

SJC

Institute

MANAGEMENT ACCOUNTING

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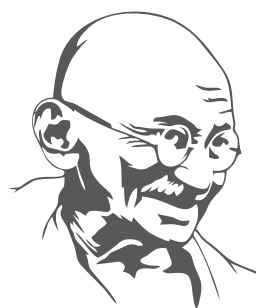
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Contact No.

"Live as if you were to die tomorrow. Learn as if you were to live forever."

Mahatma Gandhi



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Our Aim

is to Gift CA/CMAs to Every Family

Welcome Aboard To Our Goal



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Some Chapters are not included here as no questions are asked yet from those chapters.

Introduction to Management Accounting

Q1

MTP June'23 Set 1

Discuss the role of a management accountant in contemporary business eco system. [7]

Reference Role of Management Accounting	What's New
--	-------------------

Answer

There has been a paradigm shift in the role of the management accountant in the era of globalisation. The focus shifted to strategic analysis. This ushered in the fourth stage of the evolution of management accounting. Authors have opined that most of the management accounting practices used, were actually developed by 1925, and for the next 60 years there was a slowdown, or even a halt, in management accounting innovation.

Globalisation brought about significant changes in the business environment. Along with the changes the roles of the management accountant had to be redefined. In the following lines some of the impacts of the new business environment on management accounting is discussed.


- **Global competition** - Prior to the era of globalisation, many organizations operated in a protected competitive environment. Globalisation ushered in changes where there have been reductions in tariffs and duties on imports and exports as well as dramatic improvements in transportation and communication systems. By this firms operate globally and results in stiff competition from the very best organisations with changed business operation worldwide. The new competitive environment has increased the demand relating to quality and customer satisfaction. Customer profitability analysis and value analysis are important issues in the arena of management accounting.
- **Changing product life cycles** – Changing profile of the customer along with behavioural issues have contributed to drastically reduce the product life cycle, the management accountant plays a crucial role as in order to compete successfully. Companies must be able to manage their costs effectively at the design stage, have the capability to adapt to new environment, different and changing customer requirements and reduce the time to market of new and modified products.

- **Advances in manufacturing technology** - In order to compete effectively, companies must be able to manufacture high quality innovative products at a low cost, and also provide a first-class customer service. Flexibility to cope with short product life cycles, demands for greater variety of product, more discriminating customers and increasing international competition has created enormous pressure on the operational activities of the business.
- **The impact of information technology** - The use of information technology (IT) to support business activities has increased dramatically. Along with electronic business communication technologies known as e-business, e-commerce or internet commerce have also developed significantly. Consumers have become more discerning in their purchases as in online transactions it is relatively easy to compare the merits of different products and services. This has a significant impact on the work of management accountants. The role of the management accountant as a gatherer and processor of information is lost as the managers can directly access the management accounting system on their personal computers to derive the information they require for decision making.
- **Environmental and sustainability issues** – In recent times, ESG4 has become the focal point in the operations of the company. Along with this, ethical issues have also come to the forefront as the business has to deal with customers who are more aware of these issues than they were a decade back.
- **Deregulation and privatization** – Prior to the era of globalization, companies in many industrial sectors were government – owned monopolies and operated in a highly regulated, protected and non-competitive environment. Thus the organizations, especially those incurring losses, were not under any pressure to improve the quality and efficiency of their operations and to improve profitability by adding or dropping particular products or services from their array of product or service. Globalization ushered in the privatization and deregulation which resulted in the elimination of pricing and competitive restrictions and made Companies to realize their cost base and determine the source of profitability for their products, customers and markets.
- **Focus on value creation** – The scope of management accounting is enormous. Managers who are in charge of the operations of the organisations depends on the management accountants in realisation of the strategic goal of the organisations. With the advent of time, the role of the management accountant has changed from merely interpreting, managing and recording costs to creating value. Though cost reduction still remains as the basic function of the management accountant as it has specific impact on selling price fixation which impacts customer value. The new business environment resulted in management accounting distinguishing between value-added and non-value-added activities.



MTP June'23 Set 2

"The evolution of managerial accounting has been through four particular phases" – **explain** the four phases. Also discuss the various tools and techniques that developed during each particular phase clearly demarcating the contemporary techniques against the traditional techniques. [7]

Reference	What's New
 Four Phases, Tools and Techniques	

Answer

Management accounting is an offshoot of financial accounting and has specific linkages with cost accounting. Financial literature suggests that the beginning of management accounting is linked with the requirement for accounting information to optimize economic resources during the Industrial Revolution. The International Accounting Federation (IFAC, 1998) has described the evolution of managerial accounting through four phases.

- First stage (prior to 1950s).
- Second stage (1950s – 1965)
- Third stage (1965 – 1985).
- Fourth stage (1985 – till date)

Explanation of four stages and faces are given below:

(1) The first stage (prior to 1950) Cost determination and financial control, which is also referred as the 'classical era' is the period where the focus was on cost determination and financial control. At this stage, the development of managerial accounting was oriented to determining costs and financial control of business processes. IFAC describes this period of Management accounting as 'the technical activity needed to achieve organizational objectives'. Managerial accounting before the 1950s was mainly focused on determining the cost of the product.

The second stage (1950-1965) is referred as the age of information for management planning and control.

During this period the main focus of managerial accounting was to provide information on planning and control issues. This phase is characterized by the use of traditional accounting management techniques that support decision making and responsibility accounting. Management accounting techniques such as: Standard Costs and Profitability Analysis were introduced during this period. The second phase is described as 'management activity, but in

the role of staff'. During this period, the management was focused on the company's production process and internal analysis and paid less attention to external business environment.

The third stage (1965 - 1985) is referred as reduction of waste of resource in business operation.

Management accounting focussed on reduction of waste of resources in production processes by eliminating 'no-value activities'. During this period, Japan's economic progress and rapid technological developments contributed to the growth of global competition. The priority for the companies was to adapt to the new business environment. Companies began to seek both cost reduction and quality improvement at the same time. The use of robotics and computer-controlled processes enabled companies to improve their quality and in many cases impact on cost reduction.

The Fourth Stage (1985-2000) is referred as Creation of value through effective resource:

During this period, technological innovations were at the forefront, competition was intensified, companies, as they were faced with major business uncertainties, and thus made them focus on value creation through effective use of resources, which could be achieved 'with the use of technology that drives companies to create customer value, shareholder value, and organizational innovations'. The managerial accounting techniques that dominated this period are: Activity-based Cost (ABC); Production just in time (JIT); Target cost; balanced scorecard; Value chain analysis and strategic management accounting.

The various tools and techniques that developed during each particular phase /stage are given below:

Focus	Cost determination and financial control	Information for planning and control	Reduction of waste of resource in Business operation	Creation of Value through effective resource use
Stages →	1760 -1950	1950 -1965	1965 -1985	1985 - till date
Methods ↓				
Cost determination and accounting	Cost determination	Standard cost accounting - developments		
	Standard costing	Marginal costing		
	Direct Costing	Target costing		
	Records of cost accounting		Activity based costing	
	allocation of indirectcost		Activity based management	
	Uniform costing			
	Absorption costing			


Planning	Budgeting	Application of discounted cash flow		
		Transfer costing		
Controlling	Return on investments (ROI)	Responsibility accounting	Application of Kaizen	
	ton -mile ratio	Gentani system	Just in time system	
		Kaizen costing		
Strategic analysis			Life Cycle costing	Value chain analysis
				Five Forces Model
				PEST, SWOT analysis
				Customer profitability analysis
				Competitor analysis
				Balanced scorecard



June'23

Distinguish between cost accounting and management accounting.

[6]

 Reference Cost Accounting Vs Management Accounting	What's New
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Answer

Cost Accounting	Management Accounting
Cost accounting revolves around cost computation, cost control, and cost reduction.	Management accounting helps management make effective decisions about operations of the business.
Cost accounting prevents a business from incurring costs beyond budget.	Management accounting offers a big picture of how management should strategize.

The scope is much narrower.	The scope is much broader.
Quantitative.	Quantitative and qualitative.
Cost accounting is one of the many subsets of management accounting.	Management accounting is the universal set.
The task of decision making very less. Even if there is some, it is based on historic information	Historic and predictive information is the basis of decision-making.
Statutory audit of cost accounting is a requirement in some specified industries.	The audit of management accounting has no statutory requirement
Cost accounting isn't dependent on management accounting to be successfully implemented.	Management accounting is dependent on both cost & financial accounting for successful implementation.
Management, shareholders, and vendors.	Only for management.

Q4

MTP Dec'23 Set 1

Describe the differences between Management Accounting and Financial Accounting. [7]

<p>Reference</p> <p>Management Accounting Vs Financial Accounting</p>	<p>What's New</p>
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Answer

Differences between Management Accounting and Financial Accounting:

Basis for Comparison	Financial Accounting	Management Accounting
Purpose	Financial Accounting classifies, analyses, records, and Financial transactions of a perticular period of the company	Management accounting helps management make effective decisions about the business.
Application	Financial accounting is prepared to reflect true and fair picture of financial affairs.	Management accounting helps managementto take meaningful steps and strategize.
Scope	The scope is pervasive, but not as much as the management accounting.	The scope is much broader.

Information type	Quantitative	Quantitative and qualitative.
Inter dependence	It is not dependent on management accounting.	Management accounting is basically decisionmaking accounting and depends on information created by Financial Accounting as well as Cost Accounting.
Statutory Requirement	It is legally mandatory to prepare financial accounts of all companies. (for example in the Indian Context Companies Act 2013, relevant rules of Accounting standards furnishes the statutory requirements)	Management accounting has no statutory requirement.
Format	Financial accounting has specific formats for presenting and recording information.	There's no set format for presenting information in management accounting.
Users	Mainly for potential investors as well as all stakeholders.	Only for management.
Verifiable	The information presented is verifiable.	The information presented is predictive and not immediately verifiable.

Chapter 2

Activity Based Costing

Q1

MTP June'23 Set 1

ABC Company manufactures three products: A, B, and C. Data for the period just ended is as follows:

	A	B	C
Production (units)	20000	25000	2000
Sales price (per unit)	₹ 20	₹ 20	₹ 20
Material cost (per unit)	₹ 5	₹ 10	₹ 10
Labour hours (per unit)	2 hours	1 hour	1 hour

Overheads for the period were as follows:

	₹
Set-up costs	90,000
Receiving	30,000
Despatch	15,000
Machining	55,000
	1,90,000

Cost driver data	A	B	C
Machine hours per unit	2	2	2
Number of set-up	10	13	2
Number of deliveries received	10	10	2
Number of orders dispatched	20	20	20

As a cost accountant you are **required** to

- (i) **Calculate** the cost and profit per unit, absorbing all the overheads on the basis of labour hours.
- (ii) **Calculate** the cost and profit per unit absorbing the overheads using an Activity Based Costing approach. [4 + 4 = 8]

Reference

Traditional Vs ABC

What's New

Answer

(i) Total overheads ₹1,90,000

Total labour hours:

$$A = (20,000 \times 2) = 40,000$$

$$B = (25,000 \times 1) = 25,000$$

$$C = (2,000 \times 1) = 2,000$$

67,000

Overhead Absorption Rate = ₹1,90,000 ÷ 67,000 hours = ₹2.836 per hour = ₹2.84 per hour

(ii) **Statement of Cost and Profit**

(Amount in ₹)

Particulars	A	B	C
Materials	5	10	10
Labour	10	5	5
Overheads (at ₹2.84 per hr)	5.68	2.84	2.84
	20.68	17.84	17.84
Selling price	20	20	20
Profit / Loss	(0.68)	2.16	2.16

(b) Total	Total	A	B	C
Set-up costs	₹ 90,000	36,000	46,800	7,200
(Cost per set up = ₹ 90,000 ÷ 25)				
Receiving	₹ 30,000	13,636	13,636	2,728
(Cost per delivery = ₹ 30,000 ÷ 22)				
Dispatch				
(Cost per order = ₹ 15,000 ÷ 60)	₹ 15,000	5,000	5,000	5,000
Machining	₹ 55,000	₹ 23,404	₹ 29,256	₹ 2,340
(Cost per machine hour = ₹ 55,000 ÷ 94,000)				
Total	₹ 1,90,000	78,040	94,692	17,268
Number of units		20,000	25,000	2,000
Overheads p.u.		₹ 3.90	₹ 3.79	₹ 8.63

Statement of Cost and Profit

(Amount in ₹)

Particulars	A	B	C
Materials	5	10	10
Labour	10	5	5
Overheads	3.90	3.79	8.63
	18.90	18.79	23.63
Selling price	20.00	20.00	20.00
Profit /(Loss)	₹ 1.10	₹ 1.21	(₹ 3.63)

Q2

MTP June'23 Set 2

Kalyani Manufacturing Company has three salaried accounts payable clerks responsible for processing purchase invoices. Each clerk is paid a salary of ₹30,000 and is capable of processing 5,000 invoices per year (working efficiently). In addition to the salaries, Kalyani spends ₹9,000 per year for forms, postage, checks, and so on (assuming 15,000 invoices are processed). During the year, 12,500 invoices were processed.

