific group of non-incremental costs).

Differential costs: Differential costs arise on account of the change in total costs associated with each alternative. In the language of the AAA committee, "it is the increase or decrease in total costs, or the changes in the specific elements of cost that results from any variation in operation." Differential cost consists of both variable and fixed costs. The differential cost between any two levels of production is (i) the difference between two marginal costs (variable cost) at these two levels and (ii) the increase or decrease in fixed costs. A distinction has to be understood between differential cost and incremental cost. Incremental cost applies to increase in production and restricted to cost only, whereas differential cost confines to both increase or decrease in output.

Differential cost is of much use in decision-making process, especially in choosing the best alternative and in ascertaining profit where additional investments are introduced in the business.

Opportunity costs:

Opportunity costs are the economic resources which have been foregone as the result of choosing one alternative instead of another. The unique feature of an opportunity cost is that no cash has changed hands. There is no exchange of economic resources. It results from sacrificing some action. They are never shown in regular cost accounting records.

Postponable costs: These are costs which may be postponed to the future with little or no effect on current operations. Actually it means deferring the expenditure to some future date. It does not mean that the cost is avoided and rejected summarily. Example: Repairs and maintenance.

Avoidable costs: By choosing one alternative, costs may be saved. That means by avoiding one, and choosing another, costs can be saved. Example: By not manufacturing a new product, the appropriate direct material, labour and variable costs can be avoided.

Out-of-pocket costs: Out-of-pocket cost means those elements of cost which warrant cash payment in the period under consideration. This is helpful in deciding whether a particular venture will at least return the cash expenditure caused by the expected project. Example: Taxes, insurance premium, salaries of supervisory staff, etc.

Relevant costs: Relevant costs are those expected future costs that differ between alternatives. It is a cost affected by a decision at hand. Historical costs are irrelevant to a decision. It is reasonable because it helps to ascertain whether the costs are relevant to a particular decision at the present condition. In general, variable costs are affected by a decision and so they are considered relevant.

Uniform costs: Generally they are not distinct costs as such. According to this, common costing principles and procedures are being adopted by a number of firms. These costs are mainly intended for inter-firm comparison.

Marginal costs: It is the aggregate of variable costs. It is useful in various ways for the management.

Common costs: Common costs are those costs which are incurred for more than one produce, job territory or any other specific costing object. The National Association of Accountants defines common costs as "the cost of services employed in the creation of two or more outputs, which is not allocable to those outputs on a clearly justified basis".

Other Costs

Normal cost: This cost is incurred at a given level of output in the conditions that level of output is achieved.

Traceable cost: This cost can be easily identified with a product or job or process.

Total costs: It denotes the sum of all costs in respect of a particular process or unit or job or department or even the entire organization.

Methods of Costing

Different industries follow different methods to establish the cost of their product. This varies by the nature and specifics of each business. There are different principles and procedures for performing the costing. However, the basic principles and procedures of costing remain the same. Some of the methods are mentioned below:

- Unit costing
- Job costing

- Contract costing
- Batch costing
- Operating costing
- Process costing
- Multiple costing
- Uniform costing

Different Methods of Costing

Here's a breakdown of each different method of costing:

- **Unit costing:** This method is also known as "single output costing." This method of costing is used for products that can be expressed in identical quantitative units. Unit costing is suitable for products that are manufactured by continuous manufacturing activity: for example, brick making, mining, cement manufacturing, dairy operations, or flour mills. Costs are ascertained for convenient units of output.
- **Job costing:** Under this method, costs are ascertained for each work order separately as each job has its own specifications and scope. Job costing is used, for example, in painting, car repair, decoration, and building repair.
- **Contract costing:** Contract costing is performed for big jobs involving heavy expenditure, long periods of time, and often different work sites. Each contract is treated as a separate unit for costing. This is also known as terminal costing. Projects requiring contract costing include construction of bridges, roads, and buildings.
- **Batch costing:** This method of costing is used where units produced in a batch are uniform in nature and design. For the purpose of costing, each batch is treated as an individual job or separate unit. Industries like bakeries and pharmaceuticals usually use the batch costing method.
- **Operating costing or service costing:** Operating or service costing is used to ascertain the cost of particular service-oriented units, such as nursing homes, busses, or railways. Each particular service is treated as a separate unit in operating costing. In the case of a nursing home, a unit is treated as the cost of a bed per day, while, for busses, operating cost for a kilometer is treated as unit.

- **Process costing:** This kind of costing is used for products that go through different processes. For example, the manufacturing of clothes involves several processes. The first process is spinning. The output of that spinning process, yarn, is a finished product which can either be sold on the market to weavers, or used as a raw material for a weaving process in the same manufacturing unit. To find out the cost of the yarn, one needs to determine the cost of the spinning process. In the second step, the output of the weaving process, cloth, can also can be sold as a finished product in the market. In this case, the cost of cloth needs to be evaluated. The third process is converting the cloth to a finished product, for example a shirt or pair of trousers. Each process that can result in either a finished good or a raw material for the next process must be evaluated separately. In such multi-process industries, process costing is used to ascertain the cost at each stage of production.

 Multiple costing or composite costing: When the output is comprised of many assembled parts or components, as with television, motor cars, or electronics gadgets, costs have to be ascertained for each component, as well as with the finished product. Such costing may involve different methods of costing for different components. Therefore, this type of costing is known as composite costing or multiple costing.

- **Uniform costing:** This is not a separate method of costing, but rather a system in which a number of firms in the same industry use the same method of costing, using agreed-on principles and standard accounting practices. This helps in setting the price of the product and in inter-firm comparisons.

Cost Management Tools

With the focus on cost reduction for various fuctions, the management looks at various tools for managing and cost control in the challenging business environment. The emphasis is on serving the customers' needs through different tools. The following are the various toos used in strategic cost management

1. Activity based costing and activity based management.
2. Benchmarking.
3. Just-in-time.
4. Economic Value Addition.

5. Target Costing.
6. Balanced Scorecard.
7. Strategic Cost Management.
8. Value analysis and strategic positional analysis.
9. Managing the capacity costs using the flexible budget techniques
10. Using cost conformance techniques with the cost of quality.

Cost Sheet

Cost sheet is a statement of costs which show the various elements of the cost of goods produced in terms of prime cost, factory cost, cost of production, cost of goods sold, cost of sales and profit or loss. This is typically prepared in regular intervals such as weekly, monthly, quarterly, annually depending on the requirements of the organization.

PROFORMA OF COST SHEET

Particulars	Per Unit	Amount (Rs.)	Amount (Rs.)
Opening Stock of Raw Materials	***	***	
Add:	***		
Purchases		***	
Carriage inwards		***	
Octroi & Customs Duty		***	
		*****	
Less			
Closing Stock of Raw Materials		***	
RAW MATERIALS CONSUMED			***
Direct or Productive Wages / Direct Labour		***	
Add: Outstanding Wages, if any		***	***
Direct or Chargeable Expenses			***
PRIME COST	***		***
Add: Works or Factory Overheads			
Indirect Materials		***	
Indirect wages		***	
Overtime charges		***	
Fuel & Power		***	
Factory rent		***	
Factory lighting		***	
Insurance		***	
Supervisor salary		***	
Staff welfare expenses		***	
Works expenses		***	
Depreciation of P&M		***	
Gas & Water		***	
Drawing office expences		***	
Technical Directors Fess		***	
Laboratory Expenses		***	
Internal Transport Expenses			***
Less: Sale of Scrap			***
GROSS FACTORY COST / GROSS WORKS COST			***
Add: Opening Stock of Work-in-Progress			***
			***
Less: Closing Stock of Work-in-Progress			***
NET FACTORY COST / NET WORKS COST			***
Add: Office & Administration Overheads		***	
Office Salary		***	
Office Rent & rates		***	

Stationery & Printing		***	
Office Expenses		***	
Depreciation of office building		***	
Depreciation of office furniture		***	
Office lighting		***	
Establishment charges		***	
Director's fees		***	
Director's travelling expenses		***	
Legal charges		***	
Audit fees		***	
COST OF PRODUCTION		***	
Add: Opening Stock of Finished Goods		***	
		***	
Less: Closing Stock of Finished Goods		***	
COST OF GOODS SOLD		***	***
Add: Selling & Distribution Overheads			
Advertising		***	
Showroom expenses		***	
Carriage outwards		***	
Salesman commission		***	
Packing expenses		***	
Bad debts		***	
Counting house salaries		***	
Delivery van expenses		***	
Travelling expenses		***	
Warehouse expenses		***	
Sales Manager's salaries		***	
Sales director's fees		***	
Sales office expenses		***	
Depreciatin of Delivery van		***	
Repairs of delivery van		***	
Expenses of sales branches		***	
TOTAL COST OR COST SALES		***	***
PROFIT		***	***
SALES REVENUE			***

Points to be noted while preparing the cost sheet

1. **Pure financial expenses such as**
    a. **Cash discount**
    b. **Interest paid**
    c. **Premilinary expenses written off**

d. **Donations**

e. **Income tax paid**

f. **Dividend paid**

g. **Proft or loss on sale of fixed assets and damages payable at law etc. should not be included in the cost sheet**

2. **Acquisition of capital assets viz.**

   a. **Cost of land and building**

   b. **Purchase of machinery**

   c. **Furniture etc. does not form part of the cost sheet.**

3. **Pre-incorporation expenses such as**

   a. **Registration expenses**

   b. **Legal charges**

   c. **Miscellaneous expenses should not form part of the cost sheets.**

4. **The closing stock of work-in-progress must be valued at the current period's works cost.**

5. **The closing stock of finished goods must be valued at the current period's cost of production.**

6. **In absence of any other information, the opening stocks of work in progress and opening stock of finished goods must be valued at the current periods' costs only.**

7. **Any value realized from the sale of scrap must be deducted before identifying the works cost and the valuation of the closing stock of work in progress must be done only after this treatment.**

8. **When the profit is given as a percentage of cost of sales**

$$Profit = \frac{Percentage\ of\ Profit}{Cost\ of\ Sales} * 100$$

9. **When the profit is given as a percentage of sales revenue**

$$Sales\ Revenue = \frac{Cost\ of\ Sales}{100 - Percentage\ of\ Profit} * 100$$

And, Profit = Sales Revenue – Cost of Sales

Module II **(10 Hours)**

Overheads, Classification and Collection, Difference between Cost Allocation and Cost Apportionment, (Full Fledged Problems on Primary and secondary distribution, Simultaneous equations, Absorption of Overhead, Theory on Under and Over absorption of Overhead.

Meaning

Overhead is also known as, 'overhead cost', 'overhead charges', 'non-productive cost', 'burden', 'loading', 'on cost' etc.

- Overhead is the cost incurred in the course of making a product, providing a service or running a department, but which cannot be traced directly and fully to the product, service or department.
- Overheads is actually the total of the following

1. Indirect materials.
2. Indirect labour.
3. Indirect expenses

Definition of Overheads

According to CIMA, "overhead cost as the total cost of indirect materials, indirect labour and indirect expenses. In short, it is the cost of materials, labour and expenses that cannot be economically identified with specific saleable cost unit."

According to ICMA, "indirect cost is an expenditure on labour, material, services which cannot be economically identified with a specific saleable cost per unit. Overhead costs are known as supplementary cost, indirect cost, on cost etc."

Classification and Collection of Overhead

There are various methods of classifying or grouping overheads, which greatly depend upon the objectives of classification, the type or the size of the firm. Generally, the following is the classification according to

Classification According to Nature

According to this classification, overhead can be classified into

(a) Indirect material

(b) Indirect labour and

(c) Indirect expenses.

Indirect Material: All materials, which cannot be conveniently assigned to specific physical units, are termed as 'indirect material'. Such commodities do not form part of the finished products. Consumable stores, lubrication oil, stationery and spare parts for the machinery are termed as indirect materials.

Indirect Labour: Labour employed to perform work incidental to production of goods or those engaged for office work, selling and distribution activities are known as 'indirect labour'. The wages paid to such workers are known as 'indirect wages' or indirect labour cost.

Example: Salary paid to the driver of the delivery van used for distribution

Indirect Expenses: All expenses excluding indirect material and indirect labour, which cannot be directly and wholly attributed to a particular product, job or service, are termed as 'indirect expenses'. Some examples of such expenses are: repairs to machinery, insurance, lighting and rent of the buildings.

Classification According to Function

The main groups of this classification are

(a) Manufacturing overhead,

(b) Administrative overhead,

(c) Selling overhead and

(d) Distribution overhead.

Manufacturing overhead

It is also known as works overhead, production overhead or factory overhead. It is the aggregate of the indirect expenses of operating the manufacturing division of a concern and includes all expenses incurred by the concern from the receipt of the till its completion, ready for dispatch.

It includes all overhead cost incurred from the stage of procurement of materials till the completion of the finished product but excludes expenses on administration, selling and distribution. For egs.

- Rent, taxes, depreciation, insurance etc. of the factory land and buildings.
- Depreciation, insurance etc. of the factory plant, machines, equipment etc.
- Consumable stores, small tools etc.
- Cost of overtime, idle time, holiday pay etc.
- Salary of foreman, time-keepers, works managers etc.
- Fuel, power, coal etc.\factory lighting, heating, ar-conditioning etc.
- Welfare expenses, canteen, recreation club etc.
- Cost of works – stationery, works-telephone etc.
- Wages paid to indirect workers – watch & ward staff, repairs etc.

Administration overhead: It is the aggregate of indirect material cost, indirect wages and indirect expenses incurred for policy formulation, control and administration. Example: Directors' remuneration.

Selling overhead: It is the cost of creating sales and retaining customers. It is the aggregate of all indirect material costs, indirect wages and indirect expenses incurred in creating and stimulating demand for a firm's products and securing orders. Example: advertisement, publicity expenses.

Distribution overhead: It is the aggregate of indirect material cost, indirect wages and indirect expenses incurred in preparing the packed products for despatch and making them available to customers. Example: rates and taxes for finished goods, godown expenses.

Classification According to Variability

Expenses are also classified on the basis of behaviour or variability; it can be found that all items of overhead do not vary in sympathy with production. Based on this behaviour the expenses can be divided into

- Fixed
- Variable and
- Semi-variable or semi-fixed.

Fixed overhead or constant charges or period costs remain fixed in their nature and do not vary with changes in the volume of output.

Such expenses remain constant even if the volume of production changes; when there is more production, and the fixed overhead is true only for a shorter period, and in the long run, they occurs the change. Examples for this context are Salaries of staff, taxes etc.

Example of fixed costs is: depreciation of plant, rent of storage-house and building, postage, stationery, salaries, insurance etc.

Variable or fluctuating overhead is a cost which, in the aggregate, tends to vary in direct proportion to changes in the volume of output or turnover. In other words, these costs change in the same ratio in which output changes.

Total variable cost will tend to vary direct with volume, while unit variable cost is likely to remain constant at all levels.

For example, indirect material, indirect labour power and fuel, spoilage, stores handling, over time etc.

Semi – variable Overhead

This type of overhead varies with a change in the volume of output, but not in such a proportion as the output changes. This type stands mid-way between fixed and variable overhead.

Semi-variable overheads may remain fixed at certain levels of output, while they vary at other levels, but not in the proportion of output changes.

For example, repairs and maintenance, depreciation of plant and machinery, telephone, salary to supervisors etc.

Classification According to Normality

According to this class the costs are divided into two types – normal overhead and abnormal overhead.

Normal expenses are expected to be incurred in attaining a given output. These are unavoidable. These can be included in production cost.

Abnormal costs are those which are not expected to occur in attaining a given output; for example, abnormal idle time, abnormal wastage etc. such expenses may be transferred to costing profit and loss account.

Classification According to Control

It can be divided into two types –

- Controllable costs and
- Uncontrollable costs

Controllable costs are those which can be controlled b an efficient management. For example, idle time, wastage etc. can be controlled.

Uncontrollable costs are those which cannot be controlled. All types of fixed costs are the best example.

Allocation and Apportionment

Allocation of overhead is the function of identifying overhead items with particular cost centres or production and service department. Allocation is the process of charging the full amount of overhead costs to a particular cost centre. For example, salary to the Sales Manager is allocated to the sales Department.

Apportionment of overhead is the process of distributing those items of overhead which cannot be allocated to a cost centre or department, between cost centres or departments on an equitable basis. It is the process of splitting up an item of overhead cost and charging it to the cost centres on an equitable basis. That is, where the expense is a common one and it is to be allotted to different cost centres proportionately on an appropriate basis, it is known as apportionment.

For example, factory rent is an expense which cannot be allocated to any one department, but is to be shared by all production department and service departments on suitable basis.

Overhead allocation

- Allocation is the process by which whole cost items are charged direct to a cost unit or cost centre**.**
- For example, the following cost will be charged to the following cost centres via the process of allocation.

  Direct labour will be charged to the production cost centre.

  1. The cost of warehouse security will be charged to the warehouse cost centre.
  2. Costs such as canteen are charged direct to the various overhead cost centres.

Apportionment of overhead

- Apportionment of overhead is distribution of overheads to more than one cost centre on some equitable basis.
- When the indirect costs are common to different cost centres, these are to be apportioned to the cost centres on an equitable basis. For example, the expenditure on general repair and maintenance pertaining to a department can be allocated to that department but has to be apportioned to various machines (Cost Centres) in the department.
- If the department is involved in the production of a single product, the whole repair & maintenance of the department may be allocated to the product.

Basis of apportionment

Overhead apportionment basis

SI.No.	Name of the overhead cost	Bases of apportionment
1	Building tax	Floor Area
	Lighting and heating	
	Fire insurance	
	Air conditioning	
2	Fringe Benefits	Number of Workers
	Labour welfare expenses	
	Time Keeping	
	Personnel Office	
	Supervision	
3	Compensation to workers	Direct Wages
	Holiday Pay	
	ESI & PF Contribution	
4	General Overhead	Direct labour hours or direct wages or machine hours
5	Depreciation of P&M	Capital values
	Repairs & Maintenance of P&M.	
	Insurance of stock	
6	Power / Steam consumption	Technical Estimates
	Internal transport	
	Managerial Salaries	
7	Lighting expenses	No. of light points, or floor area
8	Electric Power	Horse power of machines, or no. of machine hours, or value of machines.
9	Material handling & Stores overhead	Weight of materials, or Quantity of Materials, or Value of materials.

Primary and Secondary Distribution of Overheads

- ✓ In case of multi-product environment, there are common service cost centres which are providing services to the various production cost centres and other service cost centres.
- ✓ The costs of services are required to be apportioned to the relevant cost centres.
- ✓ First step to be followed is to apportion the overheads to different cost centres and then second step is to apportion the costs of service cost centres to production cost centres on an equitable basis.

- ✓ The first step is termed as primary distribution and the second step is termed as secondary distribution of overheads.

Absorption of overheads

- Absorption of overheads is charging of overheads from cost centres to products or services by means of absorption rates for each cost center which is calculated as follows:
- $$Overhead\ Absorption\ Rate = \frac{Total\ Overheads\ of\ Cost\ Centre}{Total\ Quantum\ of\ Base}$$

- The base (denominator) is selected on the basis of type of the cost centre and its contribution to the products or services, for example, machine hours, labour hours, quantity produced etc.

Apportionment of service departments costs

The aim is to apportion all the service department costs to the production departments, in one of three ways:

1. The direct method, where the service centre costs are apportioned to production departments only
2. The step down method, where each service cost centers' are not only apportioned to production departments but to some (but not all) of the other service centres that make use of the services provided.
3. Apportionment of service departments costs- the reciprocal method

Apportionment of service departments costs – the reciprocal method

The repeated distribution (or reciprocal) method, where service cost centers are apportioned to both the production departments and services department that use the services.

The service centre costs are then gradually apportioned to the production departments. This method is used only when service departments use each other's services

The reciprocal method of distribution

Steps to be followed under this method are :

i. The proportion at which the costs of a service cost centres are to be distributed to production cost centres and other service cost centres are determined.

ii. Costs of first service cost centres are to be apportioned to production cost centres and service cost centres in the proportion as determined in step (i).

iii. Similarly, the cost of other service cost centres are to be apportioned.

This process as stated in (ii) and (iii) are to be continued till the figures remaining undistributed in the service cost centres are negligibly small. The negligible small amount left with service centre may be distributed to production cost centres

Overhead absorption

- Overhead absorption is the process whereby overhead costs allocated and apportioned to production cost centres are added to unit, job or batch costs.
- Overhead absorption is sometimes known as overhead recovery
- Therefore having allocated and/or apportioned all overheads, the next stage is to add them to, or absorb them into, cost units
- Overheads are usually added to costs units using a predetermined overhead absorption rate, which is calculated using figures from the budget.

Calculation of overhead absorption rate

- Estimate the overhead likely to be incurred during the period
- Estimate the activity level for the period
- Divide the estimated overhead by the budgeted activity level
- Absorb the overhead into the cost unit by applying the calculated absorption rate

Over and under absorption of overheads

- The rate of overhead absorption is based on estimates (of both numerator and denominator) and it is quite likely that either one or both of the estimates will not agree with what actually occurs
    - Over absorption means that the overheads charged to the cost of sales is more than the overheads actually incurred
    - Under absorption means that insufficient overheads have been included in the cost of sales

The reasons for over/under absorbed overheads

- The overhead absorption rate is predetermined from budget estimates of overhead cost and the expected volume of activity.
- Over or under recovery of overhead will occur in the following circumstances:-
    - Actual overhead costs are different from budgeted overhead.
    - The actual activity level is different from the budgeted activity level.
    - Actual overhead costs and actual activity level differ from the budgeted costs and levels.

Apportionment of Overheads on Non-Reciprocal Basis

Service Department	Bases of Apportionment
Store – keeping department	No. of material requisition or value / quantity of materials consumed in each department.
Purchase Department	Value of materials purchased for each department or no. of purchase orders placed.
Time keeping department and Pay roll Dept.	No. of employees, or total labour or machine hours.
Personnel department	Rate of labour turnover, or total no. of employees in each dept.
Canteen, welfare and recreation depts..	No. of employees, or total wages.
Maintenance dept.	No. of hours worked in each departments.
Internal transport dept.	Value or weigh of goods transported, or distance covered.
Inspection dept.	Direct labour hurs or machine operating hours
Drawing office	No. of drawings made or man hours worked.

Difference between Cost Allocation and Cost Apportionment

Cost allocation means the allotment of whole items of cost to cost centres or cost units. Cost apportionment, means and involves allotment or proportion of items of cost centres or cost units.

In other words, cost allocation deals with items, whereas apportionment must deal only with a proportion of items of cost.

Further, in allocation, costs are directly allocated. But apportionment of cost needs a suitable basis for the sub-division of the costs to various cost centres or cost units.

Allocation is a direct process. But apportionment may be made indirectly on some suitable bases.

Module III

Marginal Costing – Nature and Scope – Applications – Break even charts and Point, Decision Making (all types with full problems) Differential Cost Analysis, Advantages and Disadvantages of Marginal Costing.