Required

- **Calculate** the activity rate for the purchase order activity. Break the activity into fixed and variable components.
- **Compute** the total activity availability, and break this into activity usage and unused activity.
- **Calculate** the total cost of resources supplied, and break this into activity usage and unused activity [4]

<p>Reference</p> <p>Activity Rate, Availability, Unused Activity</p>	<p>What's New</p>
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Answer

1. Activity rate = $[(3 \times ₹ 30,000) + ₹ 9,000] \div 15,000$
= ₹ 6.60 per invoice
2. Fixed activity rate = $₹ 90,000 \div 15,000$
= ₹ 6.00 per invoice
3. Variable activity rate = $₹ 9,000 \div 15,000$
= ₹ 0.60 per invoice

- Activity availability = Activity usage + Unused activity
 $15,000 \text{ invoices} = 12,500 \text{ invoices} + 2,500 \text{ invoices}$
- Cost of resources supplied = Cost of activity used + Cost of unused activity
 $= ₹90,000 + (₹0.60 \times 12,500)$
 $= (₹6.60 \times 12,500) + (₹6.00 \times 2,500)$
 $= ₹82,500 + ₹15,000$
 $= ₹97,500$

Q3

MTP June'23 Set 2

“The basic idea justifying the use of Activity-Based Costing (ABC) and Activity-Based Budgeting (ABB) are well publicized, and the number of applications has increased. However, there are apparently still significant problems in changing from existing systems” – in reference to the context, provide explanation as to -

- Which** characteristics of an organization, such as its structure, product range, or environment, may make the use of activity based techniques particularly useful.
- The **problems** that may cause an organization to decide not to use, or to abandon the use of, activity based techniques. [4]



Reference

Characteristics, Problems of ABC

What's **New**

Answer

- Activity-based costing (ABC) is a costing method that identifies activities in an organization and assigns the cost of each activity to all products and services according to the actual consumption by each. Therefore, this model assigns more indirect costs (overhead) into direct costs compared to conventional costing.
 - ABC system is a very valuable tool of control. It offers a number of advantages to the management and the following are the main advantages:
 - It brings accuracy and reliability of the costing data in determination of the cost of the products.
 - It facilitates cause and effect relationship to exercise effective cost control.
 - It provides necessary cost information to the management to take decisions on any matter, relating to the business.

- (iv) It is much helpful in fixing the cost and selling price of a product.
- (v) It facilitates overhead costs allocate directly to the specific product.
- (vi) It enables to manage the activities rather than costs.
- (vii) It helps to remove all types of wastages and inefficiencies.
- (viii) It provides valuable information to evaluate on the relative efficiencies of various plants and machinery.
- (ix) Cost Driver Rates will help in significant impact on the development of new products or modification of existing products.

ii. This will arise when the products manufactured by the manufacturing companies are not standardized and labour hours are predominating. Further a clear distinction between value added and non-value added activities are difficult to make

Q4

June'23

A Drug Store of MONSL Ltd. is presently selling three types of drugs namely 'Drug S,' Drug T' and "Drug Z'. It has provided the following data for year 2022-23 for each product line:

	Drugs Type		
	S	T	Z
Revenues (in ₹)	74,50,000	1,11,75,000	1,86,25,000
Cost of goods sold (in ₹)	41,44,500	68,16,750	1,20,63,750
Number of purchase orders placed (in Nos.)	560	810	630
Number of deliveries received (in Nos.)	950	1000	850
Hours of shelf—stocking time (in hours)	900	1250	2350
Units sold (in Nos.)	1,75,200	1,50,300	1,44,500

Following Additional information is also provided:

Activity	Description of Activity	Total Cost (₹)	Cost Allocation base
Drug License Fee	Drug License Fee	5,00,000	To be distributed in ratio 2: 3:5 between S, T and Z
Ordering	Placing orders for purchases	8,30,000	2,000 purchase orders
Delivery	Physical delivery and receipt of goods	18,20,000	2,800 deliveries
Shelf Stocking	Stocking of goods	32,40,000	4,500 hours of shelf-stocking time
Customer Support	Assistance provided to customers	28,20,000	4,70,000 units sold

You are **required to calculate** the operating income and operating income as a percentage (%) of revenue for each product line if:

- (i) All the support costs (other than cost of goods sold) are allocated in the ratio of cost of goods sold.
- (ii) All the support costs (other than cost of goods sold) are allocated using Activity Based Costing System. [12]

Reference Operating Income	What's New
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Answer

- (a) **Operating Income and Operating Income as a percentage of revenues for each product line.**

(When support costs are allocated to product lines based on costs of goods sold of each product)

	Drug S (₹)	Drug T (₹)	Drug Z (₹)	TOTAL (₹)
Operating income:	16,47,700	16,31,550	17,35,750	50,15,000
Operating income as a % of revenues:	22.12%	14.60%	9.32%	13.46%

- (b) **Operating Income and Operating Income as a percentage of revenues for each product line.**

(When support costs are allocated to product lines using an activity-based costing system)

	Drug S (₹)	Drug T (₹)	Drug Z (₹)	TOTAL (₹)
Operating income:	6,56,400	14,20,300	29,38,300	50,15,000
Operating income as a % of revenues:	8.81%	12.71%	15.78%	13.46%

Q5**Postal Test Paper**

You are the Cost Controller of ABC Company Limited. You are vouching for the introduction of Activity Based Costing in the Company and in the meeting with other executives of the Company, you said 'Why is using a single plant wide allocation rate not always accurate?'

You are **required** to give your view, in support of the above statement.

[8]

Reference	What's New
Applicability-ABC vs Single OH rate	

Answer

As a Cost Controller of ABC Company Limited, the following points are to be noted, in favour of implementation of Activity Based Costing, in the Company:

1. Using a single plant wide allocation rate is **not always accurate** because it is based on only one allocation base and uses that same allocation base to allocate overhead to all products.
2. The allocation base selected **might not accurately reflect the way products actually use a company's resources** (there might not be a direct cause-and-effect relationship with overhead costs).
3. In contrast, activity-based costing (ABC) **identifies multiple activities**, each with its own allocation base, to **more accurately reflect** the way products actually use a company's resources (activities).
4. Thus ABC costs are closer to the **true cost of making products**. One should feel more comfortable making decisions using ABC cost data.


Q6**Postal Test Paper**

ABC Ltd. uses activity based costing and accumulates overhead costs in the following cost pools:

- i. Human Resources
- ii. Parts management
- iii. Purchasing
- iv. Quality Control

- v. Equipment set-up
- vi. Training employees
- vii. Assembly department
- viii. Receiving department

You are to **find out** for each cost pool whether the cost pool would be unit-level, batch-level, product-level or facility level. [8 x 1 = 8]

 Reference Classification of Activities	What's New
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Answer

Activity Cost Pool	Level
Human Resources	Facility-level
Parts management	Product-level
Purchasing	Batch-level
Quality Control	Unit-level
Equipment set-up	Unit-level
Training employees	Facility-level
Assembly department	Unit-level
Receiving department	Batch-level

Q7

MTP Dec'23 Set 1

Your Cost Controller is not happy about the existing system of charging overheads to its Products, A and B. You have been newly appointed as a Management Accountant of the company and you are asked to implement the ABC Costing for allocation of overheads to the Products. You have identified the following activities, budgeted costs, and activity consumption cost drivers as follows:

Activity	Budgeted Cost	Activity Consumption Cost Driver
Engineering	₹ 1,25,000	Engineering hours
Setups	3,00,000	Number of setups
Machine operation	15,00,000	Machine-hours
Packing	75,000	Number of packing orders
Total	₹ 20,00,000	

You have also gathered the following operating data pertaining to each of its products:

Particulars	Product A	Product B	Total
Engineering hour	5,000	7,500	12,500
Number of setups	200	100	300
Machine hours	50,000	1,00,000	1,50,000
Number of packing orders	5,000	10,000	15,000

You are now **required** to provide with necessary calculations and relevant information, in the form of a report to the Cost Controller about the allocation of overheads costs to the products.

[7]

Reference

Allocation using ABC

What's New

Answer

Basic Calculations and Workings:

Activity Consumption Cost Driver	Budgeted Cost	Budgeted Activity Consumption	Activity Consumption Rate
Engineering hours	₹ 1,25,000	12,500	₹ 10 per hour
Number of setups	3,00,000	300	1,000 per setup
Machine hours	15,00,000	1,50,000	10 per hour
Number of packing Orders	75,000	15,000	5 per order

Factory overhead costs are assigned to both products by these calculations:

Product A (5,000 units)

Activity Consumption	Activity Consumption	Rate Activity Consumption Total Overheads	Cost Driver	Overheads per unit
Engineering hours	₹ 10	5,000	₹ 50,000	₹ 10
Number of Setups	1,000	200	2,00,000	40
Machine hours	10	50,000	5,00,000	100
Number of packing orders	5	5,000	25,000	5
Overhead cost per unit				155

Product B (20,000 units)

Activity Consumption Cost Driver	Activity Consumption Rate	Activity Consumption	Total Overheads	Overheads per unit
Engineering hours	₹ 10	7,500	₹ 75,000	₹ 3.75
Number of setups	1,000	100	1,00,000	5.00
Machine hours	10	1,00,000	10,00,000	50.00
Number of packing orders	5	10,000	50,000	2.50
Overhead cost per unit				61.25

The report should cover the above calculations and necessary explanations, about the selection of Cost Drivers and calculation of Cost Driver rates, for the allocations of overheads to the Products A and B.

Chapter 3

Marginal Costing

Q1

MTP June'23 Set 1

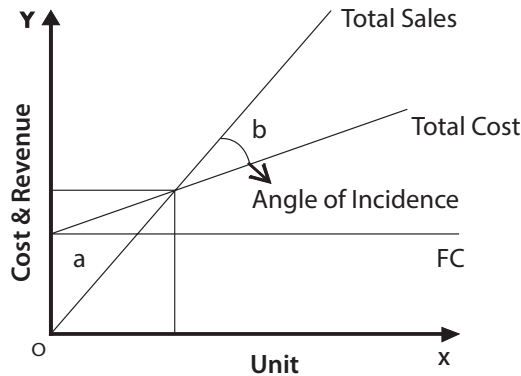
- I. The following data has been extracted from the cost records of CYTOGEN Inc. For a particular period, the Sales revenue is ₹ 2,00,000 and the profit is ₹ 20,000. If it is known that the variable Cost ratio is 60% you are required to **calculate**:
- (i) the Contribution to Sales Ratio
 - (ii) the Fixed Cost and
 - (iii) the Sales volume to earn a profit of ₹ 50,000
- II. **What** do you mean by Angle of Incidence in a Break-Even Chart? Can it be used in managerial decision making? [4+4 = 8]

<p>Reference PV Ratio, FC, Sales, AOI</p>	<p>What's New</p>
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Answer

- I. Sales = ₹ 2,00,000
 Variable Cost = 60% = ₹ 1,20,000
- (1) P/V Ratio = 40%
 - (2) Contribution = ₹ 80,000
 Contribution = Fixed Cost + Profit
 Or, fixed Cost = ₹ 62,000
 - (3) Sales volume to earn a profit of ₹ 50,000 = Fixed Cost + Desired Profit ÷ P/V Ratio
 = ₹ 2,75,000

II. The formal break even chart is as follows:



Area represented by a = Loss Area Area represented by b = Profit Area

At the intersection point of the total cost line and total sales line, an angle is formed called Angle of Incidence.

Yes, it can be used in managerial decision making. The break even analysis is used to answer many questions of the management in day to day business.

Q2

MTP June'23 Set 1 & Set 2

An exporter of auto machine parts is earning a profit of ₹ 1,00,000 on a sale of ₹ 12,00,000. Selling price is ₹ 40 per part and variable cost is ₹ 30 per part. The exporter incurs an additional fixed cost of ₹. 3,00,000 on product improvement which also enables him to economise ₹ 5 in per part variable cost. As per trade agreements, the sale of his parts is restricted to the old value of ₹ 12,00,000.

Determine the selling price per part so that the exporter earns the same profit at the same sales value? [7]

<p>Reference</p> <p>Sales to Earn the Required Profit</p>	<p>What's New</p>
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Answer

Units sold = Sales ÷ Selling Price per unit = ₹ 12,00,000 ÷ ₹ 40 = 30,000 units

Sales	40	12,00,000
Less: Variable Cost	30	9,00,000
Contribution	10	3,00,000
Less: Profits		1,00,000
Fixed cost		2,00,000

Hence, total fixed cost in the new case = ₹ 2,00,000 + ₹ 3,00,000 = ₹ 5,00,000

Contribution in the New Case = New Fixed Cost + Profits = 5,00,000 + 1,00,000 = ₹6,00,000

Since as per agreement the sale value is restricted to the old value that is ₹12,00,000.

Hence **P/V Ratio** will be:

$$₹ 6,00,000 \div ₹12,00,000 \times 100 = 50\%$$

The variable cost in the new case = ₹ 30 - ₹ 5 = ₹ 25

Variable Cost Ratio = 100 - P/V Ratio = 100 - 50 = 50%

Computation of New Selling Price:

If VC is 50, then SP = ₹ 100

If VC is 1, then SP = 100 ÷ 50

If VC is 25, then SP = 100 ÷ 50 × 25 = ₹ **50 per unit**

Q3

MTP June'23 Set 2

- (i) Z plc currently sells products Aye, Bee and Cee in equal quantities and at the same selling price per unit. The contribution to sales ratio for product Aye is 40 per cent; for product Bee it is 50 per cent and the total is 48 per cent. If fixed costs are unaffected by mix and are currently 20 per cent of sales. If the product mix is changed to: Aye 40% Bee 25% Cee 35%

Calculate the new total contribution/total sales ratio.

- (ii) RT plc sells three products.

Product R has a contribution to sales ratio of 30%.

Product S has a contribution to sales ratio of 20%.

Product T has a contribution to sales ratio of 25%.

Monthly fixed costs are ₹100 000.

If the products are sold in the ratio: R: 2 S: 5 T: 3

Calculate the monthly breakeven point (to nearest ₹) (4 + 4 = 8)

Reference	What's New
<p>Total Contribution/Total Sales Ratio,</p> <p>Combined Breakeven Point</p>	<div style="border: 1px solid black; height: 100px;"></div>

Answer

(i) Let contribution to sales ratio of product Cee is C

$$\text{Contribution/sales (\%)} = (0.33 \times 40\%) + (0.33 \times 50\%) + (0.33 \times C) = 48\%$$

$$0.33C = 0.48 - 0.132 - 0.65$$

$$C = \frac{0.183}{0.33} = 54\%$$

Cee = **54%** (Balancing figure)

The total contribution/sales ratio for the revised sales mix is:

$$= (0.40 \times 40\%) + (0.25 \times 50\%) + (0.35 \times 54\%)$$

$$= \mathbf{47.4\%}$$

(ii) Weighted average contribution to Sales ratio

$$= \frac{(30\% \times 2) + (20\% \times 5) + (25\% \times 3)}{10} = 23.5\%$$

$$\text{Break even sales} = \frac{\text{Fixed Costs (₹ 1,00,000)}}{\text{Contribution to sales ratio (23.5\%)}} = \mathbf{₹ 4,25,532}$$

Q4

June'23

RONBANI Ltd., a manufacturing company, has prepared its budget to produce 2,00,000 units. The variable cost per unit is ₹ 16 and fixed cost is ₹ 4 per unit. The company fixes its selling price to fetch a profit of 20% on total cost.

You are **required** to calculate:

- Present break-even sales (in quantity).
- Revised break-even sales (in quantity), if it reduces its selling price by 10%. [4]

Reference	What's New
Break-even Sales	

Answer

- Present Break-even Sales (quantity) = 1,00,000 units
- Revised Break-even Sales (quantity) = 1,42,858 units

Q) 5

June'23

Write down the differences between Absorption Costing & Marginal Costing.

[4]

<p>Reference</p> <p>Absorption Costing Vs Marginal Costing</p>	<p>What's New</p>
--	--------------------------

Answer

The differences between Absorption Costing & Marginal Costing are:

Absorption Costing	Marginal Costing
Both fixed and variable costs are considered for product costing and inventory valuation.	
	Only variable costs are considered for product costing and inventory valuation.
Fixed costs are charged to the cost of production. Each product bears a reasonable share of fixed cost and thus the profitability of a product is influenced by the apportionment of fixed costs.	Fixed costs are regarded as period costs. The profitability of different products is judged by their P/V ratio.
Cost data are presented in conventional pattern. Net profit of each product is determined after subtracting fixed cost along with their variable cost.	Cost data are presented to highlight the total contribution of each product.
The difference in the magnitude of opening stock and closing stock affects the unit cost of production due to the impact of related fixed cost.	The difference in the magnitude of opening stock and closing stock does not affect the unit cost of production.
In case of absorption costing the cost per unit reduces, as the production increases as it is fixed cost which reduces, whereas, the variable cost remains the same per unit.	In case of marginal costing the cost per unit remains the same, irrespective of the production as it is valued at variable cost.



June'23

M/s Ankita Plastics Limited provides you the data of the following products for the year 2022-23.

Particulars	1" PVC Pipe	1/2" PVC Pipe
Profit (₹)	3,00,000	60,000
Unit Selling price (₹)	200	150
P/V Ratio	40%	50%
Sales Mix = 2:1		
Joint Fixed Cost = ₹ 8,15,000		

M/s Ankita Plastics Limited expects that number of units to be sold in 2023-24 would be same as in 2022-23. However, due to upgradation in manufacturing process, the joint fixed cost would be reduced by 10% and the variable cost would increase by 8%.

You are **required** to calculate the following:

- A. Number of units of product 1" PVC Pipe and 1/2" PVC Pipe sold in 2022-23.
 B. Total expected profit of the company from the two products in 2023-24. [4 + 3 = 7]

Reference	What's New
Units Sold, Expected Profit	Weighted Average Basis

Answer

- A. Number of units of products- sold in 2022-23
 1" PVC Pipe 10,000 units
 1/2" PVC Pipe 5,000 units
- B. Total expected profit of the company from the two products in 2023-24 = ₹ 3,15,500

Q7

Postal Test Paper

A company is at present working at 90 per cent of its capacity and producing 13,500 units per annum. It operates a flexible budgetary control system. The following figures are obtained from its budget.

Particulars	90%	100%
Sales (₹)	15,00,000	16,00,000
Fixed expenses (₹)	3,00,500	3,00,600
Semi-fixed expenses (₹)	97,500	1,00,500
Variable expenses (₹)	1,45,000	1,49,500
Units made	13,500	15,000

Labour and material costs per unit are constant under present conditions. Profit margin is 10 per cent.

- A. You are **required** to determine the differential cost of producing 1,500 units by increasing capacity to 100%
- B. **What** would you recommend for an export price for these 1,500 units taking into account that overseas prices are much lower than indigenous prices? [7]

<p>Reference</p> <p>Export Offer</p>	<p>What's New</p>
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Answer

Computation of material and labour cost

Particulars	₹	₹
Sales at present		15,00,000
(-) Profit @ 10%		1,50,000
Total cost		13,50,000
(-) All costs other than material & labour		
Fixed expenses	3,00,500	
Semi fixed expenses	97,500	
Variable expenses	1,45,000	5,43,000
Material & Labour cost		8,07,000

a. Statement showing differential cost of 1500 units:

Particulars	₹
Material & Labour (₹ 8,07,600 × 1500 ÷ 13,500)	89,667
Fixed expenses (₹ 3,00,600 – ₹ 3,00,500)	100
Semi fixed expenses (₹ 1,00,500 – ₹ 97,500)	3,000
Variable expenses (₹ 1,49,500 – ₹ 1,45,000)	4,500
Differential cost	97,267

b. Differential cost per unit = ₹ 97,267 ÷ 1,500 = ₹ 64.84

The minimum price for these 1,500 units should not be less than ₹ 64.84.

Q8

Postal Test Paper

ABC Limited has production capacity of 5,00,000 units per annum at its full capacity.

Company's Cost structure is as under:

Variable production cost per unit	₹ 32.00
Variable selling expenses per unit	₹ 9.60
Fixed production cost per annum	₹ 30,00,000
Fixed selling expenses per annum	₹ 20,00,000

During the year ended 31st March, 2023, the company worked at 80 percent of its capacity. The operating data for the year are as follows:

Production	4,00,000 Units
Sales	₹ 64 per Unit; 3,87,500 Units
Opening stock of finished goods	50,000 Units

Fixed production expenses are absorbed on the basis of capacity and fixed selling expenses are recovered on the basis of period.

You are required to prepare statements of Cost and Profit for the year ending 31st March, 2023:

- On the basis of marginal costing
- On the basis of absorption costing

[3 + 4 = 7]



Reference

Marginal vs Absorption- with opening stock

What's New

Answer

- A. Statement of Cost and Profit under Marginal Costing for the year ending 31st March, 2022 Output = 4,00,000 units

Particulars	Amount (₹)	Amount (₹)
Sales: (3,87,500 units @ ₹ 64 per unit)		2,48,00,000
Less: Marginal costs:		
Variable cost of production (400000 × ₹ 32)	1,28,00,000	
Add: Opening stock (50000 units @ ₹ 32)	16,00,000	
Less: Closing Stock [(4,00,000 + 50,000 – 3,87,500) = 62,500 units @ ₹ 32]	(20,00,000)	
Variable cost of production of 3,87,500 units	1,24,00,000	
Add: Variable selling expenses @ ₹ 9.60 per unit	37,20,000	1,61,20,000
Contribution (sales – variable cost)		86,80,000
Less: Fixed Cost of Production	30,00,000	
Fixed selling expenses	20,00,000	50,00,000
Profit under marginal costing		3,68,0000

- B. Statement of Cost and Profit under Absorption Costing for the year ending 31st March, 2022 Output = 4,00,000 units

Particulars	Amount (₹)	Amount (₹)
Sales: 3,87,500 units @ ₹ 64		2,48,00,000
Less : Cost of sales:		
Variable cost of production (4,00,000 @ ₹ 32)	1,28,00,000	
Add: Fixed cost of production absorbed 4,00,000 units @ ₹ 6 (As per W.N. 1)	24,00,000	
Add: Opening Stock	19,00,000	
Less : Closing Stock	23,75,000	
Production cost of 3,87,500 units	14,72,5000	
Selling expenses: Variable: ₹ 9.60 × 3,87,500 units	37,20,000	
Fixed	20,00,000	2,04,45,000
Profit		43,55,000
Less : Overheads under absorbed: (As per W.N. 2)		6,00,000
Profit under absorption costing		37,55,000

Working Notes:

- Absorption rate for fixed cost of production = ₹ 30,00,000 ÷ 5,00,000 units = ₹ 6 per unit
- Fixed production overhead under absorbed = ₹ (30,00,000 – 24,00,000) = ₹ 6,00,000



Postal Test Paper

From the cost records of a company for a specific period, for product X, the information given in the first column can be ignored since it is only one of the several projections of an assistant accountant, but it may be useful to you.

Particular	This Period Actual (₹)	One of The Future Projections (₹)
Sales (Units)	10,000	20,000
Profit (Loss)	(10,000)	10,000
Fixed Costs	30,000	30,000
Variable Cost Per Unit	8	8

On the basis of the first column, **determine**

- What** increased sales volume is required to cover an additional attractive packaging cost of ₹ 0.50 per unit, to increase the sales, at the existing sales price, to yield zero profit?
- What** increased sales volume is in required at the present sale price, to cover an additional publicity expense of ₹ 5,000 for that period, while yielding a profit of ₹ 5,000.
- What** increased sales volume is required to reach a profit of ₹ 4,000 while reducing the selling price by 3 per cent per unit? [7]

Reference

Increase in SP and Volume

What's New

Answer

- Sales volume required to yield zero profit: = Fixed costs/ CM per unit = ₹ 30,000/₹ 1.50 = 20,000 units. Sales volume required = 20,000 units (₹ 2,00,000). Existing sales volume = 10,000 units (₹ 1,00,000). Difference represents increase in sales volume required to make zero profit = 10,000 units (₹ 1,00,000).
- Assuming situation (2) independent of (1): Sales volume required to earn a profit of ₹ 5,000 = [₹ 30,000 + ₹ 5,000 (publicity expenses) + ₹ 5,000 (profit)]/₹ 2 = 20,000 units (₹ 2,00,000); 10,000 units (₹ 1,00,000) is the increased sales volume required.
- Assuming (3) to be independent of situations (1) and (2): Desired sales volume to earn a profit of ₹ 4,000 = (₹ 30,000 + ₹ 4,000)/(₹ 9.70 – 8) = 20,000 units (or ₹ 1,94,000). Increased sales volume required is 10,000 units.

Working Note:

Determination of total sales revenue and selling price per unit:

$$\begin{aligned} \text{Total sales revenue} &= \text{Total costs} - \text{Loss} \\ \text{Total costs} &= \text{FC} + (\text{VC per unit} \times \text{Sales in units}) \\ ₹ 80,000 &= ₹ 30,000 + (₹ 8 \times 10,000) \\ \text{Total sales revenue} &= ₹ 1,10,000 - ₹ 10,000 = ₹ 1,00,000 \\ \text{SP per unit} &= ₹ 1,00,000/10,000 = ₹ 10. \end{aligned}$$

Q10

Postal Test Paper

A Co. currently operating at 80% capacity has the following; profitability particulars:

Particulars	Amount (₹)	Amount (₹)
Sales		12,80,000
Costs:		
Direct Materials	4,00,000	
Direct labour	1,60,000	
Variable Overheads	80,000	
Fixed Overheads	5,20,000	11,60,000
Profit		1,20,00

An export order has been received that would utilise half the capacity of the factory. The order has either to be taken in full and executed at 10% below the normal domestic prices, or rejected totally.

The alternatives available to the management are given below:

- i) Reject order and Continue with the domestic sales only, as at present;
- ii) Accept; order, split capacity equally between overseas and domestic sales and turn away excess domestic demand;
- iii) Increase capacity so as to accept the export order and maintain the present domestic sales by:
 - (A) buying an equipment that will increase capacity by 10% and fixed cost by ₹40,000 and
 - (B) Work overtime at one and a half the normal rate to meet balance of required capacity.

Prepare comparative statements of profitability and suggest the best. [12]

Reference Export offer	What's New
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Answer

Statement showing computation of comparative profit of different alternatives:

Particulars	Amount (₹)		
	80% capacity	100% capacity	130% capacity
Sales	12,80,000	*8,00,000 + 7,20,000	**12,80,000 + 7,20,000
Variable cost:			
Material	4,00,000	5,00,000	6,50,000
Direct labour	1,60,000	2,00,000	2,60,000
Variable Overheads	80,000	1,00,000	1,30,000
Overtime premium			20,000
	6,40,000	8,00,000	10,60,000
Contribution	6,40,000	7,20,000	9,40,000
Fixed cost	(5,20,000)	(5,20,000)	(5,60,000)
Profit	1,20,000	2,00,000	3,80,000

From the above computations we find that the profit is more at alternative III i.e., accepting the foreign order fully & maintaining the present domestic sales.

$$* \frac{12,80,000}{80\%} \times \frac{1}{2} + \frac{12,80,000}{80\%} \times \frac{1}{2} \times 90\%$$

$$** \frac{12,80,000}{80\%} + \frac{12,80,000}{80\%} \times \frac{1}{2} \times 90\%$$

Q11

MTP Dec'23 Set 1

S Ltd. furnishes you the following information relating to the half year ended 30th June, 2022.