Marginal costing is not a method of cost ascertainment like job costing or contract costing. Marginal costing is a technique of costing, which may be used with other method of costing, viz., job or process. For decision-making, it is more helpful to the management. It is also knows as direct costing, differential costing, incremental costing and comparative costing.

In marginal costing, only variable items of costs are taken into account. These variable costs will change in direct relation to the change in the volume of production or change in the production by one unit.

As such, variable costs are called product costs and are changed to production. Fixed costs are not allocated to cost unit; and these are changed directly to profit and loss account during the period and are called as period costs or capacity costs.

Definition of Marginal Costing

According to ICMA, "the ascertainment by differentiating between fixed costs, and variable costs, of marginal costs and of the effect on profit of changes in volume or type of output."

According to Dr. Joseph, "marginal costing is a technique of determining the amount of change in the aggregate costs due to an increase of one unit over the existing level of production. As such, it arises from the production of additional increments of output".

According to Batty, "marginal costing as a technique of cost accounting, which pays special attention to the behaviour of costs with changes in the volume of output".

Nature and Scope

- Marginal costing is a technique or working of costing, which is used in conjunction with other methods of costing (process or job).
- Fixed and variable costs are kept separate at every stage. Semi-variable costs are also separated into fixed and variable.

- As fixed costs are period costs, they are excluded from product cost or cost of production or cost of sales. Only variable costs are considered as the cost of the product.
- When evaluation of finished goods and work-in-progress are taken into account, they will be only variable costs.
- As fixed costs are period costs, they are charged to profit and loss accont during the period in which they are incurred. They are not carried forward to the next year's income.
- Marginal income or marginal contribution is known as the income or the profit.
- The difference between the contribution and fixed costs is the net profit or loss.
- Fixed costs remain constant irrespective of level of activity.
- Sales price and variable cost per unit remain the same.
- Cost-volume-profit relationship is fully employed to reveal the state of profitability at various levels of activity.

Application of Marginal Costing Techniques

Marginal costing is an extremely valuable technique with the management. The cost-volume-profit relationship has served as a key to locked storehouse of solutions to many situations. It enables the management to tackle many problems which are faced in the practical business.

Marginal Costing helps the management in decision-making in respect of the following vital areas:

1. Cost Control
2. Fixation Of Selling Price
3. Closure Of A Department Or Discontinuing A Product
4. Selection Of Profitable Product Mix
5. Profit Planning
6. Decision To Make Or Buy
7. Decision To Accept A Bulk Order
8. Introduction Of A New Product
9. Choice Of Technique
10. Evaluation Of Performance

11. Decision Making
12. Maintaining A Desired Level Of Profit
13. Level Of Activity Planning
14. Alternative Methods Of Production
15. Introduction Of Product Line

Cost Control

The two types of costs – variable and fixed – are controllable and non-controllable respectively. The variable cost is controlled by production department and the fixed cost is controlled by the management.

Fixation of selling price

Product pricing is a very important function of management. One of the purposes of cost accounting is the ascertainment of cost for fixation of selling price. Marginal cost of a product represents the minimum price for that product and any sale below the marginal cost would entail a loss of cash. There are cyclic periods in business – boom, depression, recession etc.

Selling at or Below Marginal Cost

When we sell a commodity at marginal cost, only variable cost is recovered. Generally, the price of a product is fixed to cover variable cost as well as fixed cost, in addition to a desired profit. Fixing the selling price below the marginal cost, invites loss of some of variable cost. The products may be sold below the marginal cost in the following cases, when:

- A competitor is to be driven out of market.
- To popularize the product.
- Labour engaged cannot be retrenched.
- The goods are of perishable nature.
- To keep the plant in running condition.
- There is a cut throat competition.
- To use the materials, which is about to perish.
- The product is used as a loss leader for the sale of another products.
- Not to close down the firm.
- Fear of market which may go out of hand.

- To prevent the loss of future orders.
- To capture the foreign market.

Closure of a Department or Discontinuing a Product

Marginal costing technique shows the contribution of each product to fixed costs and profit. If a department or a product contributes the least amount, then the department can be closed or its production can be discontinued. It means the product which gives a higher amount of contribution may be chosen and the rest should be discontinued.

Selection of Profitable Product Mix

In a multiproduct concern, a problem is faced by the management as to which product mix or sales mix will give the maximum profit. The product mix which gives the maximum profit must be selected. Product mix is the ratio in which various products are produced and sold.

The marginal costing technique helps the management in taking decisions regarding changing the ratio of product mix which gives maximum contribution or in dropping unprofitable product line. The product which has comparatively less contribution may be reduced or discontinued.

Profit Planning

Profit planning is a plan for future operation or planning budget to attain the given objective or to attain the maximum profit.

Decision to make or buy

A firm may make some products, parts or tools or sometimes it may buy the same thing from outside. The management must decide which is more profitable to the firm. The management must decide which is more profitable to the firm. If the marginal cost of the product is lower than the price of buying from outside, then the firm can make the product.

Decision to accept a bulk order or foreign market order

Large scale purchasers may demand products at less than the market price. A decision has to be taken now whether to accept the order or to reject it.

By reducing the normal price, the volume of output and the sales can be increased. If the price is below the total cost, rejection of the order is aimed at. In marginal costing, the offere may be

accepted, if the quoted price is above marginal cost, because of the reason that existing business contribution can recover the fixed costs and the margin of profits. In such cases, the contribution made by foreign market, or bulk orders will be an addition to the profit. But the price should not be less than the marginal cost. However, it should not affect the normal market price.

Introduction of a New Product

A producing firm may add additional products with the available facility. The new product is sold in the market at a reasonable price, in order to sell it in large quantities. It may become popular. If favorable, the sales can be increased, thus the total cost comes down and contributes some amount towards fixed costs and profits.

Choice of Technique

Every management wishes to manufacture products at the most economical way. For this, the marginal costing is a good guide as to the products at different stages of production, that is to say whether the management has to adopt hand operated system or semi-automatic system or complete automatic system. When operations are done by hand, fixed cost, will be lower than the fixed cost incurred by machines and in complete automatic system fixed costs are more than variable cost.

Evaluation of Performance

Marginal costing helps the management in measuring the performance efficiencies of a department or a product line or sales division. The department or the product or division which gives the highest P/V ratio will be the most profitable one or that is having the highest performance efficiency.

Decision Making

Price must not be less than total cost under normal conditions. Marginal costing acts as a price fixer and a high margin will contribute to the fixed cost and profit. But this principle cannot be followed at all times. Prices should be equal to marginal cost plus a reasonable amount, which depends upon demand and supply, competition, policy of pricing etc.

If the price is equal to marginal cost, then there is a loss equal to fixed costs. Sometimes, the businessman has to face loss when,

a. There is cut-throat completion
b. There is the fear of future market
c. The goods are of perishable nature
d. The employees cannot be removed
e. A new product is introduced in the market
f. Competitors cannot be driven out etc.

Maintaining a desired level of profit

An industry has to cut prices of its products from time to time on account of competition, government regulations and other compelling reasons. The contribution per unit on account of such cutting is reduced while the industry is interested in maintaining a minimum level of its profits.

Marginal costing technique can ascertain how many units have to be sold to maintain the same level of profits.

Level of activity planning

When different levels of production and / or selling activities are being considered and the management has to decide the optimum level of activity, the marginal costing technique helps the management. What level of activity is optimum for a business to adopt, is an important problem faced by businesses.

Alternative methods of production

Marginal costing techniques are also used in comparing the alternative methods of manufacture i.e. machine work or hand work, whether one machine is to be employed instead of another etc. many a time, management has to choose a course of action from among so many alternatives, the changes in the marginal contribution under each of the proposed methods are worked out and the method which gives the greatest contribution is obviously adopted keeping in view the limiting factor if any.

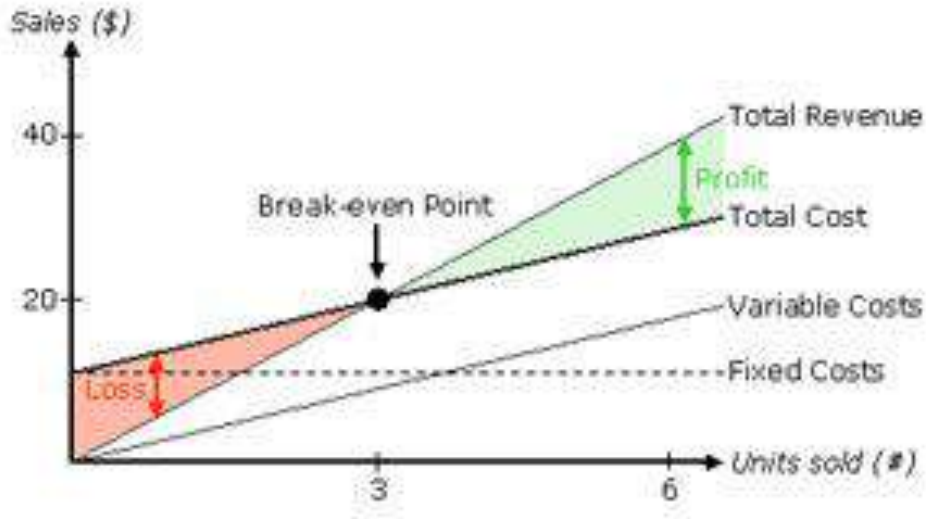
Introduction of new product or product line

The technique to assess the profitability of line extension products is the incremental contribution estimates. The same technique of contribution analysis would be followed in

assessing the profitability of a new product line. Sales forecast would result from a market survey and market research.

Break Even Charts and Points

In simple words, the **break-even point** can be defined as a point where total costs (expenses) and total sales (revenue) are equal. Break-even point can be described as a point where there is no net profit or loss. The firm just "breaks even." Any company which wants to make abnormal profit, desires to have a break-even point. Graphically, it is the point where the total cost and the total revenue curves meet.



Break-even point is the number of units (N) produced which make zero profit.

Revenue – Total costs = 0

Total costs = (Variable costs * N) + Fixed costs

Revenue = Price per unit * N

Price per unit * N – (Variable costs * N + Fixed costs) = 0

So, break-even point (N) is equal

N = Fixed costs / (Price per unit - Variable costs)

The origins of break-even point can be found in the economic concepts of "the point of indifference." Calculating the break-even point of a company has proved to be a simple but quantitative tool for the managers. The break-even analysis, in its simplest form, facilitates an insight into the fact about revenue from a product or service incorporates the ability to cover the relevant production cost of that particular product or service or not. Moreover, the break-even point is also helpful to managers as the provided information can be used in making important decisions in business, for example preparing competitive bids, setting prices, and applying for loans.

Adding more to the point, break-even analysis is a simple tool defining the lowest quantity of sales which will include both variable and fixed costs. Moreover, such analysis facilitates the managers with a quantity which can be used to evaluate the future demand. If, in case, the break-even point lies above the estimated demand, reflecting a loss on the product, the manager can use this info for taking various decisions. It might choose to discontinue the product, or improve the advertising strategies, or even re-price the product to increase demand.

Another important usage of the break-even point is that it is helpful in recognizing the relevance of fixed and variable cost. The fixed cost is less with a more flexible personnel and equipment thereby resulting in a lower break-even point. The importance of break-even point, therefore, cannot be overstated for a sound business and decision making.

However, the applicability of break-even analysis is affected by numerous assumptions. A violation of these assumptions might result in erroneous conclusions.

Differential Cost Analysis

Some management accountants use differential cost as a synonym to marginal cost. In fact, the theory of marginal costing is only a part of differential cost analysis. These two are similar in some aspects and differ in certain others. The points of similarities and differences are discussed below:

Similarities

a. Both techniques are based on the classification of costs into fixed and variable. If fixed costs do not change, the result under both remain same.

b. Both techniques are used for cost analysis.

c. Both techniques are used for managerial decision-making and formulating policies.

Differences

The following are the differences between differential cost analysis and marginal cost analysis:

S. No.	Differential Cost Analysis	Marginal Costing Analysis
i.	It is a costing technique used for decision-making purpose with the use of differential revenue and differential cost.	It is a technique used in ascertaining the marginal cost and effect on changes in profit due to changes in volume.
ii.	The differential costing can be applied in varied alternative proposals hence the scope is wider.	The scope of marginal costing is comparatively lesser.
iii.	The differential costing uses the accounting information and it can only be part of accounting system.	The marginal costing system can be included into accounting system.
iv.	The main analytical tools used in differential costing are, incremental/ decremental cost, incremental revenue and incremental/decremental profit.	In marginal costing, the main analytical tools are, P/V ratio, Break-even point, contribution, CVP analysis etc.
v.	It is not possible to ascertain exactly the differential cost and sometimes it is used in conjunction with costs and opportunity cost.	The marginal cost can be calculated exactly by adding variable overheads to prime cost.
vi.	The differential costing can be used for short-term, medium-term and long-term decision-making.	The marginal costing is mainly used for short-term and medium-term decision-making.

Advantages and Disadvantages of Marginal Costing

Advantages

Constant in nature

Variable costs fluctuate from time to time, but in the long run, marginal costs are stable. Marginal costs remain the same, irrespective of the volume of production.

Effective cost control

It divides cost into fixed and variable. Fixed cost is excluded from product. As such, management can control marginal cost effectively.

Treatment of overheads simplified

It reduces the degree of over or under-recovery of overheads due to the separation of fixed overheads from production cost.

Uniform and realistic valuation

As the fixed overhead costs are excluded from product cost, the valuation of work-in-progress and finished goods becomes more realistic.

Helpful to management

It enables the management to start a new line of production which is advantageous. It is helpful in determining which is profitable whether to buy or manufacture a product. The management can take decision regarding pricing and tendering.

Helps in production planning

It shows the amount of profit at every level of output with the help of cost volume profit relationship. Here the break-even chart is made use of.

Better results

When used with standard costing, it gives better results.

Fixation of selling price

The differentiation between fixed costs and variable costs is very helpful in determining the selling price of the products or services.

Sometimes, different prices are charged for the same article in different markets to meet varying degrees of competition.

Helpful in budgetary control

The classification of expense is very helpful in budgeting and flexible budget for various levels of activities.

Preparing tenders

Many business enterprises have to compete in the market, in quoting the lowest prices. Total variable cost, when separately calculated, becomes the 'floor price'. Any price above this floor price may be quoted to increase the total contribution.

Make or Buy Decision

Sometimes a decision has to be made whether to manufacture a component or a product or to buy it ready-made from the market. The decision to purchase it would be taken if the price paid recovers some of the fixed expenses.

Better Presentation

The statements and graphs prepared under marginal costing are better understood by management executives. The break-even analysis presents the behaviour of cost, sales, contribution etc in terms of charts and graphs. And, thus the results can easily be grasped.

Disadvantages of Marginal Costing

Difficulty to analyse overhead

Separation f costs into fixed and variable is a difficult problem. In marginal costing, semi-variable or semi-fixed costs are not considered.

Time element ignored

Fixed costs and variable costs are different in the short run; but in the long run, all costs are variable. In the long run all costs change at varying levels of operation, when new plants and equipment are introduced, fixed costs and variable costs will vary.

Unrealistic assumption

Assumption of sale price will remain the same at different levels of operation. In real life, they may change and give unrealistic results.

Difficulty in the fixation of price

Under marginal costing, selling price is fixed on the basis of contribution. In case of cost plus contract, it is very difficult to fix price.

Complete information not given

It does not explain the reason for increase production or sales.

Significance lost

In capital-intensive industries, fixed costs occupy major portions in the total cost. But marginal costs cover only variable costs. As such, it loses its significance in capital industries.

Problem of variable overheads

Marginal costing overcomes the problem of over and under-absorption of fixed overheads. Yet there is the problem in the case of variable overheads.

Sales-oriented

Successful business has to go in a balanced way in respect of selling production functions. But marginal costing is criticized on account of its attaching over-importance to selling function. Thus it is said to be sales-oriented. Production function is given less importance.

Unreliable stock valuation

Under marginal costing stock of work-in-progress and finished stock is valued at variable cost only. No portion of fixed cost is added to the value of stocks. Profit determined, under this method, is depressed.

Claim for loss of stock

Insurance claim for loss or damage of stock on the basis of such a valuation will be unfavourable to business.

Automation

Now-a-days increasing automation is leading to increase in fixed costs. If such increasing fixed costs are ignored, the costing system cannot be effective and dependable.

Module IV

Budgetary Control – Objectives of Budgetary control, Functional Budgets, Master Budgets, Key Factor Problems on Production and Flexible Budgets.

Standard Costing – Comparison with Budgetary Control, analysis of variances, simple problems on Material and Labour Variances Only.

Introduction

In our daily life, we use to prepare budgets for matching the expenses with income; and available funds can be invested in a profitable manner. Similarly in business, budgets are prepared on the basis of future estimated production and sales in order to find out the profit in a specified period. A budget is in the nature of an estimate and is a quantified plan for future activities to coordinate and control the use of resources for a specified period. Thus budget is a quantitative statement of management plans and policies for a given period and is used as a guide for the purpose of attaining the given objectives. It is also used as standard with which actual performance is measured. Budgets must be prepared with full knowledge and acceptance by the executives whose performance is to be measured against the budget. Different types of budgets are prepared for different purposes.

Budgeting may be defined as the process of preparing plans for future activities of a business enterprise after considering and involving the objectives of the said organization. This also provides process/steps of collection and comparison of data, by which deviations from the plan, either favourable or adverse, can be measured. This analysis is helpful in performance analysis, cost estimation, minimizing wastage and better utilisation of resources of the organization.

Concept of Budget & Budgetary control

Budgeting is a process, which includes two important functions: Budget and Budgetary control. Budget is a planning function and budgetary control is a controlling system or technique. A manager looks to the future, searches for alternative courses of action and predetermines a course of action to be taken in relation to known events and the possibilities of future problems. Thus, the budget will do this work for the activities of a business enterprise. I.C.M.A., London defines the budget as “Budget is financial and/or quantitative statement, prepared prior to a defined

period of time, of the policy to be pursued during that period for the purpose of attaining a given object".

Objectives of Budgeting

It is a well-known fact that a planned activity has better chances of success than an unplanned one. The budgeting is a forward planning and effective control tool. Thus, the objectives of the budgeting are:

a. To control the cost and increase revenue and thereby maximise profit, so as to know profit at different level of production and best production level.
b. To run production activities in efficient manner by lay behind the chances of interruption in production process due to lack of material, labour etc.
c. To bring about coordination between different functions of an enterprise, which is essential for the success of any enterprise?
d. To incorporate measures of calculation of deviations from budgeted results and analysis of the same, whereby responsibility can be fixed and controlling measures/action can be taken.
e. To ensure that actions taken are in accordance with the targets and if required, to take suitable corrective action.
f. To predict short-term and long-term financial positions for better financial position and management of working capital in better manner.

Advantages of Budgeting

The following are the advantages of budgeting:

a. Budgeting leads to maximum utilisation of resources with a view to ensuring maximum return.
b. Budgeting increases the awareness about business enterprise at all levels of management in the process of fulfillment of targets.
c. Budgeting is helpful in better co-ordination between different functions/activities of business/organisation and hence, better understanding between different functions.

d. Budgeting is a process of self-examination and self-criticism which is essential for the success of any organisation.
e. Budgeting makes a path for active participation and support of top management.
f. Budgeting enables the organisation to prefix its goals and push up the forces towards their achievements.
g. Budgeting stimulates the effective use of resources and creates an attitude of cost consciousness throughout the organisation.
h. It creates the bases for measuring performances of different departments as well as different functions of the production activities.

Limitation of budgeting

In spite of the above advantages, budgeting has the following limitations:

a. Forecasting, planning or budgeting is not an exact science and a certain amount of judgement is present in any budgeting plan.
b. The basic requirement for the success of budgeting is the absolute support and enthusing provided by the top management. If it is lacking at any time, the whole system will collapse.
c. Budgeting should be followed up by effective control action, this is often lacking in many organisations, which defeats the very purpose of budgeting.
d. The installation of budgeting system is an elaborate process and it takes time.
e. It requires the experienced man-power, technical staff, analysis, control etc, hence, it is costly affair.

Types of Budgets

Master Budget

Master Budget is a combination of all other budgets prepared for a specific period. It shows the overall budget plan. All the budgets are coordinated into one harmonious unit.

According to Rowland and William H. Harr, “Master Budget is a summary of the budget schedules in capsule form made for the purpose of presenting in one report the highlights of the budget forecast.” Thus, Master Budget sets out the plan of operations for all departments in

considerable detail for the budget period. The budget may take the form of a Profit and Loss Account and a Balance Sheet as at the end of the budget period.

The budget generally contains details regarding sales (net), production costs, cash position, and key account balances like debtors, fixed assets, bills payable, etc. It also shows the gross and the net profits and the important accounting ratios. It is prepared by the Budget Officer and it requires the approval of the Budget Committee before it is put into operation. If approved, it is submitted to the Board of Directors for final approval. The Board may make certain alterations if necessary before it is finally approved.

Sales Budget

The sales budget is usually the keystone in planning and control of operation of a business. Sales forecast serves as a base for the sales budget. The sales budget is prepared in quantitative terms of units expected to be sold and the value expected to be realised. The Sales Manager should be made directly responsible for the preparation and execution of sales budget. This is prepared according to the requirements of the business while preparing sales budget. The useful classification may be-products, territories, customers, salesmen, etc. More than one classification may be employed. However, at the time of preparing sales budget the following factors should be kept in mind:

(a) salesmen's estimates (b) orders in hand (c) Past behaviour (d) Management policies for future (e) seasonal fluctuations (f) availability of materials (g) plant capacity (h) availability of finance (i) potential market (j) level of competition (k) position of competitors, etc. Look at the following illustration how a sales budget is to be prepared.

Production Budget

The Production Budget is a forecast of the production for the budget period. It provides an estimate of the total volume of production product-wise with the scheduling of operations by days, weeks and month and also a forecast of the closing finished product inventory. It is based on sales budget. The Factory Manager is the person generally made responsible for its preparation, administration and execution. This budget can also be prepared department-wise. This budget is prepared in quantity terms only. The main factors, which are useful in preparing production budgets, are:

(a) Inventory Policies (b) Sales Requirements (c) Uniformity of Production (d) Plant Capacity (e) Availability of inputs (f) Duration of Production.

Production may be computed as follows:

Units to be produced = Budgeted Sales + Desired Closing Stock of finished goods– Opening Stock of finished goods.

Materials Budget

Materials are either direct or indirect. The Material budget generally deals only with the direct materials. Indirect materials are generally included in overhead budget. The material requirements are estimated on the basis of quantity of each class of products to be produced by multiplying the exact material requirement for each class of product by the number of units of that class. Material budget can be prepared on the basis of standards or, historical data regarding percentage of raw materials to total cost, adjusted for current price and normal wastage of material.