Fixed expenses	₹ 45,000
Sales value	₹ 1,50,000
Profit	₹ 30,000

During the second half the year the company has projected a loss of 710,000.

Calculate:

- The B.E.P and M/S for six months ending 30th June, 2022.
- Expected sales volume for the second half of the year assuming that the P/V Ratio and Fixed expenses remain constant in the second half year also.

The B.E.P and M/S for the whole year for 2022.

[7]



Reference

B.E.P and M/S

What's New

Answer

$$(i) \text{ P/V Ratio} = \frac{\text{Fixed Cost} + \text{Profit}}{\text{Sales}} \times 100$$

$$= \frac{\text{₹ 45,000} + \text{₹ 30,000}}{1,50,000} \times 100 = 50\%$$

$$\text{B.E Sales for half year} = \frac{\text{₹ 45,000}}{0.5} = \text{₹ 90,000}$$

$$\text{MIS for half year} = \text{₹ 1,50,000} - \text{₹ 90,000} = \text{₹ 60,000}$$

$$(ii) \text{ Expected Sales} = \frac{\text{₹ 45,000} + (-\text{₹ 10,000})}{S} = 50\%$$

$$0.5S = \text{₹ 35,000}$$

$$S = \frac{\text{₹ 35,000}}{0.5} = \text{₹ 70,000}$$

$$\text{B.E Sales for Whole year} = \frac{\text{₹ 90,000}}{5} = \text{₹ 1,80,000}$$

$$\text{Margin of safety for whole year} = (\text{₹ 1,50,000} + \text{₹ 70,000}) - \text{₹ 1,80,000} = \text{₹ 40,000}$$

Applications of Marginal Costing in Short Term Decision Making



MTP June'23 Set 1

As a Management Accountant of Bush Radio Company you find that while it costs ₹ 12.50 to make a component X, the same is available in the market at ₹ 11.50 with an assurance of continued supply. The break-down of the cost is:

Elements of cost	₹
Materials	₹ 5.50
Labour	₹ 3.50
Other variable overheads	₹ 1.00
Depreciation & other fixed cost	₹ 2.50
Total Cost	₹ 12.50

- Analyse** the above situation and submit the needful cost related information to enable the management to take a make or buy decision?
- Examine** the possibility of accepting an offer of ₹ 9.70 each per unit received from the supplier. [8]

 <p>Reference Make or Buy</p>	<p>What's New</p>
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Answer

Marginal Cost Statement

Particulars	Per Unit ₹
Materials	5.50
Labour	3.50
Variable Overheads	1.00
Marginal Cost	10.00

- The marginal cost of producing the component is ₹ 10 per unit and fixed cost per unit is ₹ 2.50, thereby making a total cost of ₹ 12.50 per unit. But this component is available in

the market at ₹ 11.50. As the market price per unit is less than the total cost, apparently it looks better to buy the component instead of making it. But a close observation reveals that the component will actually cost ₹ 14 (i.e. 11.50+2.50) if it is purchased, as the fixed cost of ₹ 2.50 is required to be incurred even if the component is purchased. Therefore, it may not be wise to buy a component which will actually cost ₹ 14, which is being manufactured at ₹ 12.50.

2. If the price offered by the supplier is ₹ 9.70 per unit, then it is advisable to purchase the component from the outside market as the outside market price of ₹ 9.70 is less than marginal cost of ₹ 10. There will be saving of ₹0.30 per unit if the component is purchased from outside market

One of the best ways for sales promotion is to offer quotations at low rates. A company is producing 80,000 units (80% of capacity) and making a profit of ₹ 2,40,000. Suppose the Central Government has given a tender notice for 20,000 units. It is expected that the units taken by the Government will not affect the sale of 80,000 units which the company is already selling and the company also wishes to submit the lowest possible quotation. The company may quote any amount above marginal cost, because it will give an additional marginal contribution and hence profit.

Q2

June'23

M/s Visual Infotech Pvt. Limited is a multiple product manufacturer. One product line consists of CCTV Camera and the company manufactures three different models. M/s Visual Infotech Pvt. Limited is currently considering a proposal from a supplier who want to supply lenses of the CCTV Camera to M/s Visual Infotech Pvt. Limited.

M/s Visual Infotech Pvt. Limited currently produces all the lenses it requires. In order to meet customers' needs, M/s Visual Infotech Pvt. Limited produces three different types of lenses for each CCTV Camera model (i.e. nine different lenses).

The supplier would charge ₹ 2,500 per lens, regardless of type of lens. For the next year, M/s Visual Infotech Pvt. Limited has projected the cost of its own production of lenses as follows (based on projected volume of 10,000 units):

Particulars	Amount (₹)
Direct Material	75,00,000
Direct Labour	65,00,000
Variable Overhead	55,00,000
Fixed Overhead:	
Factory Supervisors' Cost	35,00,000
Other Fixed Cost	65,00,000
Total Production Cost	2,95,00,000

Additional information:

1. The equipment utilized to produce the lenses has no alternative use and no market value.
2. The space occupied by the lens production unit will remain idle if the company purchases the lenses from outside market rather than produce in-house.
3. Factory supervision cost is for salary of a Quality Manager & Production Supervisor who would be dismissed from the company if the company closes its lens production unit.

Required:

- (i) **Determine** the net profit or loss of purchasing (rather than manufacturing) the lenses required for CCTV Camera.
- (ii) **Determine** the level of production where the company would be indifferent between buying and producing the lenses. If the future volume level is predicted to decrease, would that influence your decision?
- (iii) **What** would be your decision if the space presently occupied by lens production unit could be leased to another company at a lease rent of ₹ 25,00,000 per annum? [7]

 **Reference**
 **Net Profit Or Loss Of Purchasing,**
 **Indifference Level Of Production,**
 **Decision Making**
What's New**Answer**

- (i) Net profit or loss of purchasing (rather than manufacturing) the lenses required for CCTV Camera = ₹ - 20,00,000
- (ii) Indifference point = 6363.64 Units
If the future volume level is predicted to decrease, the option where Fixed cost is lower is preferable, i.e., Purchase from outside market.
- (iii) Net Profit if the lenses are purchased rather than manufacturing in-house = ₹ 5,00,000
Therefore, the company should buy the lenses from outside market rather than making them in-house.

Q3

Postal Test Paper

A company is engaged in three distinct lines of production. Their production cost per unit and selling prices are as under:

Production (Units)	X	Y	Z
	3,000 ₹	2,000 ₹	5,000 ₹
Material Cost	18	26	30
Wages	7	9	10
Variable overheads	2	3	3
Fixed Overheads	5	8	9
	32	46	52
Selling price	40	60	61
Profit	8	14	9

The management wants to discontinue one line and gives you the assurance that production in two other lines shall be raised by 50%.

They intend to discontinue the line which produces Article X as it is less profitable.

- (a) **Do** you agree to the scheme in principle?
- (b) **Offer** your comments and **show** the necessary statements to support your decision.

[4 + 4 = 8]

<p>Reference</p> <p>Discontinue Decision</p>	<p>What's New</p>
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Answer

The decision should be taken on the relative profitability of various alternatives as ascertained below:

Total fixed Expenses	₹
X (3,000 × ₹ 5)	15,000
Y (2,000 × ₹ 8)	16,000
Z (5,000 × ₹ 9)	45,000
Total Fixed Expenses	76,000

Contribution per unit of different products: (S – V)

X	₹ (40 – 27) = ₹ 13 per unit
Y	₹ (60 – 38) = ₹ 22 per unit
Z	₹ (61 – 43) = ₹ 18 per unit

Profit from different production arrangements may be found as under:

- a) If 'X' is given up, sale of 'Y' and 'Z' will increase by 50%.

The sales of Y would be i.e., Y – 3,000 units, Z – 7,500 units.

Contribution Y = 3,000 × ₹ 22 = ₹ 66,000

Contribution Z = 7,500 × ₹ 18 = ₹ 1,35,000

Total = ₹ 2,01,000

Less: Fixed Cost = ₹ 76,000

Profit = ₹ **1,25,000**

- b) If Y is discontinued, production of X and Z will be more by 50% i.e., X-4,500 units, Z- 7,500 units. Contribution X = 4500 × ₹ 13 = ₹ 58,500

Contribution Z = 7500 × ₹ 18 = ₹ 1,35,000

= ₹ 1,93,000

Less: Fixed Cost = ₹ 76,000

Profit = ₹ 1,17,500

- c) If Z is given up, production of 'X' and 'Y' will be is X – 4500 units, Y – 3000 units.

Contribution X = 4500 × ₹ 13 = ₹ 58,500

Contribution Y = 3000 × ₹ 22 = ₹ **66,000**

₹ 1,24,500

Less: Fixed Cost = ₹ **76,000**

Profit = ₹ **48,500**

Under these three alternatives the profit is maximum (₹ 1,25,000) when 'X' is discontinued. Therefore, we may agree with the management's decision to discontinue product 'X'.

Q4

Postal Test Paper

A Company is manufacturing a product marks an average net profit of ₹ 2.50 per piece on a selling price of ₹ 14.30 by producing and selling 6,000 pieces or 60% of the capacity. His cost of sales is as under:

Particulars	₹
Direct material	3.50
Direct wages	1.25
Works overheads (50% fixed)	6.25
Sales overheads (25% variable)	0.80

During the current year, he intends to produce the same number but anticipates that fixed charges will go up by 10%, with direct labour rate and material will increase by 8% and 6% respectively but he has no option of increasing the selling price. Under this situation, he obtains an offer for further 20% of the capacity.

What minimum price you will recommend for acceptance to ensure the manufacturer an overall profit of ₹ 16,730. [2 + 6 = 8]

<p>Reference</p> <p>Minimum Price</p>	<p>What's New</p>
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Answer

Computation of profit at present after increase in cost

Particulars	₹
Selling price	14.30
Variable costs:	
Material (₹ 3.5 × 106 ÷ 100)	3.710
Labour (₹ 1.25 × 108 ÷ 100)	1.350
Works overhead	3.1250
Sales overhead	0.200
Total	8.385
Contribution per unit	5.915
Total contribution (6,000 × ₹ 5.915)	35,490
Fixed costs	
Works OH ₹ 3.125	

Sales OH ₹ 0.600	3.725 (₹ 3.725 × 6,000 = ₹ 22,350 × 110/100)	24,585
Profit		10,905

Computation of selling price of the order	(₹)
Variable cost of order (2,000 × 8.385)	16,770
(+) required profit (16,730 – 10,905)	5,825
Sales required	22,595
Selling price of order = ₹ 22,595 ÷ 2,000 = 11.2975 (or)	11.30

Q5

MTP Dec'23 Set 1

A review, made by the top management of Sweet and Struggle Ltd. which makes only one product, of the result of two first quarters of the year revealed the following:

Sales in units	10,000
Loss	₹ 10,000
Fixed Cost (for the year ₹1,20,000)	₹ 30,000 / Quarter
Variable cost per unit	₹ 8

The finance Manager who feels perturbed suggests that the company should at least breakeven in the second quarter with a drive for increased sales. Towards this the company should introduce a better packing which will increase the cost by ₹ 0.50 per unit.

The Sales Manager has an alternate proposal. For the second quarter additional sales promotion expenses can be increased to the extent of ₹ 5,000 and a profit; of ₹ 5,000 can be aimed at for the period with increased sales.

The production manager feels otherwise. To improve the demand the selling price per unit has to be reduced by 3%. As a result the sales volume can be increased to attain a profit level of ₹ 4,000 for the quarter.

The Managing Director asks for as a cost Accountant to evaluate these three proposals and calculate the additional units required to reach their respective targets help him to make a decision. [14]

Reference	What's New
Evaluation Of Three Proposals, Additional Units	

Answer

Results of the first quarter: Sales 10,000 units

Particulars	(₹)
Total Variable Cost (10,000 × ₹ 8)	80,000
(+) Fixed Cost	30,000
Total Cost	1,10,000
(+) Loss	(10,000)
Sales	1,00,000

Comparative Statement of 3 proposals

Computation of total no. of units and additional units required to retain the target of respective Managers

	Finance Manager	Sales Manager	Production Manager
Selling Price	₹ 10	₹ 10	₹ 10
Variable Cost	₹ 8.50	₹ 8	₹ 8
Contribution	₹ 1.50	₹ 02	₹ 1.70
Fixed Cost	₹ 30,000	₹ 35,000	₹ 30,000
Target	Break Even	Profit of 5000	Profit of 4000
No. of Units required	$\frac{30,000}{2}$	$\frac{30,000 + 5,000}{2}$	$\frac{30,000 + 4,000}{2}$
1.5 2 2			
Sales (Units) in First Quarter	20,000	20,000	20,000
Additional Sales volume required in Second Quarter as Compared to first Quarter	10,000	10,000	10,000

Chapter 5

Transfer Pricing

Q1

MTP June'23 Set 1

A company has two divisions, X and Y. Division X manufactures a component which is used by Division Y to produce a finished product. For the next period, output and costs have been budgeted as follows.

Particulars	Division X	Division Y
Component units	50,000	
Finished units		50,000
Total variable costs	₹ 2,50,000	₹ 6,00,000
Fixed Costs	₹ 1,50,000	₹ 2,00,000

You, as a cost accountant, are **required** to advise on the transfer price to be fixed for Division X's component under the following circumstances:

- Division X can sell the component in a competitive market for ₹10 per unit. Division Y can also purchase the component from the open market at that price.
- Further to the situation mentioned in (i) above, assume that Division Y currently buys the component from an external supplier at the market price of ₹10 and there is reciprocal agreement between the external supplier and another Division Z, within the same group. Under this agreement, the external supplier agrees to buy one product unit from Division Z at a profit of ₹4 per unit to that division, for every component which Division Y buys from the supplier. [3 + 4 = 7]



Reference

TP - Goal Congruency

What's New

Effect of Div Z's Loss

Answer

- In this case the **transfer price** is to be fixed up as follows

Transfer Price = Marginal Cost + Opportunity Cost i.e. ₹ (5 + 5) = ₹10

Note: Marginal Cost = ₹2,50,000 / 50,000 units = ₹5

Opportunity cost ₹5 is computed on the basis that the Division A will sacrifice ₹ 5 if they sell the product to Division Y.

(ii) In this situation, the transfer price will be worked out as under:

$$\begin{aligned} \text{Transfer price} &= \text{Marginal Cost} + \text{Contribution} + \text{Profit foregone by Division Z} \\ &= ₹(5 + 5 + 4) = ₹14 \end{aligned}$$

In situation (ii), if Division Y purchases from Division X, it will not purchase from external supplier.

Hence, the supplier will stop purchasing from Division Z, which will result in a loss of profit to Division Z @ ₹4 per unit, and therefore this amount will be recovered from the transfer price.

Q2

MTP June'23 Set 2; PTP

Division A is a profit centre, which produces four products P, Q, R and S. Each product is sold in the external market also. Data for the period is as follows:

	P	Q	R	S
Market Price per unit (₹)	350	345	280	230
Variable Cost of production per unit (₹)	330	310	180	185
Labour hours required per unit	3	4	2	3

Product S can be transferred to Division B but the maximum quantity that might be required for transfer is 2,000 units of S.

The maximum sales in the external market are:

P	3,000 units
Q	3,500 units
R	2,800 units
S	1,800 units

Division B can purchase the same product at a slightly cheaper price of ₹ 225 per unit instead of receiving transfers of products S from Division A.

Suggest the transfer price for each unit for 2,000 units of S, if the total labour hours available in Division A are?

- (i) 24,000 hours?
- (ii) 32,000 hours?

[8]

Reference

TP-Goal Congruency

What's New

Key Factor

Answer

Statement showing contribution per unit and per labour hour

Particulars	P	Q	R	S
Selling Price per unit (₹)	350	345	280	230
Variable Cost per unit (₹)	330	310	180	185
Contribution per unit (₹)	20	35	100	45
Labour Hours per unit	3	4	2	3
Contribution per labour hour (₹)	6.67	8.75	50	15
Ranking	IV	III	I	II

(i) Statement Showing Production Plan

Total Hours	Products	Hours/unit	Allocation of Hours
24,000	P	3	-
	Q	4	13,000*
	R	2	5,600*
	S	3	5,400*
			24,000

* R = (2800 × 2) = 5600, S = (1800 × 3) = 5400,

Therefore, [24000 hours – (5600 + 5400)] = 13000 hours is allocated to product Q.

As maximum allocation is (3500 units × 4) = 14000 hours.

Statement showing Transfer Price per unit of Product S

Total Labour Hours require for S (2,000 units × 3 hours per unit)	6,000
Hours derived from Product Q (1,500 units × 4 hours per unit)	6,000
Variable manufacturing cost for Product 'S' (2,000 × ₹185) =	₹ 3,70,000
Contribution foregone/Opportunity Cost of Product Q (1,500 × ₹35)	₹ 52,500
	₹ 4,22,500

Hence Transfer Price per unit (₹ 4,22,500 ÷ 2,000 units) = ₹ 211.25

(ii) Statement Showing Production Plan

Total Hours	Products	Hours/unit	Allocation of Hours
32,000	P	3	7,000
	Q	4	14,000
	R	2	5,600
	S	3	5,400
			32,000

Statement Showing Transfer Price per unit of Product S

Total Labour Hours require for S (2,000 units × 3 hours per unit)	6,000
Hours derived from Product P (2,000 units × 3 hours per unit)	6,000
Variable manufacturing cost for Product 'S' (2,000 × ₹185) =	₹ 3,70,000
Contribution foregone/Opportunity Cost of Product PQ (2,000 × ₹20)	₹ 40,000
	₹ 4,10,000

Hence Transfer Price per unit (₹ 4,10,000 ÷ 2,000 units) = ₹ 205.00

Q3

MTP June'23 Set 2; MTP Dec'23 Set 1

XYZ Ltd which has a system of assessment of Divisional Performance on the basis of residual income has two Divisions, X and Y. X has annual capacity to manufacture 15,00,000 numbers of a special component that it sells to outside customers, but has idle capacity. The budgeted residual income of Y is ₹ 1,20,00,000 while that of X is ₹ 1,00,00,000. Other relevant details extracted from the budget of X for the current year were as follows:

Sale (outside customers) 12,00,000 units @	₹ 180 per unit
Variable cost per unit	₹ 160
Divisional fixed cost	₹ 80,00,000
Capital employed	₹ 7,50,00,000
Cost of Capital	12%

Y has just received a special order for which it requires components similar to the ones made by X. Fully aware of the idle capacity of X, Y has asked X to quote for manufacture and supply of 3,00,000 numbers of the components with a slight modification during final processing. X and Y agree that this will involve an extra variable cost of ₹ 5 per unit.

Suggest the transfer price which X should quote to Y to achieve its budgeted residual income.

[7]

Reference

TP - Residual IncomeWhat's **New****Answer****Contribution required at Budgeted Residual Income**

Fixed cost ₹ 80,00,000

Profit on ₹ 7,50,00,000 × 12% = ₹ 90,00,000

Residual Income = ₹ 1,00,00,000

$$\begin{aligned} \text{Total Contribution required} &= ₹ (80,00,000 + 90,00,000 + 1,00,00,000) \\ &= ₹ 2,70,00,000 \end{aligned}$$

Contribution derived from existing units = 12,00,000 × ₹ 20 = ₹ 2,40,00,000

Contribution required on 3,00,000 units = ₹ 2,70,00,000 – ₹ 2,40,00,000 = ₹ 30,00,000

Contribution per unit = ₹ 30,00,000 / 3,00,000 units = ₹ 10

Increase in Variable Cost = ₹ 5

Transfer Price = Variable Cost + Desired Residual Income + Increase in Variable Cost

= ₹ 160 + ₹ 10 + ₹ 5

= ₹ 175

Q4**Postal Test Paper**

In a meeting with the Director Finance of your company, he had pointed out that there might be some disadvantages in taking divisions as a profit centres. As a Management Accountant of the company you are **required** to **state** the various disadvantages in taking divisions as a profit centres. [5]

Reference

Disadvantages In Taking Divisions As A Profit CentresWhat's **New**

Answer

As a Management Accountant, the following points are considered to be of importance:

- (i) Divisions may compete with each other and may take decisions to increase profits at the expense of other divisions thereby overemphasizing short term results.
- (ii) It may adversely affect co-operation between the divisions and lead to lack of harmony in achieving organizational goals of the company. Thus, it is hard to achieve the objective of goal congruence.
- (iii) It may adversely affect co-operation between the divisions and lead to lack of harmony in achieving organizational goals of the company. Thus, it is hard to achieve the objective of goal congruence.
- (iv) The cost of activities, which are common to all divisions, may be greater for decentralized structure than centralized structure. It may thus result in duplication of staff activities.
- (v) Top management loses control by delegating decision making to divisional managers. There are risks of mistakes committed by the divisional managers, which the top management, may avoid.
- (vi) Series of control reports prepared for several departments may not be effective from the point of view of top management.
- (viii) It may underutilize corporate competence.
- (ix) It leads to complications associated with transfer pricing problems.
- (x) It becomes difficult to identify and define precisely suitable profit centres.
- (xi) It confuses division's results with manager's performance.

Q 5

Postal Test Paper

Explain the opportunity cost approach to transfer pricing

[3]

<p>Reference</p> <p>Opportunity Cost Approach</p>	<p>What's New</p>
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Answer

Opportunity Cost approach to Transfer Pricing: It represents the opportunity which has been foregone by following one course of action rather than another. Thus, if goods are transferred internally the organisation could lose a contribution to profit which could have been obtained from an external sale. Generally, an opportunity cost approach will be used to establish a range of transfer prices in situations where the market is imperfect.



June'23

Zen Limited produces four products— A, B, C & D in Division-X. Products are sold in the external market and the cost data for the month of July, 2022 is as under:

Particulars	Product-A	Product-B	Product-C	Product-D
Selling price per unit in external market (₹)	250	450	300	350
Hours required to produce one unit	5	10	10	8
P/V Ratio	30%	40%	45%	50%

Product-D can be transferred to Division-Y. However, maximum quantity that might be required by Division-Y is 1500 units of Product-D. The maximum sales of the products in the external market are:

Product-A - 3,000 Units

Product-B - 4,000 Units

Product-C - 3,500 Units

Product-D - 2,000 Units

What should be the transfer price for each unit of Product-D if the total labour hours available in Division-X are:

(i) 70,000 Hours

(ii) 80,000 Hours

[8]



Reference

Transfer Price- Goal Congruency

What's New

Key Factor

Answer

(i) Transfer price where total labour hours available is 70000 hours = ₹ 295

(ii) Transfer price where total labour hours available is 80000 hours = ₹ 286

Standard Costing and Variance Analysis

Q1

MTP June'23 Set 1

AB Ltd. has furnished the following information:

	Budgeted	Actual (for March 2023)
Number of working days	25	27
Production (in Units)	20000	22000
Fixed Overheads	₹ 30000	₹ 31000

Budgeted fixed overhead rate is ₹ 1.00 per hour. In March 2023, the actual hours worked were 31500.

Calculate:

- Fixed overhead Efficiency Variance
- Fixed overhead Capacity Variance
- Fixed overhead Calendar Variance
- Fixed overhead Volume Variance
- Fixed overhead Expenditure Variance

[7]

Reference	What's New
FOH Variances	

Answer

(a) Standard rate per unit (Budgeted overheads/Budgeted output) i.e.,

$$= (\text{₹}30,000/20,000 \text{ units}) = \text{₹ } 1.50$$

$$\text{Standard time per unit } (30,000/20,000) = 1.50 \text{ hours}$$

(i) Efficiency Variance = Standard overhead rate (Standard hours for actual output – Actual hours worked)

$$\text{₹}1.00 (33,000 - 31,500) = \text{₹ } 1,500 \text{ (F)}$$

$$\text{Standard hour for actual output} = 22,000 \text{ units @ } 1.5 \text{ hours} = 33,000 \text{ hours.}$$

- (ii) Capacity Variance = Standard rate per hour (Actual hours worked – Budgeted hours for 27 days)

$$₹1 (31,500 - 32,400) = ₹ 900 (A)$$

$$\begin{aligned} \text{Budgeted hrs for 25 days} &= 30,000 \text{ therefore, budgeted hours for 27 days} \\ &= 32,400 \text{ i.e., } (30,000 \div 25 \times 27) \end{aligned}$$

(iii) Calendar Variance

Standard Overheads rate per day (Actual working days – Budgeted working days)

$$\begin{aligned} ₹1,200 \times (27 - 25) &= ₹ 2,400 (F), \text{ where, Standard Overheads rate per day} \\ &= ₹30,000 \div 25 \text{ days} = ₹1,200 \end{aligned}$$

(iv) Volume Variance

Standard rate per unit (Actual Output – Budgeted output)

$$₹ 1.50 \times (22,000 - 20,000) = ₹ 3,000 \text{ (Favourable).}$$

(v) Expenditure Variance

Budgeted overheads – Actual overheads

$$₹ 30,000 - ₹ 31,000 = ₹1,000 \text{ (Adverse).}$$

Q2

MTP June'23 Set 1

SK Limited makes and sells a single product 'Jay' for which the standard cost per unit is as follows;

		₹ per unit
Direct Material	4 kg @ ₹ 12.00 per kg	48.00
Direct Labour	5 hours @ ₹ 7.00 per hour	35.00
Variable production overhead	5 hours @ ₹ 2.00 per hour	10.00
Fixed production overhead	5 hours @ ₹ 10.00 per hour	50.00
		143.00

The variable production overhead varies with the hours worked. Overhead is absorbed into production on the basis of standard hours of production and the normal volume of production for the period just ended was 20 000 units (100 000 standard hours of production).