The factors to be considered while preparing the Material Budget are: the quantity of material required for the production budget, tentative dates by which required material must be available, the availability of storage facilities as well as credit facilities, price trends in the market, nature of the materials required etc.

Only direct materials are to be taken into account and indirect materials are not taken into account as they are considered under overheads budget. The material budget helps the management for proper planning of purchases. The object of the budget is to ensure the availability of adequate quantities of materials as and when required. It will be included in the Master Budget after the approval of Budget Committee.

Purchase Budget

Purchase Budget gives the details of material purchases to be made in the budget period. It correlates with sales forecast and production planning. It deals with purchases that are required for planned production. Purchases would include both direct and indirect materials and goods. While placing the purchase orders material manager has to see the orders on hand and unfulfilled orders at the beginning of the budget period and adjust the purchases accordingly. Purchase

budget enables the budget officer to provide funds in the cash budget according to delivery schedules, terms of payment and credit period. While preparing purchase budget the factors like the opening and closing stock to be maintained, maximum and minimum stock quantities to be maintained, economic order quantity level, the resources available, the policy of management etc., should also be taken into account.

Budgeted Purchase Quantity = Budgeted Consumption Quantity + required Closing Stock – Opening Stock.

Direct Labour Budget

The direct labour budget tells about the estimates of direct labour requirements essential for carrying out the budgeted output. The quantity of labour, e.g. skilled, unskilled, semi-skilled etc are estimated first. The time taken by them can be measured in terms of man hours Thereafter, the total cost of labour is estimated by multiplying the rates of pay with the labour hours. The purpose of this budget is to ensure optimum utilization of labour force.

Overhead Budget

The overheads budget should be prepared in three parts as follows:

1) Manufacturing Overhead Budget
2) Administration Overhead Budget, and
3) Selling and Distribution Overhead Budget.

Manufacturing Overhead Budget

The budget is an estimate of the manufacturing overhead costs to be incurred in the budget period to achieve the targeted production.

Manufacturing overheads include indirect material, indirect labour, and indirect expenses related to the factory.

The cost of each and every item of these three components of manufacturing overhead Is separately estimated as per the requirements of production.

Administration Overhead Budget

Administration overhead includes the costs of framing policies, directing the organisation and controlling the business operations. Most of the administration expenses are normally unconnected with the volume of activity, therefore, experience and anticipated changes in conditions are the guides for the preparation of this budget.

Selling and Distribution Overhead Budget

The budget includes all expenses relating to selling, advertising, delivery of goods to customers, etc. The overheads may be determined on the basis of sales targets being allocated to different territories or salesman etc. Those expenses which generally vary with the sales quantity are estimated on sales basis, others which are of a fixed nature, are estimated on the basis of past experience and anticipated changes. The responsibility for the preparation of this budget lies with the executives of the sales departments.

Cash Budget

A Cash Budget is a summary statement of the firms' expected cash inflows and outflows over a projected time period. In other words, cash budget involves a projection of future cash receipts and cash disbursements over various time intervals. While preparing cash budget seasonal factors must be taken into account and in practice cash budget is prepared on a monthly basis. The availability of other budgets is tested in terms of cash availability. Cash budget is also called as cash flow statement which indicates cash inflow and cash outflows. It is generally prepared for a maximum period of one year.

A cash budget helps the management in (i) determining the future cash needs of the firm, (ii) planning for financing of the needs; (iii) exercising control over cash and liquidity of the firm.

The overall objective of a cash budget is to enable the firm to meet all its commitments in time and at the same time prevent accumulations of unnecessary large balance with it.

Methods of Preparing Cash Budgets

There are basically three methods for preparing cash budgets.

1. Receipts and Payments Method
2. Adjusted Profit and Loss Account Method
3. Balance Sheet Method

Let us study about these methods in brief.

1) **Receipts and Payments Method**

Under this method, all receipts are added and out of the total, the sum of all payments is deducted to arrive at the balance in hand. The closing balance in hand say, for a particular month is the opening balance of the next month and is added to the total of receipts so as to know the total availability of cash during the month. The receipts and payments during the budget period are found out from various functional budgets prepared. The credit allowed to debtors, the credit allowed to us by suppliers, the delay in payment of wages and other expenses etc. are the factors, which are taken into account to determine the timing of receipts and payments. Advance payments and receipts are to be included but the payment in abeyance and income accrued on outstanding are excluded from cash budget. Revenue as well as capital receipts and payments are recorded in cash budget.

2) **Adjusted Profit and Loss Account Method**

The budgeting done by Adjusted Profit and Loss account method is known as cash flow statement and is more suitable for long-term forecasting. Under this method profit is taken as equivalent to cash and necessary adjustments are done in respect of non-cash transactions. The net estimated profit is taken as the base and non-cash items like depreciation, outstanding expenses, provisions etc. already deducted to arrive at the net profit are added back. The capital receipts, reduction in debtors, stocks, increase in liabilities, issue of share capital and debentures are other items which are added to compute the total cash receipts. The payments of dividends, prepayments, capital payments, increase in debtors, and increase in stock and decrease in liabilities are deducted out of the total cash receipts. The profit adjusted this way denotes the estimated cash available.

3) **Balance Sheet Method**

Under this method, at the end of budget period a projected balance sheet is drawn up setting out the various assets and liabilities, except cash and bank balances. The balancing figure would be the estimated closing cash/bank balance. Thus, under this method, closing balances other than cash/bank will have to be found out first to be put in the budgeted balance sheet. This can be done by adjusting the anticipated transaction of the year in the opening balances. If the liabilities are more than assets, this reveals a balance of cash/bank and if assets exceed liabilities, it reveals

a bank overdraft. Thus, under Adjusted Profit and Loss method, the amount of cash is computed by preparing a Cash Flow Statement and the same amount is computed as a balancing figure under Balance Sheet method.

Fixed Budget

According to C.I.M.A., London, "a fixed budget is a budget which is designed to remain unchanged irrespective of the level of activity actually attained." Thus, a budget prepared on the basis of a standard or fixed level of activity is known as a fixed budget. It does not change with the change in the level of activity. Therefore, it becomes an unrealistic yardstick in case the level of activity actually attained does not confirm to the one assumed for budgeting purposes. The management will not be in a position to assess the performance of different heads on the basis of budgets prepared by them because they can serve as yardsticks only when the actual level of activity corresponds to the budgeted level of activity. Fixed budget is useful when there is no significant variation between the budgeted output and the actual output. It does not consider variances due to changes in the volume. In the industries where the pattern of demand is stable a fixed budget may be adequate, especially where the budget period is comparatively short. In such concerns it is possible to forecast sales with a considerable degree of accuracy.

Flexible Budget

Flexible budget, also known as variable or sliding sale budget, is a budget which is designed to furnish budgeted costs for any level of activity actually attained. Flexible budgeting technique may be employed to adjust other budgets according to current conditions arising out of seasonal variations or changes in the length of the working period etc.

According to C.I.M.A., London, "a flexible budget is a budget designed to change in accordance with the level of activity actually attained." Thus, a budget prepared in a manner so as to give the budgeted cost for any level of activity is known as a flexible budget. Such a budget is prepared after considering the fixed and variable elements of cost and the changes that may be expected for each item at various levels of operations.

Under this method, a series of budgets would be prepared at different levels of activity. Variable items are shown in the budget as per the level of output. Fixed costs are shown at the same amount irrespective of level of output. Sales value is computed and entered into the flexible

budget. The position of profit or loss will be revealed at the various levels of activity. Management will take a decision to operate at a particular level of activity where the profit is maximum taking into account all other factors.

A flexible budget is more realistic, useful and practical. The likely changes in the actual circumstances are taken into account while preparing a flexible budget. The technique is highly useful for control purposes. Actual performance of an executive may be compared with what he should have achieved in the actual circumstances and not with what he should have achieved under quite different circumstances.

Zero Based Budgeting (ZBB)

The technique of zero based budgeting suggests that an organisation should not only make decisions about the proposed new programmes but it should also, from time to time, review the appropriateness of the existing programmes. Such review should particularly done of such responsibility centres where there is relatively high proportion of discretionary costs.

Zero based budgeting, as the term suggests, examines a programme or function or responsibility from "scratch." The reviewer proceeds on the assumption that nothing is to be allowed. The manger proposing the activity has, therefore, to prove that the activity is essential and the various amounts asked for are reasonable taking into account the volume of activity. Nothing is allowed simply because it was being done or allowed in the past. Thus, it means writing on a clean slate.

Peter A. Pyhrr defined the zero based budgeting as "an operating planning and budgeting process which requires each manager to justify his entire budget requests in detail from scratch (hence zero basis). Each manager states why he should spend any money at all. This approach requires that all activities be identified as decision packages which would be evaluated by systematic analysis ranked in order of importance."

Thus, a cost-benefit analysis is done in respect of every function or process. It has to be justified while framing budgets. The assumption underlying zero base budgeting is that the budget for the previous period was zero, therefore whatever costs are likely to be incurred or spending programmes are chalked out, justification or the full amount is to be given. Under conventional system of budgeting, however, the justification is to be submitted by the manager only in respect

of the increase in the demand for allotment of funds in excess over the budget for the previous period.

Thus, instead of functionally-oriented spending approach, programme-oriented and decision-oriented approach is followed under zero based budgeting.

Advantages of ZBB

1) This system is decision oriented.

2) The technique is relatively elastic, because budgets are prepared every year as zero base.

3) It reduces wastage, eliminates inefficiency and reduces the overall cost of production because every budget proposal is on the basis of cost-benefit ratio after careful evaluation of different alternatives and the one which is 'best' is approved.

4) It provides for a greater possibility of goal congruence.

5) It takes into consideration inflationary trends, competitor games and consumer behaviour.

6) It vastly improves financial planning and management information system in view of its revolutionary approach.

Disadvantages of ZBB

1) It is possible to quantify and evaluate budget proposals involving financial matters but computation of cost-benefit analysis is not possible in respect of non-financial matteRs

2) The cost of administration of zero based budgeting is high.

3) It may be difficult to search out various alternatives for the same activity.

4) Some decision packages are inter-related which may be difficult to rank.

5) Ranking the decision is a scientific technique. Every manager cannot be expected to have the necessary technical expertise in this matter.

6) Zero based budgeting dismisses that the past is irrelevant and thereby challenges the fundamental theory of continuity.

Budgeting is a continuous process of estimating and forecasting about the future and is based on past happenings.

Standard Costing & Variance Analysis

One of the prime functions of management accounting is to facilitate managerial control and the important aspect of managerial control is cost control. The efficiency of management depends upon the effective control of costs. Therefore, it is very important to plan and control cost. Standard costing is one of the most important tools, which helps the management to plan and control cost of business operations. Under standard costing, all costs are pre-determined and pre-determined costs are then compared with the actual costs. The difference between pre-determined costs and the actual costs is known as variance which is analyzed and investigated to the reasons. The variances are then reported to management for taking remedial steps so that the actual costs adhere to pre-determined costs. In historical costing actual costs are ascertained only when they have been incurred. They are useful only when they are compared with predetermined costs. Such costs are not useful to management in decision-making and cost control. Therefore, the technique of standard costing is used as a tool for planning, decision-making and control of business operations. In this unit you will study the basic concepts of standard costing.

Meaning of Standard Cost

Standard costs are predetermined cost which may be used as a yardstick to measure the efficiency with which actual costs has been incurred under given circumstance. To illustrate, the amount of raw material required to produce a unit of product can be determined and the cost of that raw material estimated. This becomes the standard material input. If actual raw material usage or costs differ from the standards, the difference which is called ‘variance’ is reported to manager concerned. When size of the variance is significant, a detailed investigation will be made to determine the causes of variance

According to the chartered Institute of Management Accountants (C.I.M.A) London, “Standard cost is the predetermined cost based on technical estimates for materials, labour and overhead for a selected period of time for a prescribed set of working conditions.”

The Institute of Cost and Works Accountants defines standard costs as “Standard costs are prepared and used to clarify the final results of a business, particularly by measurement of

variations of actual costs from standard costs and the analysis of the causes of variations for the purpose of maintaining efficiency of executive action."

Thus standard costs is a predetermined which determines what each product or service 'should be' under given circumstances. From the above definitions we may note that standard costs are:

Pre-determined cost: Standard cost is always determined in advance and ahead of actual point of time of incurring of costs.

Based on technical estimated: Standard cost is determined only on the basis of a technical estimate and on a rational basis.

For the purpose of Comparison: The very purpose of standard cost is to aid the comparison with actual costs.

Based for price fixing: The prices are fixed in advance and hence the only variation basis is the standard cost.

Concept of Standard Costing

Standard costing is a technique used for the purpose of determining standard cost and their comparison with the actual costs to find out the causes of difference between the two so that remedial action may be taken immediately. The Charted Institute of Management Accountants, London, defines standard costing as "the preparation of standard costs and applying them to measure the variations from actual costs and analysing the causes of variations with a view to maintain maximum efficiency in production".

Thus, standard costing is a technique of cost accounting which compares the 'standard cost' of each product or service, with the actual cost, to determine the efficiency of the operation. When actual costs differ from standards the difference is called variance and when the size of the variance is significant a detailed investigation will be made to determine the causes of variance, so that remedial action will be taken immediately.

Thus, standard costing involves the following steps:

- Setting standard costs for different elements of costs.

- Recording of actual costs.

- Comparing between standard costs and actual costs to determine the variances

- Analysing the variances to know the causes thereof, and

- Reporting the analysis of variances to management for taking appropriate actions wherever necessary.

The system of standard costing can be used effectively to those industries which are producing standardised products and are repetitive in nature. Examples are cement industry, steel industry, sugar industry etc. The standard costing may not be suitable to jobbing industries because every job has different specifications and it will be difficult and expensive to set standard costs for every job. Thus, standard costing is not suitable in situations where a variety of different kinds of tasks are being done.

Standard Cost and Estimated Costs

Estimates are pre-determined costs which are based on historical data and is often not very scientifically determined. They usually compiled from loosely gathered information and therefore, they are unsafe to use them as a tool for measuring performance. Standard costs are pre-determined costs which aims at what the cost should be rather then what it will be. The following are some of the important differences between standard cost and estimated cost

Standard Cost	Estimated Cost
Standard cost emphasizes as what the cost '*should be*' in a given set of situations.	Estimated cost emphasizes on what the cost '*will be*'.
Standard costs are planned costs which are determined by technical experts after considering levels of efficiency and production	Estimated costs are determined by taking into consideration the historical data as the basis and adjusting it to future trends.
It is used as a devise for measuring efficiency	It cannot be used as a devise to determine efficiency. It only determines expected costs.
Standard costs serve the purpose of cost control	Estimated costs do not serve the purpose of cost control.
Standard costing is part of cost accounting process	Estimated costs are statistical in nature and may not become a part of accounting.
It is a technique developed and recognised by management and academecians	It is just an estimate and not a technique
It can be used where standard costing is in operation	It may be used in any concern operating on a historical cost system.

Standard Costing and Budgeting

Budgeting may be defined as the process of preparing plans for future activities of the business enterprise after considering and involving the objectives of the said organisation. This also provides process/steps of collection and preparation of data, by which deviations from the plan can be measured. This analysis helps to measure performance, cost estimation, minimizing wastage and better utilisation of resources of the organisation. Thus, budgets are prepared on the basis of future estimated production and sales in order to find out the profit in a specified period. In other words Budget is an estimate and a quantified plan for future activities to coordinate and control the uses of resources for a specified period. According to Institute of Cost and Works Accountants, "A budget is a financial and / or quantitative statement prepared prior to a defined period of time, of the Policy to be pursued during that period for the purpose of attaining a given objective." Budgeting is a process which includes both the functions of budget and budgetary control. Budget is a planning function and budgetary control is a controlling system or a technique. You might have already studied the budgeting in detail in Block 3, under Unit-8: Basic Concepts of Budgeting.

The objective of the standard costing and budgeting is to achieve maximum efficiency and cost control. Under both the systems actual performance is compared with predetermined standards, deviations, if any, are analysed and reported. Budgeting is essential to determine standard costs while standard costing is necessary for planning budgets. Both are complimentary in nature and in determining the results. Besides similarities there are certain differences between standard costing and budgeting which are as follows

	Standard costing		**Budgeting**
1.	Standard costing is based on technical information and is fixed scientifically.	1.	It is based on standard cost, historical costs and estimates.
2.	Standard costs are used mainly for the manufacturing function and also for marketing and administration functions. Therefore, it does not require functional coordination.	2.	Budgets are prepared for different functional departments such as sales, purchase, production, finance, personnel department. Therefore, it requires functional coordination.
3.	Standard costs emphasises the cost levels which should be reduced	3.	Budgets emphasises cost levels which should not be exceeded.

4.	In standard costing variances are usually revealed through accounts.	4.	In Budgeting, variances are not revealed through accounts and control in exercised by putting budgeted figures and actual side by side.
5.	In standard costing, a detailed analysis is needed in case of variances.	5.	No further analysis is required if costs are within the budget.
6.	Standard costing sets realistic yardsticks and therefore, it is more useful for controlling and reducing costs.	6.	Budgets generally set maximum limits of expenditure without considering the effectiveness of expenditure.
7.	Standard cost is revised only when there is a change in the basic assumptions and basis.	7.	Budgeting is done before the beginning of each accounting period.
8.	Standard costs are based on the basis of standards set by management.	8.	Budgets are set on the basis of present level of efficiency.
9.	Standard costing cannot be used partially. Standards will have to be set for all elements of cost.	9.	Budgeting can be done either wholly or partly.
10.	Standard cost is a projection of cost accounts.	10.	Budgeting is a projection of financial accounts.

Variance Analysis

After the standard costs have been set, the next step is to ascertain the actual cost of each element and compare them with the standard already set. The difference of actual from the standard is Variance. While setting standard specific method of production is to be kept in mind. If a different method of production is adopted, it gives rise to a different amount of cost, thereby causing variance, known as method variance. In standard costing, Variance means the difference between a standard cost and the comparable actual cost incurred during a period. Variance analysis is the process of analysing variances by sub-dividing the total variance in such a way that management can assign responsibility for any off-standard performance. Thus, variance analysis means the measurement of the deviation of actual performance from the desired performance.

Variance may be favourable or unfavourable depending upon whether the actual cost is less or more than the standard cost. If the actual cost is less than the standard cost, the variance is termed as ‘favourable’ and if the actual cost is more than the standard cost, variance is called as ‘unfavourable’ or ‘adverse’ variance. The effect of favourable variance increases the profit and

it is a sign of efficiency of the organisation. On the other hand, unfavourable variance refers to the loss of the business and it is a sign of inefficiency of the organisation.

Controllable and Uncontrolled Variances

The variance may be classified as Controllable and Uncontrollable. Variance is said to be controllable if it is identified as the primary responsibility of a particular person or department. The excessive use of materials or labour hours than the standards can be attributable to a particular person. When the variations are due to the factors beyond the control of the concerned person or department, it is said to be uncontrolled. The rise in prices of materials, increase in wage rates, Govt. restrictions etc., are the examples of uncontrollable variance. These factors are not within the control of the management and the responsibility of the variance cannot be assigned to any particular person or division. The division of variance into controllable and uncontrollable is important from the view point of management as it can place more emphasis on controllable variance and thus facilitates to the principle of management by exception. Standard costing to be more realistic, sometimes the standards set are to be revised on account of changes in uncontrollable factors like wages, materials etc. To take into account these factors into variance, a 'revised variance' is created and the basic standard is allowed to continue. This revision variance is the difference between the standard cost originally set and the revised standard cost.

Finding variance is not the ultimate objective of the standard costing. But their analysis and finding the causes of variance is the ultimate aim to control cost. Control of cost depends on the corrective action taken by the management. The analysis of variance helps the management to locate deficiency and assign responsibility to particular person or cost centre. The next step of the management is to find out the reason for the variance to pin points where necessary, corrective action should be taken over.

Direct Material Variances

Materials constitute most important element of cost. Therefore, utmost care should be taken in purchasing and using the materials. When deviations occur between the standards specified and the actuals the following variances could be calculated:

Direct Material Cost Variance,

Direct Material Price Variance, and

Direct Material Usage or Quantity Variance

Let us study the above variances in detail.

a. **Direct Material Cost Variance**:

It is the difference between the standard cost of materials specified for the output achieved, and the actual cost of direct materials consumed. The standard cost of materials is computed by multiplying the standard price with the standard quantity for actual output. The actual cost is computed by multiplying actual price with the actual quantity used. The Direct Material Variance may be calculated with help of the following formula:

Direct Material Cost Variance (DMCV) = Standard Cost – for actual output Actual Cost

Where,

Standard Cost = Standard Price per unit X Standard Quantity used for actual output

Actual Cost = Actual Price X Actual Quantity used.

Direct material cost variance arises due to change in price of materials or change in the quantity of material used or both. If the standard cost is more than the actual cost, the variance will be favourable and on the other hand, if the actual cost is more than the standard cost the variance will be unfavourable or adverse.

b. **Direct Material Price Variance**:

Direct Material Price Variance is the difference between actual price and standard price of materials consumed. Material price variance may arise due to the following reasons:

i) Changes in the prices of materials,

ii) Uneconomical size of purchase orders,

iii) Failure to purchase materials at proper time,

iv) Fluctuations in the cost of transportation and carriage of goods,

v) Buying efficiency or inefficiency

vi) Not availing cash discounts when setting standards,

vii) Purchase of substitute material for non-availability of specified material

viii) Changes in the duty structure which is forming part of price,

ix) Inefficiency of purchase department etc.

Some of the above factors are controllable if proper care is exercised by the management. Generally, the Purchase Manager will be held responsible for material price variance. Material price variance will be calculated as follows:

Direct Material Price Variance = Actual Quantity (Standard Price – Actual Price)

= AQ (SP – AP)

If the standard price is more than the actual price, the variance would be favourable and in case the actual price is more than the standard price, it shows adverse variance. Adverse material price variance shows that unfavourable prices were paid for materials consumed and the Purchase Manager would be asked to explain the position.

Material Usage (Quantity) Variance: Material Usage Variance is that portion of material cost which arises due to the difference between the standard quantity specified and the actual quantity used. In other words, it is the difference between standard quantity for actual output and actual quantity, multiplied by standard price of material. The formula for material usage variance is as follows:

Material Usage Variance (MUV) = Standard Price (Standard Quantity for actual output – Actual Quantity)

$$MUV = SP (SQ - AQ)$$

This Variance will be considered favourable when standard quantity is more than actual quanity and vice versa. The production Manager will be held responsible for material usage variance. Material usage variance will arise due to the following reasons:

i) Use of sub-standard or defective materials,

ii) Carelessness in the use of materials,

iii) Use of substitute materials,

iv) Inefficient production methods,

v) Change in designs than those specified,

vi) Pilferage of material,

vii) Use of non-standard mix,

Direct Material Cost Variance is equal to the sum of Direct Material Price Variance and Material Usage Variance. Thus,

Direct Material Cost Variance = Material Price Variance + Material Usage Variance

Classification of Material Usage Variance:

When more than one type of material is used in producing a product, the total usage variance will be classified into (a) Material mix Variance and (b) Material Yield Variance. Let us study these two variances in detail:

a) Material Mix Variance: Material Mix Variance may be defined as that portion of the material usage variance which is due to the difference between the standard and actual composition of material mixture. It means that the cause of variance is due to a change in the ratio of actual material mix from the standard material mix. The variance results from a variation in the materials mix used in production. Material mix variance may arise in those industries where a number of raw materials are mixed in order to produce a final product. Examples are chemical industries, rubber industries etc.