For the period under consideration, the actual results were;

	Production of 'Jay'	18000 units (₹)
Direct material used – 76000 kg at a cost of		8,36,000
Direct labour cost incurred – for 84000 hours worked		6,04,800

Variable production overhead incurred	1,72,000
Fixed production overhead incurred	10,30,000

You are **required**

- (i) to **analyse** and show, by element of cost, standard cost for the output for the period;
- (ii) to **scrutinize** and list relevant variances in a way which reconciles standard cost with actual cost;

(Note: Fixed production overhead sub-variances of capacity and volume efficiency (productivity) are not required); [2 + 6 = 8]

<p>Reference</p> <p>Cost Variances</p>	<p>What's New</p>
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Answer

Standard cost of output produced	(18000 units) (₹)
Direct Material	8,64,000
Direct Labour	6,30,000
Variable production overhead	1,80,000
Fixed production overhead	9,00,000
	25,74,000

	Standard cost of output (₹)	Variances (₹)	Actual cost (₹)
Direct materials	8,64,000		
Price variance		76,000 (F)	
Usage variance		48,000 (A)	
Actual cost			8,36,000
Direct labour	6,30,000		
Rate variance		16,800 (A)	
Efficiency variance		42,000 (F)	
Actual cost			6,04,800
Variable production overhead	1,80,000		
Expenditure variance		4,000 (A)	
Efficiency variance		12,000 (F)	
Actual cost			1,72,000
Fixed production overhead	9,00,000		

Expenditure variance		30,000 (A)	
Volume variance		1,00,000 (A)	
Actual cost			10,30,000
	25,74,000	68,800 (A)	26,42,800

Notes

- a (Standard price – Actual price) × Actual quantity
 $(₹ 12 - ₹ 8,36,000/76,000) \times 76,000$
 $\therefore (₹ 12 - ₹ 11) \times 76,000 = ₹ 76,000 (F)$
- b (Standard quantity - Actual quantity) × Standard price
 $(18,000 \times 4 \text{ kg} - 76,000) \times ₹ 12$
 $\therefore (72000 \text{ kg} - 76,000 \text{ kg}) \times 12 = ₹ 48,000 (A)$
- c (Standard rate – Actual rate) × Actual hours
 $(₹ 7 - ₹ 6,04,800/84,000) \times 84,000$
 $\therefore (₹ 7 - ₹ 7.2) \times 84,000 \text{ hours} = ₹ 16,800 (A)$
- d (Standard hours – Actual hours) × Standard rate
 $(18,000 \times 5 \text{ hrs} - 84,000) \times ₹ 7 = ₹ 42,000 (F)$
- e (Actual hours × Standard rate) – Actual cost
 $(84,000 \times ₹ 2 - ₹ 1,72,000) = ₹ 4,000 (A)$
- f (Standard hours – Actual hours) × Standard rate
 $(18,000 \times 5 \text{ hrs} - 84,000 \text{ hours}) \times ₹ 2 = ₹ 12,000 (F)$
- g Budgeted fixed overheads - Actual fixed overheads
 $(20,000 \times ₹ 50 - ₹ 10,30,000) = ₹ 30,000 (A)$
- h (Actual output – Budgeted output) × Standard rate
 $(18,000 - 20,000) \times ₹ 50 = ₹ 1,00,000 (A)$

Q3

MTP June'23 Set 2

Pradeep LLP of Delhi follows a standard cost system. For a particular month the following is extracted from their cost records.

Product	Budgeted			Actual		
	Quantity (Units)	Price (₹)	Value (₹)	Quantity (Units)	Price (₹)	Value (₹)
X	600	3	1800	800	4	3200
Y	800	4	3200	600	3	1800

Analyse Sales Variances.

[8]

<p>Reference</p> <p>Sales Variances</p>	<p>What's New</p>
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Answer

(i) **Sales Value Variance** = Actual Value of Sales – Standard Value of Sales

$$\begin{aligned} \text{Total Actual Value of Sales} &= ₹ 3,200 + ₹ 1,800 \\ &= ₹ 5,000 \end{aligned}$$

$$\text{Total Standard Value of Sales} = ₹ 1,800 + ₹ 3,200 = ₹ 5,000$$

$$\text{Sales Value Variance} = (₹5,000 - ₹ 5,000) = \text{Nil}$$

(ii) **Sales Price Variance** = Actual Quantity Sold × (Actual Price – Standard Price)

$$\text{Product A} \rightarrow 800 \times (₹4 - ₹ 3) = ₹ 800 \text{ Favourable}$$

$$\text{Product B} \rightarrow 600 \times (₹3 - ₹4) = ₹ 600 \text{ Unfavourable}$$

$$\text{Total Sales Price Variance} = ₹(800 - 600) = ₹ 200 \text{ Favourable}$$

(iii) **Sales Volume Variance** = Standard Price × (Actual Units – Standard Units)

$$\text{Product A} \rightarrow ₹ 3 \times (800 - 600) = ₹ 600 \text{ Favourable}$$

$$\text{Product B} \rightarrow ₹ 4 \times (600 - 800) = ₹ 800 \text{ Unfavourable}$$

$$\text{Total Sales Volume Variance} = ₹(600 - 800) = ₹ 200 \text{ Unfavourable.}$$

Q4

MTP June'23 Set 2

ACE LLP follows a standard costing system and produces a product called the 'PRO GEAR'. You are recently appointed as the cost accountant of the Company. The established standards for materials and labour follow:

Material A: 3 Kg @ ₹ 6 ₹ 18

Labour: 4 hr @ ₹ 7.50 per hr ₹ 30

The operating data for the month of January 2023 are as under:

Work in process, January 1: 200 units, all materials, and 20% complete as to labour.


Work in process, January 31: 600 units, all materials, and 80% complete as to labour.

During the month of January 2023, 6400 units of the product was completed. All materials are added at the beginning of processing in the department.

20,900 Kgs of materials were used in production during the month, at a total cost of ₹ 1, 23,310.

Direct labour amounted to ₹ 2, 08,670, which was at a rate of ₹ 7.70 per hour.

You are **required** to critically analyse the necessary variances and comment. [7]

 <p>Reference Material & Labour Variances</p>	<p>What's New WIP Based</p>
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Answer

It is important to note that in addition to the usual procedures used to solve standard cost problems, equivalent production (FIFO) must be calculated. The equivalent production determined by the FIFO method will be used to calculate the standard materials and standard labour allowed. Two variances (price and quantity) must be determined for materials, and two variances (rate and efficiency) must be determined for labour.

With the results of equivalent production as calculated above the variances are to be calculated as follows;

Calculation of Equivalent Production for Materials and Labour by the FIFO Method:

Materials:

Work in process, May 1: 200 units (all materials added last period)	0
Units started and finished during May (6,400 – 200)	6,200

Work in process, May 31: 600 units (all materials added)	600
Total equivalent production—materials	6,800

Labour:

Work in process, May 1: 200 units (80% of labour required)	160
Units started and finished during May	6,200
Work in process, May 31: 600 units (80% labour added)	480
Total equivalent production—labour	6,840

Determining the Materials and Labour Variances:

Materials Variances

Materials Price Variance = (Actual Price – Standard Price) × Actual quantity

$$= (\text{₹ } 5.90 - \text{₹ } 6.00)$$

$$= (\text{₹ } 5.90 - \text{₹ } 6.00) \times 20,900$$

$$= \text{₹ } 2,090 \text{ (F)}$$

Materials Quantity Variance = (Actual Quantity – Standard Quantity) × Standard Price

$$= [20,900 - (6,800 \times 3)] \times \text{₹ } 6.00$$

$$= [20,900 - 20,400] \times \text{₹ } 6.00$$

$$= \text{₹ } 3,000 \text{ (A)}$$

Note: ₹ 1,23,310 ÷ 20,900 = ₹5.90 per kg.

Labour Variances

Labour Rate Variance = (Actual Rate - Standard Rate) × Actual hours

$$= (\text{₹ } 7.70 - \text{₹ } 7.50) \times 27,100$$

$$= \text{₹ } 5,420 \text{ (A)}$$

Labour Efficiency Variance = (Actual Hours – Standard Hours) × Standard Rate

$$= [27,100 - (6,840 \times 4)] \times \text{₹ } 7.50$$

$$= \text{₹ } 1,950 \text{ (F)}$$

Note: ₹ 2,08,670 ÷ ₹ 7.70 = 27,100 hours

The Manager (Cost) should write a 'Report' to the MD showing the above variance calculations.

Q5

June'23

DASON Ltd., using standard costing system has the following information for the month of September 2022.

Budgeted Fixed overheads for the month: ₹ 5,00,000. Overheads are recovered on the basis of standard machine hours. The company had budgeted for 1,00,000 machine hours for the month. During the month, the company used 1,10,000 machine hours while it should have used 95,000 machine hours for actual output. Actual Fixed Overheads for the month: ₹4,70,000.

Required:

Analyse the following Fixed Overhead Variances:

- (i) Fixed Overhead Volume Variance
- (ii) Fixed Overhead Efficiency Variance
- (iii) Fixed Overhead Cost Variance.

[5]



Reference

Fixed Overhead Variances

What's **New**

Answer

- (i) Fixed Overheads Volume Variance = ₹ 25,000 (Adv.)
- (ii) Fixed Overheads Efficiency Variance = ₹ 75,000 (Adv.)
- (iii) Fixed Overheads Cost Variance = ₹ 5,000 (Fav.)

Q6

June'23

DOXTIN Ltd. is using a system of Standard Costing and has a manufacturing division which makes a product to which the following details relate:

	Per unit (₹)
Direct Material: 5 kg. at ₹ 20	100
Direct labour: 12 hours at ₹ 20	240
Variable overheads: 12 hours at ₹ 10	120

Relevant fixed overheads are based at ₹ 1,00,000 per month and planned output is 2,000 units per month. The selling price is ₹ 550 per unit. During a recent month when output was 1,800 units, the following actual costs were incurred:

	(₹)
Direct Materials (8,500 kg)	1,72,000
Direct labour (20,000 hours)	4,20,000
Variable overhead :	2,20,000
Fixed overhead	98,000
	9,10,000
Profit	40,000
Sales value	9,50,000

Required:

- (i) **Analyse** and **calculate** the variances which occurred during the month.
 (ii) **Reconcile** the actual profit with budgeted profit. [7 + 3 = 10]

Reference	What's New
Variations and Reconciliation	

Answer

- (i)
- Material Price variance = ₹2,000 (Adv)
 - Material Usage variance = ₹10,000 (Fav)
 - Direct wage rate variance = ₹20,000 (Adv)
 - Wage Efficiency variance = ₹32,000 (Fav)
 - Variable Overhead expenditure variance = ₹ 20,000 (Adv)
 - Variable overhead efficiency variance = ₹16,000 (Fav)
 - Fixed overhead expenditure variance = ₹2,000 (Fav)
 - Fixed overhead capacity variance = ₹16,667(Adv)
 - Fixed overhead efficiency variance = ₹6,667 (Fav)
 - Sales margin price variance = ₹40,000 (Adv)
 - Sales margin volume variance = ₹8,000 (Adv)

(ii) **Reconciliation of Profit**

	₹
Budgeted Profit	80,000
Favorable Variances:	1,46,667
Adverse variances:	(1,06,667)
Actual Profit (for the period):	40,000

Q7

Postal Test Paper

In a Cost Conference, the speaker discussing budgets and standard costs made the following statement:

“Budgets and standards are not the same thing. They have different purposes and are set up and used in different ways; yet a specific relationship exists between them.”

(A) **Identify** distinctions or differences between budgets and standards.

(B) **Identify** similarities between budgets and standards.

[8]

Reference

Similarities, Differences Between Budgets And Standards

What's **New**

Answer

- (a) (i) **In budgetary control**, budgets are used as a means of planning and control. The targets of various segments are set in advance and actual performance is compared with predetermined objects. In this way management can assess the performance of different departments. On the other hand, **standard costing** also set standards and enables to determine efficiency on the basis of standards and actual performance. Budgetary control is essential to determine standard costs, whereas, the standard costing system is necessary for planning budgets.
- (ii) **In budgetary control** the budgets are prepared for the concern as a whole whereas **in standard costing** the standards are set for producing a product or for providing a service.
- (iii) **In standard costing**, unit concept is used while in budgetary control total concept is used.
- (iv) **The budgets are fixed** on the basis of past records and future expectations. **Standard costs are fixed** on the basis of technical information. Standard costs are planned costs and these are expected in future.
- (v) As far as scope is concerned, in case of **budgetary control** it is much wider than standard costing. Budgets are prepared for incomes, expenditures and other functions of the departments such as purchase, sale, production, finance and personnel department. In contrary, **standards** are set up for expenditures only and, therefore, for manufacturing departments standards are set for different elements of cost i.e., material, labour and overheads.
- (vi) Further, in **budgetary control**, the targets of expenditure are set and these targets cannot be exceeded. In this system the emphasis is on keeping the expenditures

within the budgeted figures. In **standard costing** the standards are set and an attempt is made to achieve these standards. The emphasis is on achieving the standards. Actual costs may be more than the standard costs and there can be no such thing in budgetary control.

- (vii) The **budgetary control** system can be applied partly or wholly. Budgets may be prepared for some departments and may not be prepared for all the departments. If a concern is interested in preparing production budget only, it is free to do so.

Standard costing cannot be used partially; it will have to be used wholly. The standards will have to be set for all elements of cost. In fact, the systems operate in two different fields and both are complimentary in nature.

- (b) Although standards and budgets have certain differences, they possess similarities which are of such a nature that the existence of standard costs greatly facilitates budget preparation.
- (i) The **first** similarity is that both budgets and standards **attempt to predetermine expenses**. The budget and the standards have been set by records of current operational methods or procedures and have not just been set by hopes for so-called "good production."
- (ii) **Second**, both consider **departmental expenses according to accounts**, generally speaking, all departments have their sub-accounts. They have been budgeted for a certain amount to be spent for specific uses. If there are cost differences, they should be investigated at the time they are happening.
- (iii) **Third** similarity is that both **assume costs are controllable** along direct lines of supervision and responsibility. Supervisors are responsible to manage not only for production but also for cost of production. Supervisors should be aware of the budget as well as the standards for their departments.
- (iv) **Finally**, both require the issuance of **periodic comparative cost reports**. When the costs are much higher or lower than the budgeted amount and are controlled by standards, these differences should be broken down to show management specific reasons for these differences at each interim reporting period.

Budgets are similar to standard costs in their methods of approach and measurement. If standard costs are known, budgeted costs can be derived from them by the application of ratios.



Postal Test Paper

The following data is obtained from the cost record of ABC Limited:

Standard Mix		Actual Mix	
Material X	120 kg. @ ₹25	Materials X	110 kg. @ ₹ 30
Material Y	80 kg. @ ₹50	Material Y	90 kg. @ ₹ 45
	200 kg.		200 kg.
Less: Loss 30%	60 kg.	Less: Loss 25%	50 kg.
Output	140 kg.	Output	150 kg.