Material Mix Variance is calculated as follows:

Material Mix Variance = (Revised Standard Quantity – Actual Quantity) X Standard Price

Or

RSQ = Total AQ X Standard Ratio

Where,

$$Revised\ Standard\ Quantity = \frac{Standard\ Qty.\ for\ each\ Material}{Total\ Std.Qty\ for\ all\ Material} * Total\ of\ all\ Materials$$

If the actual quantity is more than revised standard quantity, an adverse variance will occur and vice versa.

Material mix variance may arise due to the following reasons:

i) Price actually paid for materials differs from standard prices

ii) Delay in supply of raw materials

iii) Non-availability of one or more components of the mix

iv) Non-purchase of materials at proper time

v) Inefficiency in production department to use proper mix

vi) Actual mix may be different from standard mix, etc.

b) Material Yield Variance (MYV) : Material Yield Variance is calculated on the basis of output while the other variance are calculated on the basis of input. The variance is calculated as the difference between the standard output and the actual output. If the actual output is more than the standard output, then the variance would be favourable and vice versa. The formula for material yield variance is as follows:

Material Yield Variance = (Actual Yield – Standard Yield) Standard output price

Where, standard output price is the total standard material cost per unit of output,

$$Standard\ Yield = \frac{Actual\ Usage\ of\ Material}{Standard\ Usage\ Per\ Unit\ of\ Output}$$

This variance arises in the case of process industries where loss of material is inevitable in the process of production of final product. Therefore, in these industries normal loss is to be taken into account while setting standards. But the actual loss may be different from the normal loss during the process of actual production. This gives rise to the variance in the standard yield. The material yield variance may be caused due to the following reasons:

i) Defective method of operation

ii) Purchase of substandard quantity of material

iii) Lack of proper care in handling

iv) Lack of proper supervision etc.

It should be noted that where several types of materials are used Material Revised Usage Variance (MRUV) and Material Yield Variance (MYV) imply the same thing, though both are computed using different formulae.

Direct Labour Variances

The labour directly engaged in the production of a product is known as direct labour. The wages paid to such labour is known as direct wages. For example, the wages paid to a machine operator is a direct labour cost. Labour variances arise when actual labour costs are different from standard labour cost. The setting up of standard direct labour cost will depend upon the following factors:

a) Methods of Production: Standardized methods of production will be decided by studying motion study.

b) Labour time standards: The time taken by different categories of workers is known as Labour time standard it will be ascertained by using past record performance, time and motion study.

c) Labour rate standards: It refers to the expected wage rate to be paid to different categories of workers. While deciding standard labour rate past wage rates, demand and supply of labour, anticipated changes in wage rates etc. should be taken into account. The methods of wage payment like time rates or piece rates and incentive plans are also to be considered while fixing standard labour rate.

d) Different grade of labour mix: Standard proportion of different grades of labour mix is another important factor in setting standard labour cost.

Direct labour variance is the difference between the standard direct labour cost specified for the activity achieved and the actual direct labour cost incurred. It is calculated as follows:

Direct Labour Cost Variance = Standard Labour Cost – Actual Labour Cost

or

= (Std. hours X Std. Rate) – (Actual hours X Actual rate)

= (SH X SR) – (AH X AR)

Note: When the actual output differs from standard output, standard labour cost of actual output is to be worked out and then the following formula is to be applied:

DLCV = Std. cost of actual production – Actual cost

Direct Labour Cost Variance is sub-divided into:

1. Labour Rate Variance
2. Labour Efficiency Variance

Labour Efficiency or Time Variance may again sub-divide into:

a. Labour Idle Time Variance
b. Labour Mix Variance and Labour Yield Variance

Labour Rate Variance

Labour rate variance is that portion of the usage variance which is due to the difference between standard rate specified and actual rate paid. It is calculated with the help of the following formula:

Labour Rate Variance = (Standard Rate – Actual Rate) X Actual Hours Paid

LRV = (SR – AR) X AHP

The variance will be favourable if actual rate is less than the standard rate and it will be adverse if actual rate is more than the standard rate. The responsibility for labour rate variance lies with the production centre. Labour rate variance is generally uncontrollable.

If the variance is due to wrong grade of labour, the responsibility lies on production foreman. Labour rate variance arises due to the following reasons:

i) Change in the basic wage rate of piece-work rate
ii) Employment of one or more workers of different grades than the standard grade
iii) Payment of more overtime than fixed earlier
iv) Higher or lower wage rates paid to casual labourers
v) Faculty recruitment and placement of workers

vi) New workers not being paid at full wage rates etc.

Labour Time Variance or Labour Efficiency Variance

Labour efficiency ratio is the difference between the standard labour hours specified for actual output and the actual hours paid for. This variance helps in controlling efficiency of workers and also labour cost. This variance can be calculated as follows:

Labour Efficiency Variance = (Standard hours for actual production – Actual hours worked) X Standard rate

OR

(LEV) = (SHAP – AHW) X SR

If actual time taken for doing a work is more than the specified standard time, the variance will be unfavourable and vice versa. Labour efficiency ratio arises due to one or more of the following reasons:

1) Defective machinery and equipment

2) Lack of proper supervision

3) Use of defective or non-standard materials

4) Lack of proper training to workers

5) Poor working conditions

6) Labour turnover or change over of workers from one operation to another.

7)Alterations in the methods of production

Labour efficiency variance is the responsibility of Production Manager and is similar to materials usage variance. Both these variance measure the difference in performance.

Classification of Labour Efficiency Variance

Labour efficiency variance can be further sub-divided into:

1) Labour Idle Time Variance

2) Labour Mix Variance

3) Labour Yield Variance

Labour Idle Time Variance

Labour Idle time variance is a sub-variance of labour efficiency variance. It is the standard wage payable during the idle hours due to abnormal circumstance like strikes, lockout, break-down or machinery, power cut, shortage or raw materials etc. The abnormal idle time should be separated from the labour efficiency variance as it is due to the reasons beyond the control of workers. Otherwise it will show inefficiency on the part of workers. This variance will always be adverse. It is calculated as follows:

Idle Time Variance = Idle Hours X Standard Rate

ITV = IH X SR

Labour Mix Variance

It is also known as Gang composition Variance. It is similar to Material Mix variance and is a part of labour efficiency variance. Labour mix variance arises only when two or more different types of workers employed and the composition of actual grade of workers differ from the standard composition of workers. The change in the labour composition may be due to shortage of one grade of labour. This variance indicate how much labour cost variance is there due to the change in labour composition. It is calculated with the help of the following formula:

Labour Mix Variance = Standard Cost of Standard Mix – Standard Cost of Actual Mix

LMV = SCSM – SCAM,

Or

Labour Mix Variance = (Revised Standard – Actual Hours Worked) X Standard Rate

Symbolically,

LMV = (RSH – AHW) X SR

Where,

$$RSH = Actual\ Total\ Hours\ Worked * Standard\ Ratio\ of\ Workers$$

$$RSH = \frac{Std.\ Hours\ of\ the\ grade}{Total\ Standard\ Hours} * Total\ Actual\ Hours\ Worked$$

Where,

Actual Hours Worked = Actual hours – Idle Time

If the actual hours taken are less than the revised standard hours, the variance is favourable, and vice versa.

Labour Revised Efficiency Variance (LREV)

This variance arises due to the difference between the total actual hours taken and the total standard hours specified for the actual output. This variance is a sub-variance of labour efficiency variance. It arises when there is difference between actual hours paid and actual hours worked, there will be revised efficiency variance and idle time variance. The formula for Labour Revised Efficiency Variance is:

LREV = (Standard Hours for Actual output – Revised Standard Hours) X Standard Rate

Where,

$$RSH = \frac{Standard\ Hours\ of\ the\ grade}{Total\ Standard\ Hours} * Total\ Actual\ Hours\ Paid$$

Or

= Total Actual Hours Paid X Standard Ratio

Labour Yield Variance (LYV)

It is similar to Material Yield Variance. It studies the impact of actual yield on labour cost where output varies from the standard. The formula for LYV is:

Labour Yield Variance = (Actual yield – Standard yield) X Standard labour cost per unit of output

Where,

$$\frac{Standard\ Output}{Total\ AH} * AHW = Std.Yield$$

$$Std.Labour\ Cost\ Per\ Unit = \frac{Standard\ Cost}{Standard\ Output\ (Units)}$$

If the standard yield is more than the actual yield the variance will be adverse and vice versa.

Overhead Variances

After having studied the variance analysis consisting of material and labour variances. Let us proceed to analysis of variances relating to overheads. Now the overheads variance analysis is different from variance analysis relating to materials and labour. Here the overheads and inputs are already determined. These pre-determined overheads and inputs are called the standard. The overhead is considered in terms of predetermined rate and is applied to the input. There can be different bases for the absorption of overheads e.g., labour hours, machine tools, output (in units), etc.

Overhead variances may be classified into fixed and variable overhead variances and fixed overhead variance can be further analysed according to the courses. In case of variable overheads, it is assured that variable overheads vary directly with production so that any change in expenditure can affect costs. Some authors say that a variance may arise through inefficiency, but as these costs are usually very small per unit of output, it is to be ignored and any variance in variable overhead is attributed to expenditure variance. Considering the fixed overheads cost, the difficulty arises in determining standard overhead rates. This is so because this is dependent on the volume or level of activity. Any change in volume or level of activity causes a change in the overhead rate. Therefore the fixing the volume or level of activity is a crucial aspect in determining standard overhead rate. Now if the management decides to change the normal volume or level of activity, without a corresponding change in the fixed amount of overheads, then a change occurs in the overhead rate. Here it may be noted that in the case of material or labour variances, the volume decision does not in any way influence the fixation of standard rate. So to resolve this problem, normally the Budget is used in place of the standard.

Another important thing to be noted in case of overhead analysis is that different writers use different modes of computation of overhead variance and also different terminologies. E.g. spending variance is same as expenditure variance and volume variance is same as capacity variance.

After having discussed the preliminary aspect of overhead variance, now we go about the analysis of the overhead cost variances.

Overhead cost variance is the difference between standard cost of overhead absorbed in the output achieved and the actual overhead cost. Simply, it is the difference between total standard overheads absorbed and total actual overheads incurred. Therefore, the formula for overhead cost variance is as follows:

Overhead Cost Variance (OHCV) = Total Standard Overheads – Total Actual Overheads

The overhead cost variance may be divided into variable overhead cost variance and fixed overhead cost variance. Fixed cost variance may be further divided as fixed expenditure variance and fixed volume variance. Fixed volume variance may again be sub-divided into efficiency variance, capacity variance and calendar variance. Let us study, how these variances are calculated.

Variable Overhead Cost Variance (V.OH.C.V):

This variance is the difference between the standard variable overhead and the actual variable overhead. The formula is:

Variable Overhead Cost Variance = Standard Variable overhead for actual output – Actual Variable Overhead

Where,

Standard Variable Overhead = Standard hours allowed for actual output X Standard Variable Overhead Rate

$$Std.Variance\ OH\ Rate = \frac{Standard\ Variable\ Overheads}{Standard\ Output}$$

It is stated earlier that there are two basic variances, price and volume. If volume does not affect the cost per unit the only variance to be calculated is price variance known as the variable overhead variance. But when assumed that variable overheads do not move directly with output, the variable overhead variances are to be calculated on similar lines as to fixed overhead variances which you will study later. In this unit, we are assuming that variable overheads do change directly with the output and infact it is the practice that many firms follow and by a number of writers on the subject.

Variable overhead cost variances arise due to the following reasons:

1) Advance payment of overheads

2) Outstanding overheads during the current period

3) Payment of past outstanding overheads during the current period

Fixed Overhead Variances

The treatment of these variances differ from that of variable overhead variable because of the fact that the fixed overheads are incurred anyway and do not vary with change in production levels. These have to be apportioned to production on a basis. Now the standard recovery rate is fixed by considering the budgeted fixed overhead by budgeted or normal volume, regardless of actual activity. It also can be on the basis of management's idea of normal volume, which may considerably differ from actual volume or even actual time taken. So when overheads are actually incurred, they may be over recovered or under-recovered. This over or under recovery is known as the variance. Now this variance can be on the basis of output (in units) or standard time

Fixed Overhead Variance

It is also called fixed overhead cost variance by some writers, and represents the total fixed overhead variance. Actually it is the difference between the Standard fixed overhead charged on the basis of actual fixed overhead.

Symbolically we can express it as:

Fixed Overhead Variance = Standard Fixed Overhead – Actual Fixed Overheads

Fixed Overhead Variance may be further subdivided into two:

1) Fixed overhead volume variance

2) Fixed overhead expenditure variance

1) Fixed Overhead Volume Variance: Also called as activity variance by some writers, this is the difference between the Budgeted hours based on normal volume and the standard hours for actual output. Now the variance occurs because all the overheads cannot actually be absorbed or may be over absorbed in some cases.

Symbolically we can compute this variance as follows:

Fixed overhead volume variance = Standard Rate of recovery of fixed overheads X (Standard hours – Budgeted hours)

Where,

$$Standard\ Rate\ of\ Recovery\ of\ Fixed\ OH = \frac{Budgeted\ fixed\ Overheads}{Budgeted\ Hours}$$

Classification of Fixed overhead volume

Fixed overhead volume variance can be sub-divided into:

i) Fixed overhead efficiency variance

ii) Fixed overhead calendar variance

iii) Fixed overhead capacity variance

i) Fixed Overhead Efficiency Variance: This is the difference between actual hours taken to complete a work and standard hours that should have been taken to complete a work and standard hours that should have been taken to complete the work.

It measures the efficiency of performance. Symbolically we can express it as

Fixed overhead efficiency variance

= Standard fixed rate of recovery X (Standard Hours– Actual hours)

ii) Fixed Overhead Calender Variance: This variance arises due to the actual time consumed, expressed in terms of hours or days as the case may be, being different from standard time that should have been taken. In other words, it is due to the difference between the number of working days in the budgeted period and the number of actual working days in the period to which the budget is applied. This variance is obtained by multiplication of the standard rate of recovery of fixed or overhead by difference between revised budgeted hours and budgeted hours.

Symbolically it can be expressed as:

Fixed Overhead Calendar Variance

= Standard Rate of Recovery of fixed overheads (per hour) (Revised Budgeted Hours – Budgeted Hours) or

= (Actual no. of working days – Standard no. of working days) X Standard rate of recovery of fixed overheads (per day)

The calendar variances arise due to the extra holidays declared to celebrate the anniversary of the firm or on the death of a national leader or any other reason. It arises only in exceptional circumstances as normal holidays are taken into account while setting the standards. When there is no change in the working days then there should be no need for a calendar variance. Generally, this variance is adverse, but sometimes it shows favourable variance where there are extra working days.

iii) Fixed Overhead Capacity Variance: This variance arises due to difference between Revised Budgeted Hours and the actual hours taken multiplied by the standard rate of recovery of fixed overheads. Symbolically we can express this as:

Fixed overhead capacity variance = Standard rate of recovery of fixed overheads X (Actual hours – Revised Budgeted hours)

Where, Revised Budgeted Hours = Standard hours per day X Actual no. of days

This variance arises when there is difference between utilization of plant capacity of planned and actual utilization of plant capacity. It may be due to the factors like idle time, strikes, power failure etc. This variance can be both favourable a well as unfavourable. If the actual hours worked is more than revised budgeted hours it is favourable and vice versa.

Check:

Fixed overhead volume variance = Fixed overhead efficiency variance + Fixed overhead capacity variance + Fixed overhead calendar variance

Note: When there is no calendar variance, the calculation of capacity variance has to be modified as follows:

Capacity variance = Standard Rate of recovery of fixed overheads X (Actual hours – Budgeted Hours)

Check

Fixed overhead Volume Variance = Efficiency Variance + Capacity Variance

Module V

Demerits of Traditional Costing, Activity Based Costing, Cost Drivers, Cost Analysis under ABC (Unit level, Batch level and Product Sustaining Activities), Benefits and weaknesses of ABC, Simple Problems under ABC.

Introduction

To support compliance with financial reporting requirements, a company's traditional cost-accounting system is often articulated with its general ledger system. In essence, this linkage is grounded in cost allocation. Typically, costs are allocated for either valuation purposes (i.e., financial statements for external uses) or decision-making purposes (i.e., internal uses) or both. However, in certain instances costs also are allocated for cost-reimbursement purposes (e.g., hospitals and defense contractors).

The traditional approach to cost-allocation consists of three basic steps: accumulate costs within a production or nonproduction department; allocate nonproduction department costs to production departments; and allocate the resulting (revised) production department costs to various products, services, or customers. Costs derived from this traditional allocation approach suffer from several defects that can result in distorted costs for decision-making purposes. For example, the traditional approach allocates the cost of idle capacity to products. Accordingly, such products are charged for resources that they did not use. Seeking to remedy such distortions, many companies have adopted a different cost-allocation approach called activity-based costing (ABC).

Activity-Based Costing

In contrast to traditional cost-accounting systems, ABC systems first accumulate overhead costs for each organizational activity, and then assign the costs of the activities to the products, services, or customers (cost objects) causing that activity. As one might expect, the most critical aspect of ABC is activity analysis. Activity analysis is the processes of identifying appropriate output measures of activities and resources (cost drivers) and their effects on the costs of making a product or providing a service. Significantly, as discussed in the next section, activity analysis provides the foundation for remedying the distortions inherent in traditional cost-accounting systems.

Traditional Cost Accounting Systems Versus ABC

Geared toward compliance with financial reporting requirements, traditional cost-accounting systems often allocate costs based on single-volume measures such as direct-labor hours, direct-labor costs, or machine hours. While using a single volume measure as an overall cost driver seldom meets the cause-and-effect criterion desired in cost allocation, it provides a relatively cheap and convenient means of complying with financial reporting requirements.

In contrast to traditional cost-accounting systems, ABC systems are not inherently constrained by the tenets of financial reporting requirements. Rather, ABC systems have the inherent flexibility to provide special reports to facilitate management decisions regarding the costs of activities undertaken to design, produce, sell, and deliver a company's products or services. At the heart of this flexibility is the fact that ABC systems focus on accumulating costs via several key activities, whereas traditional cost allocation focuses on accumulating costs via organizational units. By focusing on specific activities, ABC systems provide superior cost allocation information—especially when costs are caused by non-volume-based cost drivers. Even so, traditional cost-accounting systems will continue to be used to satisfy conventional financial reporting requirements. ABC systems will continue to supplement, rather than replace, traditional cost-accounting systems.

Implementation

In most cases, a company's traditional cost-accounting system adequately measures the direct costs of products and services, such as material and labor. As a result, ABC implementation typically focuses on indirect costs, such as manufacturing over-head and selling, general, and administrative costs. Given this focus, the primary goal of ABC implementation is to reclassify most, if not all, indirect costs (as specified by the traditional cost-accounting system) as direct costs. As a result of these reclassifications, the accuracy of the costs is greatly increased.

According to Ray H. Garrison and Eric W. Noreen, there are six basic steps required to implement an ABC system:

1. Identify and define activities and activity pools
2. Directly trace costs to activities (to the extent feasible)

3. Assign costs to activity cost pools
4. Calculate activity rates
5. Assign costs to cost objects using the activity rates and activity measures previously determined
6. Prepare and distribute management reports

Costs & Benefits

While ABC systems are rather complex and costly to implement, Charles T. Horngren, Gary L. Sundem, and William O. Stratton suggest that many companies, in both manufacturing and nonmanufacturing industries, are adopting ABC systems for a variety of reasons:

1. Margin accuracy for individual products and services, as well as customer classifications, is becoming increasingly difficult to achieve given that direct labor is rapidly being replaced with automated equipment. Accordingly, a company's shared costs (i.e., indirect costs) are becoming the most significant portion of total cost.
2. Since the rapid pace of technological change continues to reduce product life cycles, companies do not have time to make price or cost adjustments once costing errors are detected.
3. Companies with inaccurate cost measurements tend to lose bids due to over-cost products, incur hidden losses due to under-costed products, and fail to detect activities that are not cost-effective.
4. Since computer technology costs are decreasing, the price of developing and operating ABC systems also has decreased.

In 2004 John Karolefski cited the following benefits realized by foodservice distributors and restaurants that have converted to activity-based costing practices:

1. Understanding the true costs and productivity of capital equipment
2. Understanding which products are most profitable and where to focus sales efforts
3. More accurate pricing and determination of minimum order size
4. Less time, money, and effort spent on the wrong products

Implementation costs are an obstacle to some, who feel that ABC is just a fad or will show little benefit. According to Karolefski, "ABC works better if it's kept simple" (2004, pp. 18). Nevertheless, when implemented properly ABC yields benefits to the company, its business partners, and to consumers.

Activity-Based Management

In order to manage costs, a manager should focus on the activities that give rise to such costs. Accordingly, given the activity focus of ABC, managers should implement ABC systems in order to facilitate cost management. Using ABC systems to improve financial management is called activity-based management (ABM). The goal of ABM is to improve the value received by customers and, in doing so, to improve profits.

The key to ABM success is distinguishing between value-added costs and non-value-added costs. A value-added cost is the cost of an activity that cannot be eliminated without affecting a product's value to the customer. In contrast, a non-value-added cost is the cost of an activity that can be eliminated without diminishing value. Some value-added costs are always necessary, as long as the activity that drives such costs is performed efficiently. However, non-value-added costs should always be minimized because they are assumed to be unnecessary. Examples of non-valued-added activities include storing and handling inventories; transporting raw materials or partly finished products, such as work-in-process inventory items, from one part of the plant to another; and redundancies in production-line configurations or other activities. Oftentimes, such non-value activities can be reduced or eliminated by careful redesign of the plant layout and the production process.

Responsibility Accounting

As the title suggests, responsibility accounting is a cost accounting system established on a responsibility basis. A basis is said to be responsible where actual results are as close to planned results as possible. As such, the variances are minimal. Planned results could be stated in budgets and standards. Properly speaking, responsibility accounting is a method of budgeting and performance reporting created around the structure of the organization. Individual managers

are hold accountable for the costs within their jurisdiction. The purpose, obviously, is to exercise control over the operations.

Hence, in simple words, it could be described as a system of collecting and reporting accounting data on the basis of managerial level. Moore and Jaedicke rightly define it as "the approach to accountability- identification of cost, with the persons responsible for their incurrence. Performance is evaluated by assigned responsibilities. Reporting on performance is on the lines of organizational structure. There is a separate report for each box of the organization chart.

Responsibility accounting considers both historical and future costs. For some purposes, the activity of responsibility centres is expressed in historical amounts. For others, these are expressed in estimated future amounts.

Module VI

Cost Audit – Objectives, Advantages, Areas and Scope of Cost Audit, Cost Audit in India – Practical – Read the contents of the report of Cost Audit and the annexure to the Cost Audit Report.

Management Audit – Aims and the objectives, Scope of Management Audit.

Cost Audit

The institute of cost and management accountants, London says " Cost audit is the verification of cost accounts and a check on the adherence to cost accounting plan". The term stands for a detailed checking of the costing records system and techniques of periodical intervals with a view to verifying their correctness. It seeks to ensure that all the routines and directions relating to cost accounts have been duly compiled with and the cost has been correctly ascertained with reference to the circumstances and relevant data available.

Cost audit procedure

A cost auditor flows more or less the same procedure as the financial auditor and could be stated as below

- An audit programme is laid down and observed
- Only a proportion of day to day transactions are checked .fully checking is undertaken only when amounts are large or precisely exact analysis is insisted upon
- Audit note sheets are compiled
- Unusual items are examined and queries followed up until the auditor is certain that he has obtained the full explanation.

Merits of cost audit

- Improves performance
- Cost audit reports are highly desirable basis to enter into contract
- It reveals centers of excessive costs
- Helps in Fair pricing policy
- Helps in inter and intra firm comparison

Overview

India was the first country in South Asia (and perhaps in the world) to make cost audit mandatory for some of its business sectors. The Institute of Cost and Works Accountants of India (ICWAI) refers to cost audit as an audit of efficiency of minute details of expenditure while the work is in progress and not a post-mortem examination. Objectives of cost audit include the determination and control of cost together with providing data for making judgements and decisions on various matters, such as operational efficiency. GOI has added industries involved in the manufacturing of plantation products together with the petroleum and telecommunication industries in 2002 to the list of industries requiring mandatory cost audits.

Objectives

From the perspective of management: Cost audit detects errors, frauds and misappropriation and hence enhances efficiency. 2. From the perspective of shareholders: Cost audit ensures that the valuation of closing stock and work-in-progress are correct, hence helps in the computation of more accurate profit figures. 3. From the perspective of the government: To curb the profiteering by the manufacturing concerns and help in the decision to provide tariff protection to any industry. 4. From the perspective of customers: Customers may obtain more benefit if the cost is reduced due to effective control, implemented as a result of a cost audit. 5. From the perspective of cost accountants: Cost accountants, who are employees of a company, obtain a share of all benefits derived by the company from a cost audit.

Financial Audit vs Cost Audit

- Financial Audit :The Companies Act 1956, which has been amended several times, and is now known as Companies (Amendment)/(Second Amendment) Act 2002 contains the detailed provisions concerning the preparation of annual accounts and reporting.
- Cost Audit :A cost accountant offers to perform or perform services concerning the costing or pricing of goods and services or the preparation, verification or certification of cost accounting and related statements.
- COST AUDIT PROGRAMME The Cost Auditor should pay his attention to the following records: Record of Materials Labour Records Record of Overhead Charges

Depreciation Work-in-Progress Records Incomplete Records Stores and Spare Parts Records

Cost Audit (Report) Rules, 1996

* This Rules have been amended vide the Cost Audit Report Rules 2001, dated 27.12.2001, notification No.G.S.R. 924(E)

In exercise of the powers conferred by sub-section (4) of section 233B, read with sub-section (1) of section 227 and clause (b) of sub-section (1) of section 642, of the Companies Act, 1956 (1 of 1956), and in supersession of the Cost Audit (Report) Rules, 1968, except as respect things done or omitted to be done, before such supersession, the Central Government hereby makes the following rules, namely:-

1. Short title and commencement-

(1) These rules may be called the Cost Audit (Report) Rules, 1996.

(2) They shall come into force on the date of their publication in the Official Gazette.

2. Definitions

In these rules, unless the context otherwise requires,

(a) "Act" means the Companies Act, 1956 (1 of 1956) ;

(b) "Cost Auditor" means an auditor appointed under sub-section (1) of section 233B of the Act;

(c) "Form" means the Form of Cost Audit Report specified in the Schedule ; and includes Annexure to the Cost Audit Report and Proforma specified in the Schedule.

(d) "Product under reference" means the product to which the rules made under clause (d) of sub-section (1) of section 209 of the Companies Act, 1956 (1 of 1956) apply;

(e) "Schedule" means Schedule annexed to these rules ;

(f) All other words and expressions used in these rules but not defined, and defined in the

Act and rules made under section 209 of the Act shall have the same meanings respectively assigned to them in the Act or rules, as the case may be.

Application –

These rules shall apply to every company in respect of which an audit of the cost accounting records has been ordered by the Central Government under sub-section (1) of section 233B of the Act.

4. Form of Report-

(1) Every Cost Auditor who conducts an audit of the cost accounting records of the company shall submit a report in triplicate to the Central Government in the Form (including Annexures and proforma) in accordance with the procedure specified in the Schedule annexed to these rules and at the same time forward a copy of the report to the company.

(2) Every Cost Auditor, who submits a report under sub-rule (1), shall also give clarifications, if any, required by the Central Government on the Cost Audit Report submitted by him, within thirty days of receipt of the communication addressed to him calling for such clarifications.

5.Time limit for submission of report -

The Cost Auditor shall send his report referred in sub-rule (1) of rule 4 to the Central Government and to the concerned company within one hundred and eighty days from the end of the company's financial year to which the Cost Audit Report relates.

6. Cost auditor to be furnished with the cost accounting records, etc.

(1) Without prejudice to the powers and duties the Cost Auditor shall have under sub-section (4) of section 233B of the Act, the company and every officer thereof, including the persons referred in sub-section (6) of section 209 of the Act, shall make available to the Cost Auditor within ninety days from the end of the financial year of the company such cost accounting records, cost statements, other books and papers that would be required for conducting the cost audit, and shall render necessary assistance to the Cost Auditor so as to enable him to complete the cost audit and sent his report within the time limit specified in rule 5.

(2) If the cost accounting records, cost statements, other books and papers are not made available by the company within the time limit specified in sub-rule (1), the Cost Auditor shall intimate the fact of not having made available to him such records, statements, books and papers to the Central Government within ten days after expiry of time limit of ninety days specified in sub-rule (1).

7. Penalties -

(1) If default is made by any Cost Auditor in complying with the provisions of rule 4 or rule 5, he shall be punishable with fine which may extend to five hundred rupees.

(2) If a company contravenes the provisions of rule 6, the company and every officer of the company including the persons referred to in sub-section (6) of section 209 of the Act, who is in default, shall, subject to the provisions of section 233B of the Act, be punishable with fine which may extend to five hundred rupees and where the contravention is a continuing one, with a further fine which may extend to fifty rupees for every day after the first day during which period such contravention continues.

8. Saving-

Saving of action taken or that may be taken for contravention of the Cost Audit (Report)

Rules, 1968- It is hereby clarified that the supersession the Cost Audit (Report) Rules, 1968, as amended from time to time, shall not in any way affect-

(i) any right, obligation or liability acquired, accrued or incurred there under ;

(ii) any penalty, forfeiture or punishment incurred in respect of any contravention committed there under ;

(iii) any investigation, legal proceeding or remedy in respect of any such right, privilege, obligation, liability, penalty, forfeiture or punishment as aforesaid, and ; any such investigation, legal proceeding or remedy may be instituted, continued or enforced and any such penalty, forfeiture or punishment may be imposed as if those rules had not been superseded.

ANNEXURE TO THE COST AUDIT REPORT

[See rule 2(c) and 4]

1. General

(1) Name and address of the registered office of the company whose accounts are audited.

(2) Name and address of the Cost Auditor.

(3)Reference number and date of Government Order under which the audit is conducted.

(4) Reference number and date of the Government letter approving the appointment of the

Cost Auditor.

(5) The company's financial year for which the Audit Report is rendered.

(6) Location of factory/factories.

(7) Date of first commencement of commercial production of the product under reference.

(If more than one factory under the same company produces the product under reference, particulars in respect of each may be given).

(8) If the company is engaged in other activities besides the manufacture of the product under reference, give a brief note on the nature of such other activities.

(9) A copy of the Annual Report, along with the audited Profit and Loss Account and

Balance Sheet in respect of the company's financial year for which the report is rendered, shall be enclosed with the Cost Audit Report.

2. Cost Accounting System

(1) Briefly describe the cost accounting system existing in the company and comment on the same, keeping in view the requirements of the Cost Accounting Records Rules applicable to the class of companies manufacturing the product under reference and also its adequacy or otherwise to determine correctly the cost of production of the product.

The description of the system shall cover, inter alia, the procedure for accounting of materials, labour, depreciation, overheads and their allocation apportionment and absorption to products, treatment of by-products, joint products, scrap etc. Specify persistent deficiencies in the system pointed out in earlier reports but not rectified.

(2) Give specific comments on the inventory valuation system followed for raw materials, for work-in progress and for finished products in respect of the product under reference.

(3) Briefly specify the changes, if any made in the costing system, method of overhead allocation, apportionment, etc. during the current financial year as compared to the previous financial year.

3. Financial Position

Indicate separately the particulars of amounts in respect of each items (1)(a), (2), (3)(a) and

4(a) mentioned below, duly reconciled with the financial accounts of the company and in respect of each item 1(b), 3(b), 4(b), 5 and 6 mentioned below duly reconciled with cost accounts of the company.

(1) Capital employed - Capital employed as average of fixed assets at net book values (excluding intangible assets, value of revalued fixed assets, investment outside the business, capital works in progress, miscellaneous expenditure and losses) and current assets minus current liabilities existing at the beginning and close of the financial year.

(a) For the company as a whole ; and

(b) For the product under reference.

(2) Net Worth- Net-worth as share capital plus reserves and surplus (excluding revaluation reserve) less accumulated losses and intangible assets. If there is any change in the composition of the net worth during the current financial year of reporting, special mention may be made with the reasons there for.

(3) Profit- Profit as the profit after providing for depreciation and all other expenses except interest on borrowings including debentures but before providing for taxes on income :-

(a) For the company as a whole; and

(b) For the product under reference.

Note:-

The profit arrived at for the company and the product shall not include interest received on investments outside the business, capital gains, and any other income which is neither normal nor of recurring nature. The profit so arrived shall be the normal profit earned during the current financial period of the company.

(4) Net sales-

Define net sales as sales excluding sales returns, excise duties, sales tax, octroi and other local taxes :-

(a) For the company as a whole; and

(b) For the product under reference.

(5) Operating profit-

Define operating profit as the excess of the operating revenue over the operating expenses for the product under reference.

(6) Value addition-

Define value addition as the difference between the net output value (net sales) and cost of bought out materials and services for the product under reference.

(7) Ratios-

Indicate ratios expressed in terms of value in rupees and as percentage separately in respect of following, namely:-

(a) For the company is a whole;

(i) Profit arrived at item 3(3)(a) to capital employed as per item 3(1)(a) ;

(ii) Profit arrived at item 3(3)(a) to net sales as per item 3(4)(a) ;

(iii) Current assets to current liabilities;

(iv) Net worth arrived at item 3(2) to capital employed as per item 3(1)(a) ;

(v) Net worth arrived at item 3(2) to long term borrowings and liabilities.

(b) For the product under reference:

(i) Profit arrived at item 3(3) (b) to capital employed as per item 3(1) (b) ;

(ii) Profit arrived at item 3(3) (b) to net sales as per item 3(4) (b);

(iii) Operating profit arrived at item 3(5) to

(a) Capital employed as per item 3(1) (b);

(b) Net sales as per item 3(4) (b) ; and

(c) Value addition as per item 3(6);

(iv) Value addition arrived at item 3(6) as a percentage of net sales as per item 3(4)(b) ;

(v) Working capital requirement in terms of number of months of cost of sales excluding depreciation.

4. Production

The following information is to be given for each type of product under reference and for each factory, namely :-

(1) Licensed/registered capacity (give reference to licence/registration number, etc.)

(2) Installed capacity.

(3) Production capacity enhanced by leasing and all details of added capacities and other utilisations.

(4) Actual Production.

(5) Percentage of production to installed capacity.

Notes-

(i) It should be clarified whether the installed capacity is on single shift or multiple shift basis..

(ii) In order to have a meaningful comparison of production and installed capacity wherever necessary, these should also be expressed in appropriate units e.g. standard hours or equipment/plant/vessel occupancy hours, crushing hours, spindle/loom shifts etc. If there is any shortfall in production of the product under reference as compared to the installed capacity, brief comments should be furnished as to the reasons for the shortfall bringing out clearly the extent to which they are controllable both in short term as well as long term

5. Process of manufacture

A brief note regarding the process of manufacture along with a flow chart of the product under reference shall be given.

6. Raw materials.

(1) Show the cost of major raw materials (raw materials constituting eighty per cent and more of the total raw material cost) consumed both in terms of quantity and value.

Where the cost of transport, etc. of raw material is significant, specify the same separately. In the case of imported raw materials, FOB value, ocean freight, insurance, customs duty and inland freight charges may be indicated. If both indigenous and imported materials are consumed, the percentage mix of the same may be indicated for each item

(2) (a) Quantity of consumption of major raw materials (raw materials constituting eighty

per cent and more of the total raw material cost) per unit of production ;

(b) Standard requirement/theoretical norm per unit of production in terms of quantity ;

(c) Explanation for variations, if any, in the quantity of consumption of major raw materials (raw materials constituting eighty per cent and above of the total raw material cost) per unit of production as compared to standard consumption/theoretical requirement, and also of the consumption of the preceding two years ;

(d) Indicate the value of raw materials and components, finished and semi-finished which have not moved for over twelve months and above and indicate their proportion to the value of stock at the end of the year.

7. Power and fuel

(1) Give details of quantity, rate per unit and total cost in respect of each major form of power and fuel used in production e.g. coal, furnace oil, electricity (separately for purchased and generated) and other utilities separately.

(2) Compare the actual physical consumption per unit of production of the product under reference with standards/budgeted if any and with the preceding two years consumption and give comment on the differences, if any, noticed.

(3) Give impact on the unit cost of production of the product under reference due to measures taken for the conservation or energy.

8. Wages and salaries

(1) Give total wages and salaries paid for all categories of employees, separately in respect of the following ; namely :-

(a) direct labour cost on production ;

(b) indirect employee costs on production ;

(c) employee costs on administration ;

(d) employee costs on selling and distribution ;

(e) other employee costs, if any (specifying purpose) ;

(f) total employee costs [Total of items (a) to (e) above].

(2) Total mandays of direct labour available and actually worked for the year.

(3) Average number of workers employed for the year.

(4) Direct labour cost per unit of output of the product under reference (if more than one type of product, give information in respect of each).

(5) Brief explanation for variation in item 8(4) above, if any, as compared to the previous two years.

(6) Comments on the incentive schemes, if any, with particular reference to its contribution towards increasing productivity and its effect on cost of production.

9. Repairs and maintenance

(1) Furnish the expenditure per unit of output of the product under reference separately for the current financial year and for the preceding two financial years for the following namely :-

(a) stores and spares ;

(b) labour charges ;

(c) outside contract repair charges.

(2) Indicate the amount and also the proportion of closing inventory of stores and spare parts Representing items which have not moved for over twenty-four months.

10. Depreciation

(1) State the method of depreciation adopted by the company. If the company has not provided in full for the depreciation worked out in accordance with the provisions of sub-section 2 of section 205 of the Companies Act, 1956, the extent of amount included or excluded in the cost statement shall be indicated.

(2) State the basis of apportionment of depreciation on common assets to the different departments/cost centres and final absorption in the product (s) under reference.

Note-

The depreciation, if any, provided on the amount of revalued assets shall not form part of

cost of production

11. Overheads

(1) Give separately the total amounts of the following overheads both for the company and factory and the product under reference, namely:-

(a) Factory overheads;

(b) Administration overheads;

(c) Selling overheads;

(d) Distribution overheads;

(2) Indicate the basis followed for allocation and apportionment of the common overheads including head office expenses to the product, capital works and other activities of the company.

(3) Indicate the basis adopted for absorption of overheads to the cost centres and products.

(4) Indicate reasons for any significant variations in the overheads incurred in respect of item 11(1) as compared with the previous two financial years.

12. Sales:-

(1) Indicate the sales in quantities and net sales realisation of the product under reference showing the average sales realisation per unit. (If more than one type of product is sold, information to be given in respect of each).

(2) If product under reference is exported, give details of quantity exported, net realization per unit, countries to which exported and also indicate the profit/loss incurred in exports.

(3) Where the product (such as sugar, drugs etc.) is sold at different prices in accordance with government policy, sales realisation of each product at different prices shall be shown separately along with quantity and value. Also indicate profit or loss per unit of production separately.

(4) Indicate whether net sales realisation includes cost of packing, freight and delivery charges, recoverable from the customers or not.

13. Abnormal non-recurring costs

If there were any abnormal features affecting production during the year e.g. strikes, lock outs, major break downs in the plant, substantial power, cuts, serious accidents, etc. they shall, wherever practicable, be briefly mentioned indicating their effect on the unit cost of production.

14. Auditor's observations and conclusions

A. (1) The Cost Auditor shall report on-

(a) matters which appear to him to be clearly wrong in principle or apparently unjustifiable ;

(b) cases where the company's funds have been used in a negligent or inefficient manner ;

(c) factors which could have been controlled but have not been done resulting in increase in the cost of production ;

(d) contracts or agreements, if any, between the company and other parties relating to selling, purchasing, etc. by bringing out any peculiar features, undue benefits ;

(e) the adequacy or otherwise of budgetary control system, if any, in vogue in the company.

(2) The Cost Auditor shall suggest measures for improvements in performance, if any, in respect of the following, namely :-

(a) rectification of general imbalance in production facilities ;

(b) fuller utilisation of installed capacity ;

(c) concentration on areas offering scope for ;

(i) cost reduction ;

(ii) increased productivity ;

(iii) key limiting factors causing production bottlenecks ;

(d) improved inventory policies.

(3) The Cost Auditor may give his other observations and conclusions, if any, relevant to the cost audit.

(4) The report, suggestions, observations and conclusions given by the Cost Auditor under this paragraph shall be based on verified data, reference to which shall be made here and shall, wherever practicable, be included after the company has been afforded an opportunity to comment on them.

B. (1) If as a result of the examination of the books of account, the Cost Auditor desires to give a qualified report, he shall indicate the extent to which he has to qualify the report and the reasons there for.

(2) A statement showing the reconciliation of the profit or loss as indicated in paragraph 3(3)(a) with the profit or loss relating to the product under reference as arrived at on the basis of the cost statements annexed to the report and also the net sales realisation as indicated in item 12(l) shall be appended by the Cost Auditor.

(3) Cost Auditor shall give figures for the year under audit and for the two preceding years in respect of paragraphs 3, 4, 6, 7, 8, 9, 11 and 12

(4) If the company has more than one factory producing the product under reference,

Cost Auditor shall give separately details indicated in the Annexure for each factory.

(5) If different varieties/types of products under reference are manufactured by the company, Cost Auditor shall give details of cost in respect of each variety, type of such product in the Annexure and Proforma.

(6) The matters contained in the Annexure and Proforma shall be duly authenticated by the Cost Auditor.

(7) The Cost Auditor shall ensure that the report along with Annexures and Proforma is to be neatly stitched and bound in a file and sent by registered post or otherwise delivered in person to the Central Government through messenger and acknowledgment obtained.

(8) All cost statements and other statements in respect of intermediate and finished products as prescribed in Schedules I and II of the relevant cost accounting records rules made under clause

(d) of sub-section (1) of section 209 of the Companies Act, 1956 (1 of 1956), duly audited and signed by the Cost Auditor, shall be filed with the company in respect of which the audit has been ordered by the Central Government under sub-section (1) of section 233B of the Companies Act, 1956 (1 of 1956).

Management Audit

A systematic assessment of methods and policies of an organization's management in the administration and the use of resources, tactical and strategic planning, and employee and organizational improvement.

The objectives of a management audit are to

Establish the current level of effectiveness

Suggest improvements and lay down standards for future performance.

Scope

The present organizational structure is reviewed in relation to current and prospective demand of business and study must related to aims and objectives of enterprise. It includes the study of present return on investor capital. Whether the return is adequate, fair of poor. Management audit also requires the study of relationship of business with shareholders and investing public in general. The performance of the concern should be compared with that of the other firms in the same field. By comparing the different ratios we can get the comparative position of the business. .The aims, objectives, duties should also be kept in mind of the auditor. Financial planning and control also is a part of the management audit. . The reviews of the production and sales function are also a important part of the management audit.

Module VII

Reporting to Management – Purpose of reporting – Requisites of a good report, Classifications of Report, Segment reporting, Applicability of Accounting Standard 17, Objectives, Users of Segment reporting. Cost Reduction, and Cost Control, Target Costing – its Principles, Balanced Scorecard as a performance measure – Features, Purpose, Reasons for use of Balanced Scorecard.

Management Reporting Overview: A significant output of management reporting systems, but by no means their sole output, is a recasting of the firm's overall financial results into profit and loss statements arrayed by, for example:

- Organization (such as division, business unit or department)
- Geographic Region
- Product
- Client Segment
- Individual Client

Introduction

Management reporting is the process of providing agency management with timely, accurate and relevant information that is designed to assist in the strategic and operational management of an agency.

This Information Sheet is intended to assist agencies to design and implement effective management reporting.

Benefits of effective management reporting

Effective management reporting is critical to management in making appropriate decisions for the efficient, effective and economical delivery of agency objectives and services.

By focusing on timely and effective management reporting, agencies benefit by:

 improved decision making

 improved management effectiveness

 more efficient use of resources in the delivery of agency services

 increased confidence in the quality of management decisions by agency staff, and

 improved responsiveness to issues as they arise.

Effective management reporting

Developing management reporting structures and formats are fundamental elements in providing agency management and staff with appropriate, accurate and timely information. For example, reporting provided to senior management would normally be 'summary' reports on various aspects of agency operations. These reports would be supported, ideally, by 'drill-down' functionality allowing for transactional review by management, if required.

Reporting provided to line management and staff would generally provide more targeted and transactional reporting on agency functions than the higher level management reports. Reporting at the lower level should also be supported by drill-down functionality as a quick and efficient means of reviewing transactional details if needed. Where appropriate, high level summary reports may also be made available to line management.