You are **required** to find out the following material variances:

- (i) Cost Variance;
- (ii) Price Variance;
- (iii) Usage Variance;
- (iv) Mix Variance;
- (v) Yield Variance.

[7]



Reference

Material Variances

What's **New**

Answer

Working Notes:

1. Calculation of Total Standard Material Cost or (SQ × SP):

Material X:	120 × ₹ 25	= 3,000
Material Y:	80 × ₹ 50	= 4,000
Total Standard cost of output of 140 kgs		<u>= 7,000</u>

Hence, Total Standard Cost for Actual Output 150 kg = ₹ 7000 ÷ 140 × 150 = ₹ 7500

Hence, per unit standard cost of output = ₹ 7,500/150 = ₹ 50

2. Total Actual Cost or (AQ × AP):

Material X	110 × ₹ 30	= ₹ 3,300
Material Y	90 × ₹ 45	= ₹ 4,050
Total Actual Cost		<u>= ₹ 7,350</u>

3. (AQ x SP) =

Material X	110 × ₹ 25	= ₹ 2,750
Material Y	90 × ₹ 50	= ₹ 4,500
		<u>= ₹ 7,250</u>

4. Revised Standard Quantity (RSQ) For Material X :

(Total AQ 200 ÷ Total Standard Quantity 200) × Standard Quantity for Material X

i.e., 120 = 120 kg.

Similarly, RSQ for Material Y = 80 kg.

5. (RSQ x SP) =

Material X	120 × ₹ 25 =	₹ 3,000
Material Y	80 × ₹ 50 =	₹ 4,000
		<u>₹ 7,000</u>

Computation of Variances:

- (i) Material Cost Variance = Total Standard Cost – Total Actual Cost = ₹ 7,500 – ₹ 7,350
= ₹ 150 (F)
- (ii) Material Price Variance = AQ (SP-AP) or (AQ × SP) - (AQ × AP) = ₹ 7,250 – ₹ 7,350 = ₹ 100 (A)
- (iii) Material Usage Variance = SP (SQ-AQ) or (SP × SQ) - (SP × AQ) = ₹ 7,500 – ₹ 7,250 = ₹ 250 (F)
- (iv) Material Mix Variance = SP (RSQ-AQ) or (SP × RSQ) - (SP × AQ) = ₹ 7,000 – ₹ 7,250 = ₹ 250 (A)
- (v) Material Yield Variance = Standard Cost per unit (AY – SY) = ₹ 50 (150-140) = ₹ 500 (F)

Q9

MTP Dec'23 Set 1

ABC Ltd. adopts a Standard Costing System. The standard output for a period is 20,000 units and the standard cost and profit per unit is as under:

Particulars	(₹)
Direct Material (3 units @ ₹ 1.50)	4.50
Direct Labour (3 hrs. @ ₹ 1.00)	3.00
Direct expenses	0.50
Factory overheads : Variable	0.25
Fixed	0.30
Administration overheads	0.30
Total Cost	8.85

Profit	1.15
Selling Price (Fixed by government)	10.00

The actual production and sales for a period was 14,400 units. There has been no price revision by the government during the period.

The following are the variances worked out at the end of the period:


Particulars		Favourable (₹)	Adverse (₹)
Direct Material			
	Price		4,250
	Usage	1,050	
Direct labour			
	Rate		4,000
	Efficiency	3,200	
Factory overheads			
	Variable – expenditure	400	
	Fixed – expenditure	400	
	Fixed – Volume		1,680
Administration overheads			
	Expenditure		400
	Volume		1,680

You are **required** to:

Ascertain the details of actual costs and prepare a Profit and Loss Statement for the period showing the actual Profit/Loss. Show working clearly.

Reconcile the Actual Profit with Standard Profit.

[14]

 <p>Reference Reconciliation</p>	<p>What's New</p>
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Answer

Statement showing the Actual Profit and Loss Statement

Particulars	Amount (₹)	Amount (₹)
Standard Material Cost (14,400 × 4.50)	64,800	
Add: Price Variance	4,250	
Less: Usage Variance	(1,050)	68,000
Standard Labour Cost (14,400 × 3)	43,200	
Add: Rate Variance	4,000	
Less: efficiency Variance	(3,200)	44,000
Direct expenses (14,400 × 0.50)		7,200
Prime Cost		1,19,200
Factory overhead:		
Variable (14,400 × 0.25)	3,600	
Less: expenditure Variance	(400)	3,200
Fixed (14,400 × 0.30)	4,320	
Add: Volume Variance	1,680	
Less: expenditure Variance	(400)	5,600
Administration overhead (14,400 × 0.3)	4,320	
Add: Volume Variance	1,680	
Add: exp. Variance	400	6,400
Total Cost		1,34,400
Profit (B/F)		9,600
Sales		1,44,000

Statement showing Reconciliation of Standard Profit with Actual Profit

Particulars	₹	₹
Standard Profit for AO (14,400 × 1.15)		16,560
Add: Material usage Variance	1,050	
Labour efficiency Variance	3,200	
Variable overhead expenditure Variance	400	
Fixed overhead expenditure Variance	400	5,050
		21,610
Less: Material Price Variance	4,250	
Labour Rate Variance	4,000	
Fixed overhead Volume Variance	1,680	
Administration expenditure Variance	400	
Administration Volume Variance	1,680	12,010
Actual Profit		9,600



MTP Dec'23 Set 1

The cost accountant of a Co. was given the following information regarding the OHs for Feb, 2022:

- Overhead cost variance ₹ 1,400 (A)
- Overheads volume variance ₹ 1,000 (A)
- Budgeted hours for Feb, 2022: 1,200 Hours
- Budgeted OH for Feb, 2022: ₹ 6,000
- Actual rate of recovery of OH ₹ 8 per hour

You are **required** to assist him in computing the following for Feb, 2022

- OH expenditure variance
- Actual OH incurred
- Actual hours for actual production
- OH capacity variance
- OH efficiency variance
- Standard hours for actual production

[7]



Reference

Fixed Overhead VariancesWhat's **New****Missing Figures**
Answer

1	2	3	4
SRSH	SRAH	SRBH	ARAH
5×1000	5×800	5×1200	8×800
5000	4000	6000	6400

SRSH – SRBH = Volume Variance

SRSH – 6000 = – 1000 (A)

SRSH = 5000

SRSH – ARAH = Cost Variance

5000 – ARAH = – 1400(A)

ARAH = 6400

Flexible budget showing OH rate par labour hour

- 1) OH Expenditure Variance = 6000 – 6400 = 400(A)
- 2) Actual Over Incurred ARAH = 6400
- 3) Actual Hrs for Actual production = AH = 800
- 4) OH Capacity Variance = 4000 – 6000 = 2000(A)
- 5) OH Efficiency Variance = 5000 – 4000 = 1000(F)
- 6) Std. Hrs for Actual Production = SH = 1000

$$SR = \frac{\text{Budgeted Fixed OH}}{\text{Budgeted Hours}} = \frac{6,000}{1,200} = 5$$

Chapter 7

Forecasting, Budgeting and Budgetary Control



MTP June'23 Set 1

Zee Co. Ltd. wishes to arrange overdraft facilities with its bankers from the period August to October 2022 when it will be manufacturing mostly for stock. Prepare a cash budget for the above period from the following data given below:

Month	Sales	Purchases	Wages	Manufacturing Exp.	Office Exp.	Selling Exp.
June	1,80,000	1,24,800	12,000	3,000	2,000	2,000
July	1,92,000	1,44,000	14,000	4,000	1,000	4,000
August	1,08,000	2,43,000	11,000	3,000	1,500	2,000
September	1,74,000	2,46,000	12,000	4,500	2,000	5,000
October	1,26,000	2,68,000	15,000	5,000	2,500	4,000
November	1,40,000	2,80,000	17,000	5,500	3,000	4,500
December	1,60,000	3,00,000	18,000	6,000	3,000	5,000

Additional Information:

- Cash on hand 1-08-2022 ₹ 25,000.
- 50% of credit sales are realized in the month following the sale and the remaining 50% in the second month following. Creditors are paid in the month following the month of purchase.
- Lag in payment of manufacturing expenses half month.
- Lag in payment of other expenses one month

[8]

 <p>Reference Cash Budget</p>	<p>What's New</p>
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Answer

(a) Cash Budget

For 3 months from August to October 2022

Particulars	August (₹)	September (₹)	October (₹)
Receipts:			
Opening balance	25,000	44,500	(66,750)
Sales	1,86,000	1,50,000	1,41,000
Total Receipts (A)	2,11,000	1,94,500	74,250
Payments:			
Purchases	1,44,000	2,43,000	2,46,000
Wages	14,000	11,000	12,000
Mfg. Exp.	3,500	3,750	4,750
Office Exp.	1,000	1,500	2,000
Selling Exp.	4,000	2,000	5,000
Total payments (B)	1,66,500	2,61,250	2,69,750
Closing Balance (A-B)	44,500	(66,750)	(1,95,500)

Notes to Solution:

1. Manufacturing Expense:

Particulars	August (₹)	September (₹)	October (₹)
July (₹4,000/2)	2,000	--	--
August (₹3,000/2)	1,500	1,500	--
September (₹4,500/2)	--	2,250	2,250
October (₹5,000/2)	--	--	2,500
Total	3,500	3,750	4,750

2. Sales

Particulars	August (₹)	September (₹)	October (₹)
June (₹1,80,000/2)	90,000	--	--
July (₹1,92,000/2)	96,000	96,000	--
August (₹1,08,000/2)	--	54,000	54,000
September (₹1,74,000/2)	--	--	87,000
Total	1,86,000	1,50,000	1,41,000



MTP June'23 Set 1

When the financial controller of Better Company set the budget for the year ahead, it was expected that monthly output of cake packages would be 12,000 units. In March the output was increased to 14,000 per month following negotiation with a chain of corner shops. The following table contains the original budget and the actual outcome for the month of March.

Particulars	Original Budget	Actual for March
Cake packages output	12,000	14,000
Direct materials	48,000	53,000
Direct labour	24,000	29,000
Variable overhead	6,000	7,200
Fixed overhead	4,000	4,500
Total production costs	82,000	93,700

The Financial Controller wants you to **analyse** the variances in order to **prepare** a report. [7]

Reference

Flexible Budget

What's **New**

Analysis

Answer

The report should contain the following:

Particulars	Original budget (1)	Flexible budget (2)	Actual for March (3)	Variance (2) – (3)
Units manufactured	12,000	14,000	14,000	
	₹	₹	₹	₹
Direct materials	48,000	56,000	53,000	3,000 (F)
Direct labour	24,000	28,000	29,000	1,000 (A)
Variable overhead	6,000	7,000	7,200	200 (A)
Fixed overhead	4,000	4,000	4,500	500 (A)
Total costs	82,000	95,000	93,700	1,300 (F)

The direct materials variance is 5.4% of the flexible budget amount and needs investigating even although it is favourable.

Two possible questions to investigate are:

- (1) Did the budget estimates use outdated prices?
- (2) Has the buying department chosen low price materials without perhaps considering the quality?

The labour variance is 3.6% of the flexible budget amount. Questions that could be asked here are:

- (1) Has there been a rise in pay rates since the budget was set?

Q3

MTP Dec'23 Set 1

Plant Capacity	At 80% capacity (₹)
Variable Overheads:	
Indirect labour	12,000
Stores including spares	4,000
Semi Variable:	
Power (30% - Fixed; 70% -Variable)	20,000
Repairs (60%- Fixed; 40% -Variable)	2,000
Fixed Overheads:	
Depreciation	11,000
Insurance	3,000
Salaries	10,000
Total overheads	62,000
Estimated Direct Labour Hours	1,24,000

Draw up a flexible budget For overhead expenses on the basis of the above data and determine the overhead rates at 70%, 80% and 90%. [7]

<p>Reference</p> <p>Flexible Budget</p>	<p>What's New</p>
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Answer

Flexible Budget at Different Capacities and Determination of Overhead Rates

Particulars	70% (₹)	80% (₹)	90% (₹)
(A) Variable overheads:			
Indirect labour	10,500	12,000	13,500

Stores including spares	3,500	4,000	4,500
Total (A)	14,000	16,000	18,000
(B) Semi Variable overheads:			
Power (Working Note)	18,250	20,000	21,750
Repairs (Working Note)	1,900	2,000	2,100
Total (B)	20,150	22,000	23,850
(C) Fixed overheads:			
Depreciation	11,000	11,000	11,000
Insurance	3,000	3,000	3,000
Salaries	10,000	10,000	10,000
Total (C)	24,000	24,000	24,000
Grand Total (A+B+C)	58,150	62,000	65,850
Labour Hours	$1,24,000 \times \frac{70\%}{80\%}$ = 1,08,500	1,24,000	$1,24,000 \times \frac{90\%}{80\%}$ = 1,39,500
Overhead rate per hour (₹)	$\frac{58,150}{1,08,500} = 0.536$	$\frac{62,000}{1,24,000} = 0.50$	$\frac{65,850}{1,39,500} = 0.472$

Working notes: Semi Variable overheads

	70%	90%
Power:		
Variable (70%)	$14,000 \times \frac{70\%}{80\%} = 12,250$	$14,000 \times \frac{90\%}{80\%} = 15,750$
Fixed (30%)	6,000	6,000
Total	18,250	21,750
Repairs:		
Variable (40%)	$800 \times \frac{70\%}{80\%} = 700$	$800 \times \frac{90\%}{80\%} = 900$
Fixed (60%)	1,200	1,200
Total	1,900	2,100

Q4

MTP June'23 Set 2

Prepare a Cash Budget for the three months ending 30th June, 2023 from the information given below:

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

Credit terms are:

- ⇒ Sales / Debtors: 10% sales are on cash, 50% of the credit sales are collected next month and the balance in the following month.
- ⇒ Creditors: Materials 2 months
Wages 1/4 month
Overheads 1/2 month
- ⇒ Cash and bank balance on 1st April, 2023 is expected to be ₹ 6,000.