When designing effective management reports, consideration may be given to:

- presenting reports in form and content that satisfy users' needs
- recognizing specific reporting preferences for users, for example, in the presentation of financial data, some management members may better understand the data when presented graphically, rather than in numeric table form
- Ensuring reports are free from bias, errors or material misstatement
- ensuring that reports are checked for accuracy prior to release
- Completing and distributing reports in a timely manner
- recognizing changing reporting requirements, and adapting reports accordingly
- reviewing report formats that may be available from similar agencies, and adopting, after discussion, elements of these reports to enhance the quality of current agency reports, and
- seeking feedback from agency management on changes to report formats.

Reports can be set up as standard reports which are generated on a regular basis, or ad hoc reports which are developed in response to specific agency demands. Standard report formats

should provide management with the information required for day to day agency activities and may, depending on user requirements, include:

Reports on key performance indicators, achievement of government commitments, operational/service delivery

Capital project reports, including information such as:

o budget and actual cost review

o project timelines

o project variations, and

o estimated time to completion.

Budget/forecast versus actual results (financial and non-financial performance), and other reports, such as:

- staffing levels
- revenue and expenses by line item, program, category, asset class or project
- schedules of assets, including estimates of remaining useful lives
- schedules of liabilities, including payment due dates, and
- cash flow reports.

While the timing of standard reports will differ depending upon the nature of the information, many of the above reports should be prepared on a monthly basis.

Ad hoc reports should be available to management in timeframes and formats that allow effective and timely decision making by management. For example, performance reporting on high risk projects might be more regularly reported than those considered to be low risk. A simple ‘traffic light’ approach may be incorporated to draw attention to urgent or problem areas requiring immediate attention.

Assessment of the effectiveness of management reporting can be enhanced through:

 management seeking feedback from users on the format, content and usefulness of reports

 implementation of a formal feedback process

- presentation of options to users (based on management reporting systems capabilities), and
- presentation and discussion of revised formats with users prior to release of revised reports.

Applications of Management Reporting:

Management reporting systems frequently are critical tools for evaluating the performance of organizations and managers, and sometimes that of lower level employees as well. The results can be key determinants of compensation, such as the setting of bonus pools. For example, the head and staff of a business unit might have their bonuses driven off the profit that a management reporting system ascribes to that unit. Likewise for a product manager, if the firm has a well develope product profitability measurement system. Also for a marketing manager with responsibility for the development and profitability of a given client segment, if the performance of that segment is measured.

Accounting Standards Objective

The objective of this Standard is to establish principles for reporting financial information, about the different types of products and services an enterprise produces and the different geographical areas in which it operates. Such information helps users of financial statements:

(a) Better understand the performance of the enterprise;

(b) Better assess the risks and returns of the enterprise; and

(c) Make more informed judgements about the enterprise as a whole.

Many enterprises provide groups of products and services or operate in geographical areas that are subject to differing rates of profitability, opportunities for growth, future prospects, and risks. Information about different types of products and services of an enterprise and its operations in different geographical areas - often called segment information - is relevant to assessing the risks and returns of a diversified or multi-locational enterprise but may not be determinable from the aggregated data. Therefore, reporting of segment information is widely regarded as necessary for meeting the needs of users of financial statements

Applicability Of Accounting Standards

For the purpose of applicability of Accounting Standards, enterprises are classified into three categories, viz.; Level I, Level II and Level III. Under this classification, Level II and Level III enterprises are considered as Small and Medium Enterprises.

Criteria for Classification of Enterprises

1. **Criteria for classification of non-corporate entities as decided by the Institute of Chartered Accountants of India**

Level I Entities

Non-corporate entities which fall in any one or more of the following categories, at the end of the relevant accounting period, are classified as Level I entities:

i. Entities whose equity or debt securities are listed or are in the process of listing on any stock exchange, whether in India or outside India.

ii. Banks (including co-operative banks), financial institutions or entities carrying on insurance business.

iii. All commercial, industrial and business reporting entities, whose turnover (excluding other income) exceeds rupees fifty crore in the immediately preceding accounting year.

iv. All commercial, industrial and business reporting entities having borrowings (including public deposits) in excess of rupees ten crore at any time during the immediately preceding accounting year.

v. holding and subsidiary entities of any one of the above.

Level II Entities (SMEs)

Non-corporate entities which are not Level I entities but fall in any one or more of the following categories are classified as Level II entities:

i. All commercial, industrial and business reporting entities, whose turnover (excluding other income) exceeds rupees forty lakh but does not exceed rupees fifty crore in the immediately preceding accounting year.

ii. All commercial, industrial and business reporting entities having borrowings (including public deposits) in excess of rupees one crore but not in excess of rupees ten crore at any time during the immediately preceding accounting year.

iii. Holding and subsidiary entities of any one of the above.

Level III Entities (SMEs)

Non-corporate entities which are not covered under Level I and Level II are considered as Level III entities.

1. **Criteria for classification of companies under the Companies (Accounting Standards) Rules, 2006**

Small and Medium-Sized Company (SMC) as defined in Clause 2(f) of the Companies (Accounting Standards) Rules, 2006:

"Small and Medium Sized Company" (SMC) means, a company-

i. whose equity or debt securities are not listed or are not in the process of listing on any stock exchange, whether in India or outside India;

ii. which is not a bank, financial institution or an insurance company;

iii. whose turnover (excluding other income) does not exceed rupees fifty crore in the immediately preceding accounting year;

iv. which does not have borrowings (including public deposits) in excess of rupees ten crore at any time during the immediately preceding accounting year; and

v. which is not a holding or subsidiary company of a company which is not a small and medium-sized company.

Explanation: For the purposes of clause (f), a company shall qualify as a Small and Medium Sized Company, if the conditions mentioned therein are satisfied as at the end of the relevant accounting period.

Cost control and cost reduction

Cost control is operated through setting standards of targets and comparing actual performance therewith, with a view to identify deviations from standards or norms and taking corrective action in order to ensure that future performance conforms to standards or norms.

Cost reduction is a continuous process of critical cost examination, analysis and challenge of standards. Each aspect of business viz., products, process, procedures, methods, organization, personnel, etc. is critically examined and reviewed with a view of improving efficiency and effectiveness and reducing the costs.

Cost control lacks the dynamic approach which planned cost reduction demands. In cost reduction, standards which are the basis of control are constantly challenged for improvement.

Important aspects or elements of cost control

- A standard performance
- A system for accumulating actual loss
- Clearly defined authority
- A timely comparison
- An effective reporting system
- Investigating variances
- Corrective action
- Motivated employees

Tools and techniques to control and reduce costs

- Budgetary control
- Standard costing
- Control Ratios
- Value analysis
- Works study

- Standardization and methods study
- Production Planning and control
- Operations research

Distinction between Cost Control and Cost Reduction:

COST CONTROL	COST REDUCTION
Controls costs towards achievement of predetermined target or goals	Represents real and permanent decrease in costs.
It is a routine exercise.	It is a planned process.
It is a preventive function	It is a corrective function.

Target costing

Target costing is a system under which a company plans in advance for the product price points, product costs, and margins that it wants to achieve. If it cannot manufacture a product at these planned levels, then it cancels the product entirely. With target costing, a management team has a powerful tool for continually monitoring products from the moment they enter the design phase and onward throughout their product life cycles. It is considered one of the most important tools for achieving consistent profitability.

The primary steps in the target costing process are:

1. *Conduct research.* The first step is to review the marketplace in which the company wants to sell products. The team needs to determine the set of product features that customers are most likely to buy, and the amount they will pay for those features. The team must learn about the perceived value of individual features, in case they later need to determine what impact there will be on the product price if they drop one or more of them. It may be necessary to later drop a product feature if the team decides that it cannot provide the feature while still meeting its target cost. At the end of this process, the team has a good idea of the target price at which it can sell the proposed product with a certain set of features, and how it must alter the price if it drops some features from the product.

2. *Calculate maximum cost*. The company provides the design team with a mandated gross margin that the proposed product must earn. By subtracting the mandated gross margin from the projected product price, the team can easily determine the maximum target cost that the product must achieve before it can be allowed into production.

3. *Engineer the product*. The engineers and procurement personnel on the team now take the leading role in creating the product. The procurement staff is particularly important if the product has a high proportion of purchased parts; they must determine component pricing based on the necessary quality, delivery, and quantity levels expected for the product. They may also be involved in outsourcing parts, if this results in lower costs. The engineers must design the product to meet the cost target, which will likely include a number of design iterations to see which combination of revised features and design considerations results in the lowest cost.

4. *Ongoing activities*. Once a product design is finalized and approved, the team is reconstituted to include fewer designers and more industrial engineers. The team now enters into a new phase of reducing production costs, which continues for the life of the product. For example, cost reductions may come from waste reductions in production (known as kaizen costing), or from planned supplier cost reductions. These ongoing cost reductions yield enough additional gross margin for the company to further reduce the price of the product over time, in response to increases in the level of competition.

Balanced Scorecard:

Balanced scorecard was made popular by Kaplan and Norton. It is a management tool that presents a holistic view of the company measures. It is a reporting tool that shows the financial and non-financial metrics of a company. It can be used for real time monitoring of the company metrics. The balanced scorecard is a single report consisting of mainly four perspectives. The idea is to monitor not only the financial but also the non financial parameters that are critical to a company's success.

Key Performance Indicators (KPI) –

Key performance indicators are the metrics that may be the part of the balanced scorecard. KPIs are used to present actionable results across the organization. The selection of KPIs is a tricky area and can sometimes be an art. However, any KPI selected should be actionable and should be relevant. Here's one way to select KPIs

1.List down the organizations vision and goals.

2. Prepare a strategy map that is in line with the company goals.

3. Divide the strategy map into different components (financial, non-financial etc).

4. List down business processes for each strategy.

5. List down the critical success factors (CSF) for each business process.

6. Design metrics that monitor these critical success factors on an on-demand basis.

KPIs have the following characteristics:

-> *The KPI should be actionable*. The management should be able to use the KPI dashboard for decision making. The employees should use the dashboard to align and modify their activities so that the activities are in line with the company goals.

-> *The KPI should be mutually exclusive and collectively exhaustive* - Two KPIs that give the same kind of information are redundant. Each KPI should be responsible for causing a unique action. Each KPI should try and encompass multiple Critical Factors.

Benefits Of balanced score card

1) Scorecards drive better performance.

The evidence is clear that solid feedback enhances performance—at all levels and across all organizational units. When people people and groups throughout an enterprise know how they are doing and what needs improving, they do better.

2) Scorecards implement strategy.

Scorecards translate your strategy into concrete terms and help you track its implementation. Though scorecards also reflect operational issues, they are developed in a way that specifically directs attention to your strategy and future direction.

3) Scorecards help ensure that you have the right measures.

A group of measures implemented without a well-thought-out performance model in mind or, worse yet, imposed from the outside, seldom bring new focus or drive desired actions. Effective performance scorecards are, by nature, consciously and purposefully constructed. In building one, you develop a logical structure that helps everyone know what should be measured, what belongs on the scorecard and what does not belong.

4) Scorecards encourage balanced performance.

Executing today's work is absolutely crucial, but so is implementing the strategic initiatives that prepare the enterprise for tomorrow. The proper scorecard design keeps the right balance of operational and strategic factors on your radar screen.

5) Scorecards point out what's missing.

Because your scorecard is designed to offer a comprehensive view of how the enterprise is doing and where it's going, the scorecard will help you see if any key factors are missing—the gaps stand out. Those who use unstructured measures without an underlying performance model have no way of knowing what may be missing

6) Scorecards encourage good management.

As noted earlier, scorecards make it possible to readily monitor all the measures in a complex organization. As a result, reviews are more regular and more thorough. When performance issues

stand out on a top-level scorecard, it's possible to "drill down" to layers of data that give further details. The bottom line is that scorecards encourage thorough monitoring and timely corrective actions.

7) Scorecards communicate

Many individuals and groups take a keen interest in the performance of an enterprise.

Strong scorecards help you tell the full story of performance—how the complex variables are being balanced and optimized as a group. This allows you to present a compelling picture of performance that is undistorted by focus on an individual issue.

Segmental Reporting

Segment reporting is the reporting of the operating segments of a company in the disclosures accompanying its financial statements. Segment reporting is required for publicly-held entities, and is not required for privately held ones. Segment reporting is intended to give information to investors and creditors regarding the financial results and position of the most important operating units of a company, which they can use as the basis for decisions related to the company.

Under Generally Accepted Accounting Principles (GAAP), an operating segment engages in business activities from which it may earn revenue and incur expenses, has discrete financial information available, and whose results are regularly reviewed by the entity's chief operating decision maker for performance assessment and resource allocation decisions. Follow these rules to determine which segments need to be reported:

- Aggregate the results of two or more segments if they have similar products, services, processes, customers, distribution methods, and regulatory environments.
- Report a segment if it has at least 10% of the revenues, 10% of the profit or loss, or 10% of the combined assets of the entity.
- If the total revenue of the segments you have selected under the preceding criteria comprise less than 75% of the entity's total revenue, then add more segments until you reach that threshold.

- You can add more segments beyond the minimum just noted, but consider a reduction if the total exceeds ten segments.

The information you should include in segment reporting includes:

- The factors used to identify reportable segments
- The types of products and services sold by each segment
- The basis of organization (such as being organized around a geographic region, product line, and so forth)
- Revenues
- Interest expense
- Depreciation and amortization
- Material expense items
- Equity method interests in other entities
- Income tax expense or income
- Other material non-cash items
- Profit or loss

The segment reporting requirements under International Financial Reporting Standards are essentially identical to the requirements just noted under GAAP.

UNIT – 4

BUDGETARY CONTROL

Budget, budgetary control, steps in budgetary control, Flexible budget, different types of budgets: sales budget, Cash budget, Production budget, Master budget, Performance budgets, material vs. purchase budgets, Zero Based Budgeting. An introduction to cost audit and management audit

Introduction

The first important task in front of the management is to have clearly defined objectives. Objectives are short term as well as long term and they should be defined in clear terms. It is necessary to prepare a comprehensive plan to transform these objectives into reality and planning without controlling will not be effective and hence there is a need of effective control system. While planning helps an organization to work systematically towards achieving the objectives, controlling helps to review the progress made and to monitor whether the work is progressing as per the plan or not. Budgeting is one such technique that helps in planning as well as controlling. It is a technique of cost accounting with the twin objectives of facilitating planning and ensuring controlling. Various aspects of budgets and budgetary control, the types of budgets and the preparation of the same are discussed in detail in this chapter.

Definitions

To begin with, let us try to understand the definitions of budget and budgetary control. Budget has been defined by CIMA U.K. as, 'A financial and/or quantitative statement prepared prior to a defined period of time, of the policy to be pursued during that period for the purpose of achieving a given objective.' If we analyze the definition, the following features of budget emerge.

A budget is a detailed plan of operations for some specific future period. It is an estimate prepared in advance of the period to which it applies.

1. A budget is a statement that is always prepared prior to a defined period of time. This

means that budget is always prepared for future period and not for the past. For example, a budget for the year 2008-09 regarding the sales will be prepared in the year 2007-08. Another important point is that the time for which it is prepared is certain. Thus a budget may be prepared for next 3 years/1 year/ 6 months/1 month or even for a week, but the point is that the time frame for which it is prepared is certain. It cannot be prepared for indefinite period of time.

2. Budget is prepared either in quantitative details or monetary details or both. This meansthat budget will show the planning in terms of rupees or in quantity or both. For example, a production budget will show the production target in number of units and when the target units are multiplied by the anticipated production cost, it will be a production cost budget that is expressed in terms of money. Similarly purchase budget is prepared in quantity to show the anticipated purchases in the next year and when thequantity is multiplied by the expected price per unit, it will become a purchase cost budget that is expressed in monetary terms. Some budgets are prepared only in monetary terms, for example, cash budget, capital expenditure budget etc.
3. Every organization has well defined objectives, which are to be achieved in a particularspan of time. It is of paramount importance that there should be systematic efforts to bring them into reality. As a part of these efforts, it is necessary to formulate a policy and it is reflected in the budget. Thus if a firm has to launch a massive drive for recruitment of people, this policy will be reflected in the manpower planning budget aswell as other relevant budgets. Thus the policy to be pursued in future for the purpose of achieving well-defined objectives is reflected in the budget.

Budgetary control

The Chartered Institute of Management Accountants of England and Wales has defined the terms ‘budgetary control’ as “Budgetary control is the establishment of budgets relating to the responsibilities of executives of a policy and the continuous comparison of the actual with the budgeted results, either to secure by individual action the objective of the policy or to providea basis for its revision.”

It is the system of management control and accounting in which all the operations are forecasted and planned in advance to the extent possible and the actual results compared with the forecasted and planned ones.

Budgetary Control is actually a means of control in which the actual results are compared with

the budgeted results so that appropriate action may be taken with regard to any deviations between the two.

Budgetary control has the following stages.

- ***Developing Budgets:*** The first stage in budgetary control is developing various budgets. It will be necessary to identify the budget centers in the organization and budgets will have to develop for each one of them. Thus budgets are developed for functions like purchase, sale, production, manpower planning as well as for cash, capital expenditure, machine hours, labor hours and so on. Utmost care should be taken while developing the budgets. The factors affecting the planning should be studied carefully and budgets should be developed after a thorough study of the same.
- ***Recording Actual Performance:*** There should be a proper system of recording the actual performance achieved. This will facilitate the comparison between the budget and the actual. An efficient accounting and cost accounting system will help to record the actual performance effectively.
- ***Comparison of Budgeted and Actual Performance:*** One of the most important aspects of budgetary control is the comparison between the budgeted and the actual performance. The objective of such comparison is to find out the deviation between thetwo and provide the base for taking corrective action.
- ***Corrective Action:*** Taking appropriate corrective action on the basis of the comparisonbetween the budgeted and actual results is the essence of budgeting. A budget is alwaysprepared for future and hence there may be a variation between the budgeted results and actual results. There is a need for investigation of the same and take appropriate action so that the deviations will not repeat in the future. Responsibilities can be fixed on proper persons so that they can be held responsible for any such deviations.

Objectives of Budgeting

1. ***Planning:*** Planning is necessary for doing any work in a systematic manner. A well-prepared plan helps the organization to use the scarce resources in an efficient manner and thus achieving the predetermined targets becomes easy. A budget is alwaysprepared for future period and it lays down targets regarding various aspects like purchase, production, sales, manpower planning etc. This automatically facilitates planning.

2. ***Co-ordination:*** For achieving the predetermined objectives, apart from planning, coordinated efforts are required. Budgeting facilitates coordination in the sense that budgets cannot be developed in isolation. For example, while developing the production budget, the production manager will have to consult the sales manager for sales forecast and purchase manager for the availability of the raw material. Productionbudget cannot be developed in isolation. Similarly the purchase and sales budget as well as other functional budgets like cash, capital expenditure, manpower planning etc cannot be developed without considering other functions. Hence the coordination is automatically facilitated.
3. ***Control:*** Planning is looking ahead while controlling is looking back. Preparation of budgets involves detailed planning about various activities like purchase, sales, production, and other functions like marketing, sales promotion, manpower planning. But planning alone is not sufficient. There should be a proper system of controlling which will ensure that the work is progressing as per the plan. Budgets provide the basis for such controlling in the sense that the actual performance can be compared with the budgeted performance. Any deviation between the two can be found out and analyzed to ascertain the reasons behind the deviation so that necessary corrective action can be taken to rectify the same. Thus budgeting helps immensely in controlling function.

Benefits of Budgeting

Budgeting plays an important role in planning and controlling. It helps in directing the scarce resources to the most productive use and thus ensures overall efficiency in the organization. The benefits derived by an organization from an effective system of budgeting can be summarized as given below.

1. Budgeting facilitates planning of various activities and ensures that the working of the organization is systematic and smooth.
2. Budgeting is a coordinated exercise and hence combines the ideas of different levels of management in preparation of the same.
3. Any budget cannot be prepared in isolation and therefore coordination among various departments is facilitated automatically.
4. Budgeting helps planning and controlling income and expenditure so as to achieve higher profitability and also act as a guide for various management decisions.
5. Budgeting is an effective means for planning and thus ensures sufficient availability of

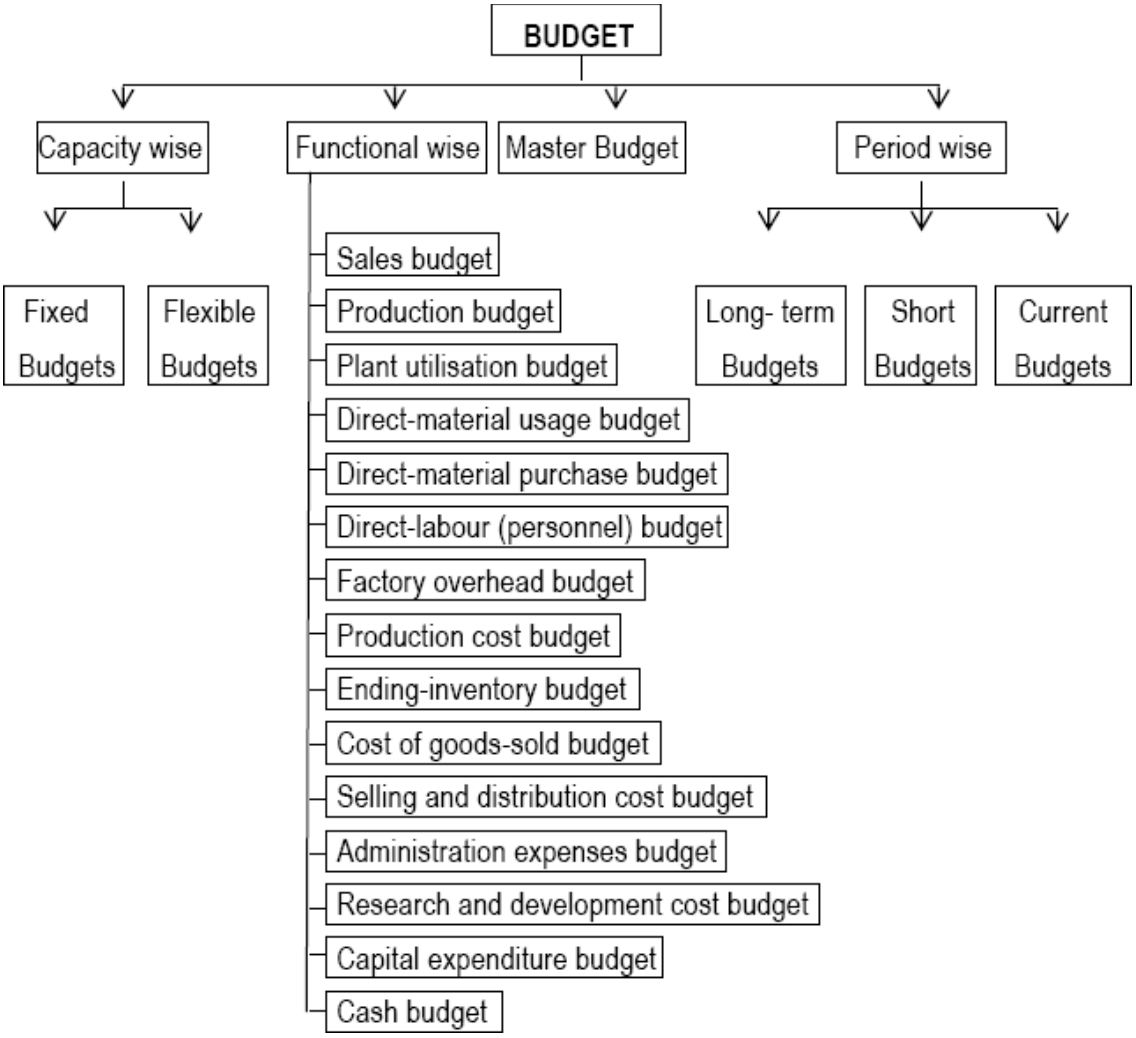
working capital and other resources.

6. It is extremely necessary to evaluate the actual performance with predetermined parameters Budgeting ensures that there are well-defined parameters and thus the performance is evaluated against these parameters.
7. As the resources are directed to the most productive use, budgeting helps in reducing the wastages and losses.

Limitations of Budgetary Control System

1. **Based on Estimates***:* Budgets may or may not be true, as they are based on estimates.
2. **Time factor***:* Budgets cannot be executed automatically. Accuracy in budgeting comes through experience. Management must not expect too much during the development period.
3. **Cooperation Required*:*** Staff co-operation is usually not available during budgetary control exercise. The success of the budgetary control depends upon willing co-operation and teamwork,
4. **Expensive:** Its implementation is quite expensive. No budgetary programme can be successful unless adequate arrangements are made for supervision and administration.
5. **Not a substitute for management:** Budget is only a managerial tool. It cannot substitute management.
6. **Rigid document***:* Budgets are considered as rigid document. But in reality, firm's affairs continuously changes under inflationary pressure and changing government policies

Types of Budgets


BUDGET
Capacity wise
Functional wise
Master Budget
Period wise
Fixed Budgets
Flexible Budgets
Sales budget
Production budget
Plant utilisation budget
Direct-material usage budget
Direct-material purchase budget
Direct-labour (personnel) budget
Factory overhead budget
Production cost budget
Ending-inventory budget
Cost of goods-sold budget
Selling and distribution cost budget
Administration expenses budget
Research and development cost budget
Capital expenditure budget
Cash budget
Long- term Budgets
Short Budgets
Current Budgets

Classification according to Area of Operation

Functional Budgets: The functional budgets are prepared for each function of the organization. These budgets are normally prepared for a period of one year and then broken down to each month. The following budgets are included in this category.

Sales Budget: A Sales Budget shows forecast of expected sales in the future period [the periodis well defined] and expressed in quantity of the product to be sold as well as the monetary value of the same. A Sales Budget may be prepared product wise, territories/area/country wise, customer group wise, salesmen wise as well as time wise like quarter wise, month wise, weekly etc. The following factors are taken into consideration while preparing a sales budget.

- ***Analysis of past sales:*** Analysis of sales for the last 5-10 years will provide valuable information like the long term trend, seasonal trends, cyclical fluctuations and other relevant information like customer preference analysis, shift in demand, competition and other environmental factors. This information can be used to predict the likely future demand of the product.
- ***Estimates given by the sales staff:*** Sales staff of the business organization works in the field and hence they know the market situation very well. They have very close interaction with the market and are in a better position to know the demand pattern and other such trends. However, care is to be taken that the subjective element in the sales estimates given by the sales staff should be eliminated to arrive at a realistic sales forecast.
- ***Market Potential Analysis:*** Marketing Research helps any business organization to collect the data regarding markets, demand pattern, customer preferences, market potential and other factors like economic factors and environmental factors. From this analysis, market potential can be worked out which will be used in the sales budget.
- ***Dependent Factor:*** Demand of a product is dependent upon certain factors. For example, the demand for petrol and diesel is dependent on the number of vehicles plying though the roads. Analysis of such dependent factor will help to prepare the sales

forecast which can be used in the sales budget.

A business firm can use any of the above methods or a combination of the above methods to prepare sales forecast and incorporate the same in the sales budget.

Production Budget: This budget shows the production target to be achieved in the next year or the future period. The production budget is prepared in quantity as well as in monetary terms. Before preparation of this budget it is necessary to study the principal budget factor or the key factor. The principal budget factor can be sales demand or the production capacity or availability of raw material. The policy of the management regarding the inventory is also taken into consideration. The production budget is normally prepared for a period of one year and then broken down on monthly basis. Production targets are decided by adding the budgeted closing inventory in the sales forecast and subtracting the opening inventory from the total of the same. Production Cost Budget is prepared by multiplying the production targets by the budgeted production cost per unit.

Material Purchase Budget: This budget shows the quantity of materials to be purchased during the coming year. For the preparation of this budget, production budget is the starting point if itis the key factor. If the raw material availability is the key factor, it becomes the starting point.The desired closing inventory of the raw materials is added to the requirement as per the production budget and the opening inventory is subtracted from the gross requirements. This budget is prepared in quantity as well as in the monetary terms and helps immensely in planningof the purchases of raw materials. Availability of storage space, financial resources, various levels of materials like maximum, minimum, re-order and economic order quantity are taken into consideration while preparing this budget. A separate material utilization budget may also be prepared as a preparation of material purchase budget.

Cash Budget: A cash budget is an estimate of cash receipts and cash payments prepared for each month. In this budget all expected payments, revenue as well as capital and all receipts, revenue and capital are taken into consideration. The main purpose of cash budget is to predict the receipts and payments in cash so that the firm will be able to find out the cash balance at the end of the budget period. This will help the firm to know whether there will be surplus cashor deficit at the end of the budget period. It will help them to plan for either investing the surplus

or raise necessary amount to finance the deficit. Cash Budget is prepared in various ways, but the most popular form of the same is by the method of Receipt and Payment method.

Direct Labor Budget: The labor budget estimates the labor required for smooth and uninterrupted production. The labor budget shows the number of each type or grade of workers required in each period to achieve the budgeted output, budgeted cost of such labor, period wise and period of training necessary for different types of labor.

Factory Overhead Budget: This budget is prepared for planning of the factory overheads to be incurred during the budget period. In this budget the overheads should be shown department wise so that responsibility can be fixed on proper persons. Classification of factory overheads into fixed and variable components should also be shown in this budget.

Administrative Overhead Budget: This budget covers the administrative costs for non-manufacturing business activities. The administrative overheads include expenses like office expenses, office salaries, directors' remuneration, legal expenses, audit fees, rent, interest, property taxes, postage, telephone, telegraph etc. These expenses should be classified properly under different headings to determine the responsibilities regarding cost control and reduction.

Capital Expenditure Budget: Capital expenditure is incurred with a long - term perspective and with the objective of augmenting the earning capacity of the firm in the long run. Capital expenditure results in either acquisition of fixed asset or permanent improvement in the existing fixed assets. Another important feature of capital expenditure is that the amount involved is very heavy and the decision to incur capital expenditure is not reversible. Hence a careful planning is required before decision to incur capital expenditure is taken. In the budget of capital expenditure, apart from the planning of incurring the expenditure, evaluation of the same is also shown. This budget therefore becomes extremely crucial as it not only plans the expenditure but also evaluates the same and helps in arriving at a decision.

Manpower Planning Budget: This budget shows the requirement of manpower in the budget period. The categories in which manpower is required are also shown in this budget. The requirement of manpower depends on the expansion plans of the organization and also on the

expected separations during the budget period.

Research and Development Cost Budget: This budget is one of the important tools for planning and controlling research and development costs. It helps management in planning the research and development activities well in advance and also about the fairness of the expenditure. Research and development is one of the important activities of any firm and hence proper planning and coordination is required for effectiveness of the same. This budget also helps to plan the requirement of necessary staff for carrying out research and development.

Master Budget:

All the budgets described above are called as 'Functional Budgets' that are prepared for planning of the individual function of the organization. For example, budgets are prepared for Purchase, Sales, Production, Manpower Planning, and so on. A Master Budget which is also called as 'Comprehensive Budget' is a consolidation of all the functional budgets. It shows the projected Profit and Loss Account and Balance Sheet of the business organization. For preparation of this budget, all functional budgets are combined together and the relevant figures are incorporated in preparation of the projected Profit and Loss Account and Balance Sheet. Thus Master Budget is prepared for the entire organization and not for individual functions.

Fixed Budgets: When a budget is prepared by assuming a fixed percentage of capacity utilization, it is called as a fixed budget. For example, a firm may decide to operate at 90% of its total capacity and prepare a budget showing the projected profit or loss at that capacity. This budget is defined by The Institute of Cost and Management Accountants [U.K.] as 'the budget which is designed to remain unchanged irrespective of the level of activity actually attained. Itis based on a single level of activity.' For preparation of this budget, sales forecast will have tobe prepared along with the cost estimates. Cost estimates can be prepared by segregating the costs according to their behavior i.e. fixed and variable. Cost predictions should be made element wise and the projected profit or loss can be worked out by deducting the costs from the sales revenue. Actually in practice, fixed budgets are prepared very rarely. The main reasonis that the actual output differs from the budgeted output significantly.

Thus if the budget is prepared on the assumption of producing 50, 000 units and actually the number of units produced are 40, 000, the comparison of actual results with the budgeted ones

will be unfair and misleading. The budget may reveal the difference between the budgeted costs and actual costs but the reasons for the deviations may not be pointed out. A fixed budgetmay be prepared when the budgeted output and actual output are quite close and not much deviation exists between the two. In such cases, maximum control can be exercised between the budgeted performance and actual performance.

Flexible Budgets: A flexible budget is a budget that is prepared for different levels of capacity utilization. It can be called as a series of fixed budgets prepared for different levels of activity. For example, a budget can be prepared for capacity utilization levels of 50%, 60%, 70%, 80%, 90% and 100%. The basic principle of flexible budget is that if a budget is prepared for showing the results at say, 15,000 units and the actual production is only 12,000 units, the comparison between the expenditures, budgeted and actual will not be fair as the budget was prepared for 15,000 units. Therefore a flexible budget is developed for a relevant range of production from 12,000 units to 15,000 units. Thus even if the actual production is 12,000 units, the results will be comparable with the budgeted performance of 12, 000 units. Even if the production slips to 8,000 units, the manager has a tool that can be used to determine budgeted cost at 9, 000 units of output. The flexible budget thus, provides a reliable basis for comparisons because it is automatically geared to changes in production activity. Thus a flexible budget covers a range of activity, it is flexible i.e. easy to change with variation in production levels and it facilitates performance measurement and evaluation.

- While preparing flexible budget, it is necessary to study the behavior of costs and divide them in fixed, variable and semi variable. After doing this, the costs can be estimated for a given level of activity.
- It is also necessary to plan the range of activity. A firm may decide to develop flexible budget for activity level starting from 50% to 100% with an interval of 10% in between.It is necessary to estimate the costs and associate them with the chosen level of activity.
- Finally the profit or loss at different levels of activity will be computed by comparing the costs with the revenues.

Classification of Budgets According to Time: According to this classification, budgets are divided in the following categories.

- ***Short Term Budget:*** Any budget that is prepared for a period up to one year is knownas Short Term Budget. Functional budgets are normally prepared for a period of one year and then it is broken down month wise.
- ***Medium Term Budget:*** Budget prepared for a period 1-3 years is Medium Term Budget. Budgets like Capital Expenditure, Manpower Planning are prepared for medium term.
- ***Long Term Budgets:*** Any budget exceeding 3 years is known as Long Term Budgets. Master Budget is normally prepared for long term. In the modern days due to uncertainty, very few budgets are prepared for long term.

Zero Base Budgeting: Zero Base Budgeting is method of budgeting whereby all activities are revaluated each time budget is formulated and every item of expenditure in the budget is fully justified. Thus the Zero Base Budgeting involves from scratch or zero.

Zero based budgeting [also known as priority based budgeting] actually emerged in the late 1960s as an attempt to overcome the limitations of incremental budgeting. This approach requires that all activities are justified and prioritized before decisions are taken relating to the amount of resources allocated to each activity. In incremental budgeting or traditional budgeting, previous year's figures are taken as base and based on the same the budgeted figures for the next year are worked out. Thus the previous year is taken as the base for preparation of the budget. However the main limitation of this system of budgeting is that an activity is

continued in the future only because it is being continued in the past. Hence in Zero Based Budgeting, the beginning is made from scratch and each activity and function is reviewed thoroughly before sanctioning the same and all expenditures are analyzed and sanctioned onlyif they are justified.

Besides adopting a 'Zero Based' approach, the Zero Based Budgeting also focuses on programsor activities instead of functional departments based on line items, which is a feature of traditional budgeting. It is an extension of program budgeting. In program budgeting, programs are identified and goals are developed for the organization for the particular program. By inserting decision packages in the system and ranking the packages, the analysis is strengthened and priorities are determined.

Applications of Zero Based Budgeting: The following stages/steps are involved in the application of Zero Based Budgeting.

- Each separate activity of the organization is identified and is called as a decision package. Decision package is actually nothing but a document that identifies and describes an activity in such a manner that it can be evaluated by the management and rank against other activities competing for limited resources and decide whether to sanction the same or not.
- It should be ensured that each decision package is justified in the sense it should be ascertained whether the package is consistent with the goal of the organization or not.
- If the package is consistent with the overall objectives of the organization, the cost of minimum efforts required to sustain the decision should be determined.
- Alternatives for each decision package are considered in order to select better and cheaper options.
- Based on the cost and benefit analysis a particular decision package/s should be selected and resources are allocated to the selected package.

Benefits from Zero Based Budgeting: ZBB was first introduced by Peter A. Pyhrr, a staff control manager at Texas Instruments Corporation, U.S.A. He developed this technique and implemented it for the first time during the year 1969-70 in Texas in the private sector and popularized its wider use. He wrote an article on ZBB in Harvard Business Review and later wrote a book on the same. The ZBB concept was first applied in the State of Georgia, U.S.A.

when Mr. Jimmy Carter was the Governor of the State. Later after becoming the President of U.S.A. Mr. Carter introduced and implemented the ZBB in the country in the year 1987. ZBB has a wide application not only in the Government Departments but also in the private sector in a variety of business. In India, the ZBB was applied in the State of Maharashtra in 80s and early 90s. Benefits from ZBB can be summarized in the following manner.

1. ZBB facilitates review of various activities right from the scratch and a detailed cost benefit study is conducted for each activity. Thus an activity is continued only if the cost benefit study is favorable. This ensures that an activity will not be continued merely because it was conducted in the previous year.
2. A detailed cost benefit analysis results in efficient allocation of resources and consequently wastages and obsolescence is eliminated.
3. A lot of brainstorming is required for evaluating cost and benefits arising from an activity and this results into generation of new ideas and also a sense of involvement of the staff.
4. ZBB facilitates improvement in communication and co-ordination amongst the staff.
5. Awareness amongst the managers about the input costs is created which helps the organization to become cost conscious.
6. An exhaustive documentation is necessary for the implementation of this system and it automatically leads to record building.

Limitations of Zero Based Budgeting: The following are the limitations of Zero Based Budgeting.

1. It is a very detailed procedure and naturally if time consuming and lot of paper work is involved in the same.
2. Cost involved in preparation and implementation of this system is very high.
3. Morale of staff may be very low as they might feel threatened if a particular activity is discontinued.
4. Ranking of activities and decision-making may become subjective at times.
5. It may not advisable to apply this method when there are non-financial considerations, such as ethical and social responsibility because this will dictate rejecting a budget claim on low ranking projects.

Performance Budgeting: It is budgetary system where the input costs are related to the

performance i.e. the end results. This budgeting is used extensively in the Government and Public Sector Undertakings. It is essentially a projection of the Government activities and expenditure thereon for the budget period. This budgeting starts with the broad classification of expenditure according to functions such as education, health, irrigation, social welfare etc. Each of the functions is then classified into programs sub classified into activities or projects. The main features of performance budgeting are as follows.

- Classification into functions, programs or activities
- Specification of objectives for each program
- Establishing suitable methods for measurement of work as far as possible.
- Fixation of work targets for each program.

Objectives of each program are ascertained clearly and then the resources are applied after specifying them clearly. The results expected from such activities are also laid down. Annual, quarterly and monthly targets are determined for the entire organization. These targets are broken down for each activity center. The next step is to set up various productivity or performance ratios and finally target for each program activity is fixed. The targets are compared with the actual results achieved. Thus the procedures for the performance budgets include allocation of resources, execution of the budget and periodic reporting at regular intervals.

The budgets are initially compiled by the various agencies such as Government Department, public undertakings etc. Thereafter these budgets move on to the authorities responsible for reviewing the performance budgets. Once the higher authorities decide about the funds, the amounts sanctioned are communicated and the work is started. It is the duty of these agencies to start the work in time, to ensure the regular flow of expenditure, against the physical targets, prevent over runs under spending and furnish report to the higher authorities regarding the physical progress achieved. In the final phase of performance budgetary process, progress reports are to be submitted periodically to higher authorities to indicate broadly, the physical performance to be achieved, the expenditure incurred and the variances together with explanations for the variances.

Cost Audit and Management Audit

Concept of Cost Audit

According to the Institute of Cost and Management Accountants of England, cost audit

represents the verification of cost accounts and a check on the adherence to cost accounting plan. Cost audit, therefore, comprises:

(a) Verification of the cost accounting records such as the accuracy of the cost accounts, cost reports, cost statements, cost data and costing techniques, and

(b) Examination of these records to ensure that they adhere to the cost accounting principles, plans, procedures and objectives.

The Institute of Cost and Works Accountants of India on the other hand, defines cost audit as "a system of audit introduced by the Government of India for the review, examination and appraisal of the cost accounting records and attendant information, required to be maintained by specified industries." Thus the concept and scope of cost audit as defined in India is more specific and lays emphasis on the evaluation of the efficiency of operations and the propriety of management actions as introduced by the Government of India for specified industries. In this sense, cost audit in India appears to be synonymous with efficiency audit mainly as a guide for management policy and decision making besides being a barometer of actual performance

It, therefore, means that the cost auditors attention and approach should be to see that the cost accounting plan is in consonance with the objectives set by the organization and the system of accounting is geared towards the attainment of the objectives. A cost accounting system designed to exercise control over cost may be different from the one if the objective is to fix price. The cost auditor should examine whether the methods laid down for ascertaining expenses as direct or indirect are cases in point. The cost auditor should also establish the correctness or otherwise of the figures by the processes of vouching verification, reconciliation etc.

The origin of the concept of cost audit could be traced to the Second World War period when the practice of assigning cost plus contracts started. However, probably India is the only country in the "free" world where cost audit is statutorily prescribed. Cost audit can offer valuable assistance to the management in its decision making process since it ensures reliable cost accounting data and information. The management will be in a position to know what price is to be fixed for a product, whether the wastages are avoidable, whether to reorganize purchase or sales or inventory systems to make the work more efficient and so on. Existence of such a system of audit will also be of great use for maintaining internal control and internal check and

can be an advantageous even to the statutory financial auditor. Cost audit, apart from having all the normal ingredients of audit namely vouching, verification etc. has within its compass elements of efficiency audit.

Objectives of Cost Audit

Cost Audit has both general and social objectives.

General objectives

- Verification of cost accounts with a view to ascertaining that these have been properly maintained and compiled according to the cost accounting system followed by the enterprise.
- Ensuring that the prescribed procedures of cost accounting records rules are duly adhered to.
- Detection of errors and fraud.
- Verification of the cost of each "cost unit" and "cost center" to ensure that these have been properly ascertained.
- Determination of inventory valuation.
- Facilitating the fixation of prices of goods and services.
- Periodical reconciliation between cost accounts and financial accounts.
- Ensuring optimum utilization of human, physical and financial resources of the enterprise.
- Detection and correction of abnormal loss of material and time.
- Inculcation of cost consciousness.
- Advising management, on the basis of inter-firm comparison of cost records, as regards the areas where performance calls for improvement.
- Promoting corporate governance through various operational disclosures to the directors

Social objectives of cost audit

- Facilitation in fixation of reasonable prices of goods and services produced by the enterprise.
- Improvement in productivity of human, physical and financial resources of the enterprise.

- Channelizing of the enterprise resources to most optimum, productive and profitable areas.
- Availability of audited cost data as regards contracts containing escalation clauses.
- Facilitation in settlement of bills in the case of cost-plus contracts entered into by the Government.
- Pinpointing areas of inefficiency and mismanagement, if any for the benefit of shareholders, consumers, etc., such that necessary corrective action could be taken in time.

Advantages of Cost Audit

Cost audit will prove to be useful to the management, society, shareholders and the government.

The advantages are as under:

1. To Management -

a. Management will get reliable data for its day-to-day operations like price fixing, control, decision-making, etc.
b. A close and continuous check on all wastages will be kept through a proper system of reporting to management.
c. Inefficiencies in the working of the company will be brought to light to facilitate corrective action.
d. Management by exception becomes possible through allocation of responsibilities to individual managers.
e. The system of budgetary control and standard costing will be greatly facilitated.
f. A reliable check on the valuation of closing stock and work-in-progress can be established.
g. It helps in the detection of errors and fraud.

2 To Society

a. Cost audit is often introduced for the purpose of fixation of prices. The prices so fixed are based on the correct costing data and so the consumers are saved from exploitation.
b. Since price increase by some industries is not allowed without proper

justification as to increase in cost of production, inflation through price hikes can be controlled and consumers can maintain their standard of living.

3. To Shareholder - Cost audit ensures that proper records are kept as to purchases and utilization of materials and expenses incurred on wages, etc. It also makes sure that the valuation of closing stocks and work- in-progress is on a fair basis. Thus the shareholders are assured of a fair return on their investment.

4 To Government

a. Where the Government enters into a cost-plus contract, cost audit helps government to fix the price of the contract at a reasonable level.
b. Cost audit helps in the fixation of ceiling prices of essential commodities and thus undue profiteering is checked.
c. Cost audit enables the government to focus its attention on inefficient units.
d. Cost audit enables the government to decide in favour of giving protection to certain industries.
e. Cost audit facilitates settlement of trade disputes brought to the government.
f. Cost audit and consequent management action can create a healthy competition among the various units in an industry. This imposes an automatic check on inflation.

Two aspects of Cost Audit: Propriety Audit and Efficiency Audit

Cost audit offers valuable assistance to the management in its decision making process by examining the reliability of cost accounting data and information.

Due to the assistance provided by cost audit, management is in a position to know what price is to be fixed for a product, whether the wages are avoidable, whether to reorganize sales or inventories systems to make the work efficient and so on. Also, cost audit is of great help in maintaining internal control and internal check and can be of advantage even to the statutory financial auditor. Cost audit programme apart from having all the normal ingredients of audit i.e., vouching, verification etc., is expected to cover within its domain the areas of activity which are concerned with efficiency and propriety audit of the concern as well.

(i) Efficiency Audit*:* It is directed towards the measurement of whether corporate plans have

been effectively executed. It is concerned with the utilization of the resources in economic and most remunerative manner to achieve the objectives of the concern. It comprises of studying the plans of organization, comparing actual performance with plans and investigating the reasons for variances to take remedial action. For example, the effective utilisation of capital in an organisation can be gauged by determining the return on capital employed.

(ii) Propriety Audit: It is concerned with the executive actions and plans bearing on the finances and expenditure of the company. The cost auditor has to judge:

(a) Whether the planned expenditure is designed to give optimum results;

(b) Whether the size and channels of expenditure were designed to produce the best results; and

(c) Whether the return from expenditure on capital as well as current operations could be bettered by some other alternative plan of action.

Management Audit

Management Audit is the total examination of transaction of an organization, or parts of it, and includes checks on the effectiveness of managers, their compliances with company on professional standard, the reliability of management date, the quality of performance of duties and recommendations for improvement. In this context, the distinction between administration and management should be recognized. Administration is concerned with the structure of the organization and the mechanism of its operations, whereas management relates to the leadership and direction of the people, the way in which they are controlled to exercise their functions within the administrative framework. The question of audit arises only because of the ownership of many companies is widely spread between a large number of shareholders, and the running of the organization lies with people holding comparatively a small portion of the equity. This dichotomy of dispersed ownership and entrenched management necessitates and examination to be done of the Management function itself by an independent authority.

In this context management audit undertakes examination of the effectiveness of managementin controlling the total activities of the organization in the accomplishment of the organization objectives. Since a number of audits is conducted in various area, audit responsibility lies in avoiding any overlapping and selecting such areas not covered by an audit already, e.g., if

internal audit examines adherence to procedures, management audit should examine the effectiveness of such procedures.

Management audit deals with

1. the objectives of an organization;
2. the policies and procedures in terms of the objective of the organization; and
3. Adequate performance of an organization in terms of objectives, policies, and procedures.

Definition

Management audit is the unique process appraising the performance of directors, managers orin the other words, appraising the performance of the management. A working director is included as a manager for purposes of management audit. It is normally presumed to be a non-routine investigation into a performance of a manager or group of managers. But in a number of organizations management audit is now a regular feature to examine and improve managerial effectiveness.

It attempts to look into all aspects of the management performance. Management audit does not concentrate on financial matters alone as in the case of financial audit. It looks into the efficiency and effectiveness of performance in an organization.

"Management audit is an objective and independent appraisal of the effectiveness of the managers and effectiveness of the corporate structure in the achievement of company objectives and policies. Its aim is to identify existing and potential management weaknesses within an organization and to recommend ways to rectify these weaknesses". - ***CIMA Terminology***.

Main objectives of Management audit

(i) To ensure optimum utilization on all the resource employed, including money, materials, machines, men and methods;

(ii) To highlight efficiencies in objectives, policies, procedures and planning;

(iii) To suggest improvement in methods of operations;

(iv) To highlight weak links in organizational structure and in internal control systems, and suggest necessary improvements;

(v) To help management by providing health indicators and help prevent sickness or help cure in case of sickness; and

(vi) To anticipate problems and suggest remedies to solve them in time.

Uses of Management Audit

1. Management audit is useful in synthesizing, accounting, economic and other data required by management in constructing basic policy framework.
2. Management audit assists in establishing, reviewing and improving the planningsystem.
3. Management audit makes substantial contribution to system of goal setting in the organization.
4. Management audit ensures that the management is getting the adequate information for correct decisions.
5. Management audit ensures that the management properly uses the information that it is getting.
6. Management audit aids in the design and maintenance of adequate authority structure.
7. It helps in the improvement information system to expedite flow of information among responsibility centers.
8. It substantially contributes for improvement of entire communication system.
9. It helps management in pinpointing key functions or operations in the profit-making process.
10. It helps management in establishing better criterion for measuring results.
11. It helps management to avoid wasteful, unnecessary and extravagant use of resources.

Cost Audit and Management Audit

Cost audit report and the information to be furnished therein is prescribed by the Central Government. However, most of the information contained in the cost audit report is relevant for making managerial decisions. Normally a management audit is an audit for the management and by the management. Such audit looks into the economy and the effectiveness of performance of various activities of an organization. Cost audit also looks into the effectiveness of performance and efficiency in various areas such as capacity, input costs of materials, utilities and other controllable areas so far as the manufacturing aspect is concerned. Detailed information on these areas has to be given in the cost audit report by the cost auditor comparing it with the

standards and past actual wherever necessary. Since Cost Audit is very useful to themanagement as it points out areas where performance can be improved, it can be called an audit for the management. Though cost audit is not done at the behest of the management, it does not change its character from being a management tool.

Difference between Cost Audit and Financial Audit

The basic nature of audit is checking and it holds good for both the cost audit as well as the financial audit. However following are the points of difference between these two audits:

1. Compulsory nature Financial audit is compulsory for all the companies registered under companies act, 1956.Cost audit is not compulsory for all the companies. Only in the case of manufacturing or mining companies they have been specifically asked by the central government to maintain cost accounts under section 209 and get those accounts audited under section 233b.

2. Purpose The purpose of the financial audit is to report on the profit and loss account and balance sheet as to whether they show true and fair view of the business or not. The purpose of the cost audit is to certify that whether the expenditure incurred on the production of items has been incurred prudently or not.

3. Expression of opinion The financial auditor has to comment upon the accuracy of the transactions recorded and the cost auditor has to comment upon the correctness and wise nessof the decisions taken in production of items.

4. Instance Financial audit is conducted at the instance of the shareholders. Cost audit is done at the requirement of third parties like government, industrial organizationsetc.

5. Appointment Financial audit is appointed normally by the shareholders in the general meeting whereas the board of directors with the previous approval of the central government appoints a cost auditor.

6. Recurrence Financial audit is conducted every year whereas a cost audit may be done in the year in which it is required by the government or any other agency.

7. Stock In financial audit auditor has to check the exact value of closing stock for the purposeof balance sheet, whereas in the cost audit the auditor has to check the adequacy of the stock keeping in view of the needs of the concern.

8. Report In the financial audit the report is submitted to the management to be laid in the general meeting of the shareholders, the report of the cost auditor is submitted to the company and also to the central government within 180 days from the end of the company is financial year to which the cost audit.

Assignment

1. Define 'Budget' and 'Budgetary Control'. Give a description of two important budgets.
2. Define 'budgetary Control' and explain its objectives. Discuss how the functional budgets are built up taking any one specific example.
3. Discuss the objectives and limitations of budgetary control
4. List the important functional budgets prepared by a business.
5. Example the concept of flexible budget. How is it prepared?
6. What is a 'sales budget'? How is it prepared?
7. Give an organization chart for budgetary control and discuss its importance.
8. Distinguish between 'fixed budget' and 'flexible budget'. What is the starting point for the preparation of budgets?
9. Budgetary control of repairs and maintenance is extremely difficult – Discuss

10. What do you understand by ‘Zero Base Budgeting’ as distinct from conventional budgeting? Briefly state its process, its advantages and limitations. Discuss its applications in Indian conditions.
11. What do you understand by ‘Performance Budgeting’? Explain its main features.

12. You are the budget controller of a large organization and are primarily concerned with budgetary control of large-scale administrative expenses.
13. What is Cost Audit and Management Audit and explain each briefly with its objectives
14. What is difference between Cost audit and Management Audit

Unit – 5:
Standard Costing

Standard Cost and Standard Costing, standard costing vs. budgetary control, standard costing vs. estimated cost, standard costing and marginal costing, analysis of variance, material variance, labour variance, Sales and Profit variance.

Introduction:

Two vital functions of management of any organization are planning and controlling. While planning helps the management to make systematic efforts to achieve the well-defined objectives, control enables them to review the actual performance and locate the difference between the planned performance and actual performance. Thus, for evaluating performance, it is necessary to compare the actual performance with some pre-determined or pre planned targets. One of the important parameters of performance is the cost of production. According to **M. Porter**, for achieving sustainable competitive advantage it is necessary to establish cost leadership. For achieving this, it is of paramount importance that the various costs are monitored closely and there is a constant comparison of the actual costs with some pre-determined targets. Standard Costing is an important tool in the hands of management for improving the management control by providing parameters for comparison of actual with these parameters. The concept of standard cost, standard costing, variance analysis and other relevant aspects of the same are discussed in this chapter.

Standard

It is a predetermined measurable quantity set in defined conditions

Definitions

Standard Cost is defined as, 'a pre-determined cost which is calculated from management's standard of efficient operation and the relevant necessary expenditure. It may be used as a basis for price fixation and for cost control through variance analysis.' [CIMA – UK] Standard Costing is defined as, 'preparation and use of standard costs, their comparison with actual costs and analysis of variances into their causes and points of incidences.' [CIMA – UK] From the definitions given above, the following features of standard cost and standard costing emerge. Meaning of both the terms will be clearer by going through carefully these features.

Features of Standard Cost and Standard Costing

The following are the features of standard cost:

1. Standard cost is a pre planned or pre-determined cost. This means that the standard cost is determined even before the commencement of production. For example, if a firm is planning to launch a product in the year 2009, the standard cost of the same will be determined in the year 2008.
2. Standard cost is not an estimated cost. There is a difference between saying what would be the cost and what should be the cost. Standard cost is a planned cost and it is a cost that should be the actual cost of production.

3. It is calculated after taking into consideration the management's standard of efficient operation. Thus, standard cost fixed on the assumption of 80% efficiency will be different from what it will be if the assumption is of 90% efficiency.
4. Standard cost can be used as a basis for price fixation as well as for exercising control over the cost.

Standard Costing is a technique of costing rather than a method and has the following features:

- Standard costing involves setting of standards for various elements of cost. Thus, standards are set for material costs, labour costs and overhead costs. Setting of standards is the heart of standard costing and so this work is done very carefully. Setting of wrong standards will defeat the very purpose of standard costing. Standards are not only set for costs, but also for sales and profits. The objective behind setting of standards is to have a basis for comparison between the standard performance and the actual performance.

- Another feature of standard costing is to continuously record the actual performance against the standards so that comparison between the two can be done easily.

- Standard costing ensures that there is a constant comparison between the standards and actual and the difference between the two is worked out. The difference is known as 'variance' and it is to be analyzed further to find out the reasons behind the same.

- After the ascertaining of the variances, analyzing them to find out the reasons for the variances and taking corrective action in order to ensure that the variances are not repeated are the two important actions of management. Thus, standard costing helps immensely in evaluation of performance of the organization.

- Estimated costs should not be confused with standard costs. Though both of them are future costs, there is a fundamental difference between the two. Estimated cost is more or less a reasonable assessment of what the cost will be in future while on the other hand, standard cost is a pre planned cost in the sense it denotes what the cost ought to be. Estimated costs are developed on the basis of projections based on past performance as well as expected future trends. Standard costs are pre determined in a scientific manner through technical analysis regarding the material consumption and time and motion study for determining labour requirements. Estimated costs may not help management in decision making as they are not scientifically pre determined costs but standard costs are decided after a comprehensive study and analysis of all relevant factors and hence provide reliable measures for product costing, product pricing, planning, co-ordination and cost control as well as reduction purposes. Under estimated costing, the cost is estimated in advance and is based on the assumption that costs are more or less free to move and that what is made is the best estimate of the cost. Under standard costing, a cost is established which is based on the assumption that cost will not be allowed to move freely but will be controlled as far as possible so that the actual cost will be close to the standard cost as far as possible and any variation between the standard and actual cost will be capable of reasonable explanation.

Limitations of Standard Costing

1. It cannot be used in those organizations where non-standard products are produced. If the production is undertaken according to the customer specifications, then each job will involve different amount of expenditures.
2. The process of setting standard is a difficult task, as it requires technical skills. The time and motion study is required to be undertaken for this purpose. These studies require a lot of time and money.
3. There are no inset circumstances to be considered for fixing standards. The conditions under which standards are fixed do not remain static. With the change in circumstances, if the standards are not revised the same become impracticable.
4. The fixing of responsibility is not an easy task. The variances are to be classified into controllable and uncontrollable variances. Standard costing is applicable only for controllable variances.

Standard Costs and Estimated Costs – Comparison

Both standard costs and estimated costs are predetermined costs computed in advance of production. But their objectives are normally different. The difference between the two are summarized are under

Basis	Standard Cost	Estimated Cost
1. Nature	Standard cost aims at what the cost should be	Estimated cost in assessment of what the cost will be
2. Basis	Standard costs are planned costs which are determined on a scientific basis after taking into account certain level of efficiency	Estimated costs are based on average of the past figures, taking into consideration anticipated changes in future
3. Relation to Accounts	In standard costing system, standard costs are usually incorporated into the accounts, from which variance of actual from standard are ascertained	Estimated costs are used as statistical data for comparing with actual figures. Such costs are not entered in the books of accounts
4. Use	Standard costs are meant to be used for a concern operating on a standard costing system	Estimated costs may be used in any concern operating on a historical cost system
5. Purpose	Standard costs serve the purpose of cost control	Estimated costs do no serve the purpose of cost control. Such costs serve other purposes, like quoting selling price of new products. Decision to buy or manufacture etc.

Standard Costing and Budgetary Control Comparison

Standard costing and budgetary control have the common objective of cost control by establishing predetermined targets. The actual performance are measured and compared with the predetermining targets for control purposes. Both the techniques are of importance in their respective fields and are complementary to each other

Points of similarity

There are certain basic principles which are common to both standard costing and Budgetary control. These are

1. The establishment of predetermined targets of performance
2. The measurement of actual performance

3. The comparison of actual performance with the predetermined targets
4. The analysis of variances between the actual and the standard performance
5. To take corrective measures, where necessary

Points of Difference

Basis	Standard Costing	Budgetary control
1. Scope	Standard cost are developed mainly for the manufacturing function and sometimes also for marketing and administration factions	Budgets are complied for different functions of the business such as sales, purchases production, cash, capital expenditure, research and development ete.,
2. Intensity	Standard costing is intensive in application as it calls for detailed analysis of variances	Budgetary control is extensive in nature and the intensity of analysis tends to be much less than that in standard costing
3. Relation to Accounts	In standard costing, variances are usually revealed through accounts	In Budgetary control, variances are normally not revealed through accounts and control is exercised by statistically putting budgets and actual side by side
4. Usefulness	Standard costs represent realistic yardsticks and, are therefore more useful for controlling and reducing costs	Budgets usually represent an upper limit on spending without considering the effectiveness of the expenditure in terms of output
5. Basis	Standard costs are usually established after considering such vital matters as production capacity, methods employed and other factors which require attention when determining an acceptable level of efficiency	Budgets may be based on previous year's costs without any attention being paid to efficiency
6. Projection	Standard cost is a projection of cost accounts	Budget is s projection of financial accounts

The Process of Standard Costing

Standard costs are pre-determined by using a careful analysis of production methods, physical conditions and price factors.

They represent achievable targets and help to build up budgets, gauge performance and obtain product costs.

The actual costs will vary from month to month or even from day to day. The basic objective, therefore, of standard costing system is to assist the departmental head by identifying and describing the variances over which he has control. Thus, a set of standards developed under the standard costing system outlines how a task must be accomplished and how much it should cost.

As work is done actual costs are recorded and compared with standard cost to determine the variances. The variances, thus arrived at, are analyzed further with a view to discovering better ways of adhering to standards or of altering the standards so as to accomplish the objectives.

Under this system, the cost is pre-determined for each element, namely, material, labour and overhead and for each line of product manufactured or service rendered. It, therefore, involves:
(a) The setting of standards,
(b) Ascertainment of actual costs,
(c) Comparison of actual and standard costs to determine the variance, and
(d) Investigation of variances and taking appropriate action thereon wherever necessary

Types of Variances

Controllable and un-controllable variances

The purpose of the standard costing reports is to investigate the reasons for significant variances so as to identify the problems and take corrective action.

Variances are broadly of two types, namely, controllable and uncontrollable.

Controllable variances are those which can be controlled by the departmental heads whereas uncontrollable variances are those which are beyond their control.

For example, price variance is normally regarded as uncontrollable if the price increase is due to fluctuations of prices in the market. It becomes controllable if the production controller has failed to place orders in time and urgent purchase was made at extra cost. In the former case, no responsibility is attached to any one whereas the departmental head has responsibility for the loss in the latter case.

As already explained, not all price variances are uncontrollable. If the uncontrollable variances are of significant nature and are persistent, the standard may need revision.
Computation of variances: Let us now proceed to study with illustrations the method of computation of major variances. In all

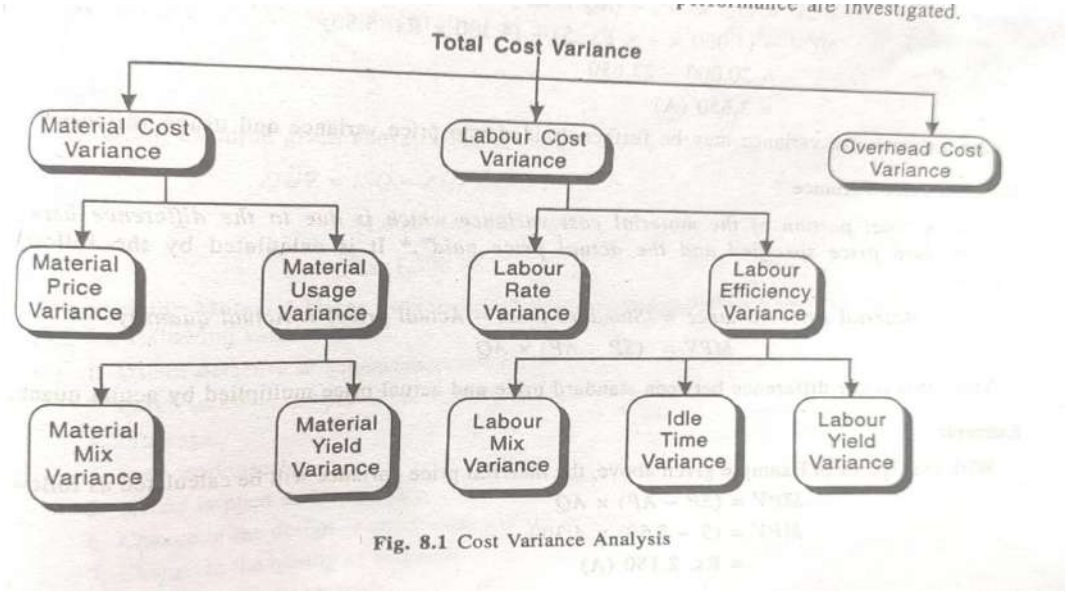


Fig. 8.1 Cost Variance Analysis

the problems illustrated in the following pages, 'F' means favorable variance and 'A' means adverse variance.

Variances may be broadly classified under the following heads according to the main type of cost.

(a) **Material** – The two basic variances arising during material consumption are material usage and material price variances. The former arises because of variations in the quantity of material actually consumed when compared with what should have been consumed as per the established standards and the latter because of the differences between the planned and the actual material prices paid to the suppliers. Mathematically

(i) **Material costs variance** = (Standard quantity x Standard Price) – (Actual quantity x Actual price)

MCV = (SQ × SP) – (AQ × AP)

(ii) **Material price variance** = Actual quantity × (Standard price – Actual price)

MPV = AQ × (SP – AP)

(iii) **Material usage variance** = Standard price (Standard quantity – Actual quantity)

MUV = SP × (SQ –AQ)

Classification of Material Usage Variance

Material usage variance is further sub-divided into:

i) Material mix variance

ii) Material yield variance. (Or Material sub-usage variance)

(i) **Material mix variance** = (Revised standard quantity – Actual quantity) × Standard price

MMV = (RSQ – AQ) × SP

Where

Revised standard quantity =

$$\frac{\text{Standard quantity of one material}}{\text{Total of standard quantities of all materials}} * \text{Total of actual quantities of all materials}$$

Material revised usage variance = (Standard quantity – Revised standard quantity) × Standard price

MRUV = (SQ – RSQ) × SP

(ii) **Material yield variance** = (Actual yield – Standard yield) × Standard output price

MYV = (AY – SY) × SOP

Labour – Similar to material usage variance, labour efficiency variance measures the efficiency of labour by identifying the difference between the actual hours worked and the hours which should have been worked as per the established standards. Mathematically

(i) Labour Cost variance = (Std. hours for actual output x Std. rate per hour) – (Actual hours x Actual rate per hour)

LCV = (SH x SR) – (AH x AR)

(ii) Labour rate variance = Actual time (Std. rate – Actual rate)

LRV = AH x (SR – AR)

(iii) Labour efficiency (or time) variance = Std. rate (Std. hours for actual output – Actual

hours)

LEV = SR x (SH – AH) Check:

Classification of Labour Efficiency Variance

Labour efficiency variance is further divided into the following variances:

(i) Idle time variance
(ii) Labour mix variance
(iii) Labour yield variance (or Labour revised-efficiency variance)

(i) **Idle time variance** = Idle hours x Standard rate

ITV = IH x SR

(ii) **Labour mix variance** = (Revised std. hours – Actual hours) x Standard rate

LMV = (RSH – AH) x SR

Labour revised efficiency variance = (Std. hours for actual output – Revised std. hours) x Standard rate

LREV = (SH – RSH) x SR

(iii) **Labour yield variance** = (Actual yield – Std. yield from actual input) x Std. labour cost per unit of output

LYV = (AY – SY) x SLC Check:

Labour efficiency variance = Idle time variance + Labour mix variance + Labour yield variance (or lobour revised efficiency variance)

LEV = ITV + LMV + LYV (or LREV)

Deviations in the actual rate of pay and the ones estimated are measured by the labour rate variance. Mathematically

Labour cost variance = (Std. time x Std. Rate) – (Actual time x Actual rate)

Labour **efficiency variance** = Std. rate (Std. time – Actual time)

Labour rate variance = Actual time (Std. rate – Actual rate)

Labour cost variance = Labour efficiency variance + Labour rate variance

Sales variances: Variances which arise due to a change in the actual selling price and the actual quantity of units sold from that what was budgeted are known as sales variances.

These variances are computed on the basis of sales value. They provide the sales manager an idea of the effect of various factors affecting sales such as prices, quantity and sales mix on the overall sales value.

The sales value variances are more or less similar to material cost variances or labour cost variances.

Sales value variance: It is the difference between the budgeted sales and actual sales. The variance can be bifurcated into sales price variance and sales volume variance.

Sales price variance: Actual quantity of Sales (Actual price – Budgeted price) or Actual sales minus actual quantity at budgeted prices

Sales volume variances: Budgeted price (Actual quantity – Budgeted quantity) or Actual quantity at budgeted price minus budgeted sales