Other relevant information are:

- Plant and machinery will be installed in February 2017 at a cost of ₹ 96,000. The monthly instalment of ₹ 2,000 is payable from April onwards.
- Dividend @ 5% on preference share capital of ₹ 2, 00,000 will be paid on 1st June.
- Advance to be received for sale of vehicles ₹ 9,000 in June.
- Dividends from investments amounting to ₹ 1,000 are expected to be received in June. [8]

<p>Reference</p> <p>Cash Budget</p>	<p>What's New</p>
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Answer

Cash Budget for the 3 Months Ending 30th June 2023

(Amount in ₹)

Particulars	April	May	June
Opening Balance (A)	6,000	3,950	3,000
Add: Receipts : (B)			
Cash Sales	1,600	1,700	1,800
Collection from debtors [see note(i)]	13,050	13,950	14,850
Advance for sale of vehicles	-	-	9,000
Dividends from Investments	-	-	1,000
Total (A+B)	20,650	19,600	29,650
Less: Payments :			
Materials	9,600	9,000	9,200
Wages [see note (ii)]	3,150	3,500	3,900
Overheads	1,950	2,100	2,250
Instalment of Plant & Machinery	2,000	2,000	2,000
Preference dividend	-	-	10,000
Total (C)	16,700	16,600	27,350
Closing Balance (A+B-C)	3,950	3,000	2,300

Working Notes:

(i) Computation of Collection from Debtors

(Amount in ₹)

Month	Total Sales	Credit Sales	Feb	Mar	Apr	May	June
Feb	14,000	12,600	---	6,300	6,300	---	---
Mar	15,000	13,500	---	---	6,750	6,750	---
Apr	16,000	14,400	---	---	---	7,200	7,200
May	17,000	15,300	---	---	---	---	7,650
					13,050	13,950	14,850

- (ii) Wages payment in each month is to be taken as three-fourths of the current month plus one-fourth of the pre-vious month

Q5

MTP June'23 Set 2

What is budgetary control? **What** are the objectives of budgetary control? [4]

<p>Reference</p> <p>Budgetary Control, Objectives</p>	<p>What's New</p>
---	--------------------------

Answer

Budgetary Control is defined as “the establishment of budgets, relating the responsibilities of executives to the requirement of a policy, and the continuous comparison of actual with budgeted results either to secure by individual action the objective of that policy or to provide a base for its revision.” Budgetary control is intimately connected with budgets. The Chartered Institute of Management Accountants, London defines ‘Budgetary control; as “the establishment of budgets, relating the responsibilities of executive to the requirements of a policy and the continuous comparison of actual with budgeted results either to secure by individual action the objectives of that policy or to provide a firm basis for its revision”. The process of budgetary control is set up with the objective to closely monitor whether or not the actual sales and expenses are in line with the financial plan.

Objectives of Budgetary Control:

Budgeting is a forward planning. It serves basically as a tool for management control; it is rather a pivot of any effective scheme of control. The objectives of budgeting may be summarized as follows:

- **Planning:** Planning has been defined as the design of a desired future position for an entity and it rests on the belief that the future position can be attained by uninterrupted management action.
- **Co-ordination:** Budgeting plays a significant role in establishing and maintaining coordination
- **Measurement of Success:** Budgets present a useful means of informing manager how well they are performing in meeting targets they have previously helped to set.
- **Motivation:** Budget is always considered a useful tool for encouraging manager to complete things in line with the business objectives.
- **Communication:** A budget serves as a means of communicating information within a firm.
- **Control:** Control is essential to make sure that plans and objectives laid down in the budget are being achieved.



June'23

ASHUB (P) Company manufactures two products — X and Y. A forecast of units to be sold in the first five month of the year is given below:

Months	Product X	Product Y
April	1,000	2,800
May	1,200	2,800
June	1,600	2,400
July	2,000	2,000
August	2,400	1,600


Other information is as follows:

Cost per unit (₹)	Product X	Product Y
Direct Materials	12.50	19.00
Direct Labour	4.50	7.00
Factory Overhead	3.00	4.00

There will be no opening and closing work-in-progress at the end of any month. Finished product (in units), equal to half of the budgeted sales of the next month, should be in stock at the end of each month (including previous year ended March).

You are **required** to prepare:

- Production (in quantity) Budget for April to July; and
- Summarized Production Cost Budget for the period. [4 + 3 = 7]

 <p>Reference Production Budget, Summarized Production Cost Budget</p>	<p>What's New</p>
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Answer

- Production Budget for the period of April to July**

Month	Budgeted Production (units)	
	X	Y
April	1,100	2,800
May	1,400	2,600
June	1,800	2,200
July	2,200	1,800
Total	6,500	9,400'

(ii) Production cost budget for the period April to July:

Details	Total Cost for X & Y (Rs)
Direct Material	2,59,850
Direct Labour	95,050
Factory Overhead	57,100
Total	4,12,000

Q7

June'23

ANTU GLASS Company provides the following details relating to Master Budget for the year ended March 31, 2024,

Sales:	
Toughened Glass	₹ 60,00,000
Bent Glass	₹ 20,00,000
Direct material cost	60% of sales
Diner wages	20 workers @ ₹ 1,500 per month
Factory overheads:	
Indirect labour-	
Works manager	₹ 5,000 per month
Foreman	₹ 4,000 per month
Stores and spares	2.5% on sales
Depreciation on machinery	₹ 1,26,000
Light and power	₹ 30,000
Repairs and maintenance	₹ 80,000
Others sundries	10% on direct wages
Administration, selling and distribution expenses	₹ 3,60,000 per year

Required:

Prepare the Master Budget for the year ended March 31, 2024.

[8]

<p>Reference</p> <p>Master Budget</p>	<p>What's New</p>
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Answer

Master Budget for the year ended March 31, 2024

	(₹)	(₹)
Total Sales		80,00,000
Less: Works Cost		
Prime Cost	51,60,000	
Fixed Factory Overhead	2,64,000	
Variable Factory Overhead	3,16,000	
		57,40,000
Gross Profit		22,60,000
Less: Adm., Selling and distribution expenses		3,60,000
Net Profit		19,00,000

Divisional Performance Measurement

8.1

Divisional Performance Measurement tools – ROI, Residual Income

8.2

Economic Value Added – Definition, EVA Centre, EVA Driver

8.3

Introduction to Learning Curve

Chapter **8.1**

Divisional Performance Measurement Tools - ROI, Residual Income

Q1

MTP June'23 Set 2

The following data are given for the Rajasthan division for 2022:

Return on investment (ROI)	25%
Sales	₹ 12,00,000
Margin	10%
Minimum required rate of return	18%

Compute the division's operating assets. (use the DuPont analysis of ROI)

Compute the division's residual income (RI).

[4]

<p>Reference</p> <p>ROI & Residual Income</p>	<p>What's New</p> <p>Du Pont</p>
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Answer

$$\begin{aligned} \text{By definition (DuPont), ROI} &= \frac{\text{Profit}}{\text{Sales}} \times \frac{\text{Sales}}{\text{Operating Assets}} \\ &= \text{Margin} \times \text{Asset Turnover} \end{aligned}$$

$$\Rightarrow 25\% = 10\% \times \text{Asset Turnover}$$

Therefore, the turnover must be 2.5 times.

$$\begin{aligned} \text{Since, the Asset turnover} &= \frac{\text{Sales}}{\text{Operating Assets}} \\ 2.5 \text{ times} &= \frac{₹ 12,00,000}{\text{Operating Assets}} \end{aligned}$$

Therefore, Operating Assets = ₹ 4,80,000

Residual Income (RI) = Operating income - Minimum required operating income

Given, Margin = 10%

$$\begin{aligned} \text{We know Margin (10\%)} &= \frac{\text{Operating Income}}{\text{Sales}} \\ &= \frac{\text{Operating Income}}{\text{₹ 12,00,000}} \\ &= \text{₹ 12,00,000} \times 10\% \end{aligned}$$

Therefore, the Operating Income = ₹ 1,20,000

$$\begin{aligned} \text{Residual Income (RI)} &= \text{₹ 1,20,000} - (18\% \times \text{₹ 4,80,000}) \\ &= \text{₹ 1,20,000} - \text{₹ 86,400} \\ &= \text{₹ 33,600} \end{aligned}$$

Q2

June'23

The following information relates to the operating performance of two divisions of SINTRA Ltd. for last year.

Particulars	Division M	Division N
Operating Income	₹ 15,00,000	₹ 25,00,000
Operating Assets	₹ 60,00,000	₹ 1,25,00,000
ROI	25%	20%

Required:

- Analyse which division is more successful in terms of ROI.
- Using 15 percent as the minimum required rate of return, **calculate** the Residual Income for each division.
- Identify** the division which is more successful under the measure in (ii). [5]



Reference
ROI and RI

What's New

Answer

- Here, Division M is more successful since its return (ROI) is Rs. 0.25 for each rupee invested in operating assets which is more than that of Division N i.e. 20%.
- The residual income (RI) at 15% for each division is

	Division M (₹)	Division N (₹)
Residual Income	6,00,000	6,25,000

- Division N is more successful since its RI is greater than Division N.



MTP Dec'23 Set 1

Consider the following:

	Division A	Division B
Operating assets	₹ 50,00,000	₹ 1,25,00,000
Operating income	₹ 10,00,000	₹ 22,50,000
ROI	20%	18%

- (i) **Which** is the more successful division in terms of ROI?
- (ii) Using 16 percent as the minimum required rate of return compute the residual income for each division. **Which** division is more successful under this rate? [7]



Reference

ROI & Residual Income

What's **New**

Answer

- (i) Division A is more successful as since it returns ₹ 0.20 for each rupee invested (as compare to ₹ 0.18 for Division B).
- (ii) The residual income at 16 percent for each division is computed as follows:

	Division A	Division B
Operating income	₹ 10,00,000	₹ 22,50,000
Minimum required income	₹ 8,00,000 (16% × 50,00,000)	₹ 20,00,000 (16% × ₹ 1,25,00,000)
RI	₹ 2,00,000	₹ 2,50,000

Division B is more successful.

Chapter 8.2

Economic Value Added Definition, EVA Centre, EVA Drivers

Q1

MTP June'23 Set 1

LOTUS Inc has reported annual operating profits for the year of ₹ 89.2 million after charging ₹ 9.6 million for the full development costs of a new product that is expected to last for the current year and two further years. The cost of capital is 13 per cent per annum. The balance sheet for the company shows fixed assets with a historical cost of ₹ 120 million. A note to the balance sheet estimates that the replacement cost of these fixed assets at the beginning of the year is ₹ 168 million. The assets have been depreciated at 20 per cent per year. The company has a working capital of ₹ 27.2 million. Ignore the effects of taxation.

You as a cost accountant is asked to **calculate** the economic valued added (EVA) of the company. [7]

<p>Reference</p> <p>Economic Value Added</p>	<p>What's New</p> <p>Dividend</p>
--	---

Answer

Profit	₹ 89.20
Add back:	
Current depreciation (₹120 × 20%)	₹ 24.00
Development Costs (₹9.60 × 2/3)	₹ 6.40
Less: Replacement depreciation (₹168 × 20%)	₹ 33.60
Adjusted profit	86.00
Less: Cost of capital charge (13% × ₹168)	21.84
EVA	64.16

Note: 13% × [Fixed assets (₹168 - (₹33.6) + working capital (₹27.2) + development costs (₹6.4)]



MTP June'23 Set 2

MI Ltd. has earned a net profit of ₹ 15 lakhs after Tax at 30%. Interest cost charged by the financial institutions was ₹ 10 lakhs. The Invested capital is ₹ 95 Lakhs of which 55% is debt. The company maintains a weighted average cost of capital of 13%.

- **Compute** the operating Income.
- **Compute** the Economic Value Added.
- The company has 6 lakhs equity shares outstanding. **How** much dividend can the company pay before the value of the entity starts declining? [5]



Reference

Economic Value AddedWhat's **New****Dividend****Answer**

$$\text{Taxable Income} = ₹15 \text{ lac} \div (1 - 0.30)$$

$$= ₹ 21,42,857 \text{ or } ₹ 21.43 \text{ lacs}$$

- Operating Income = Taxable Income + Interest

$$= ₹ 21,42,857 + ₹ 10,00,000$$

$$= ₹ 31,42,857 \text{ or } ₹ 31.43 \text{ lacs}$$
- EVA = EBIT (1 – Tax Rate) – WACC × Invested Capital

$$= ₹ 31,42,857 (1 - 0.30) - 13\% \times ₹ 95,00,000$$

$$= ₹ 22,00,000 - ₹ 12,35,000$$

$$= ₹ 9,65,000$$
- EVA Dividend = ₹ 95,00,000 ÷ 6,00,000 = ₹ 1.6083

Q3

MTP June'23 Set 2

Analyse the importance of revenue centre and investment centre from the view point of operations management. [3]

Reference	What's New
Importance Of Revenue Centre And Investment	

Answer

1. Revenue Centre

A revenue center is strictly defined as an organizational unit that is responsible for the generation of revenues and has no control over setting selling prices or budgeting costs. In a revenue center, performance evaluations are limited because the manager has control over only one item: revenues.

The importance of revenue centre is to analyse the comparison between actual performance (as well as in any other area that has revenue control) with budgeted performance to determine variances from expectations. Budgeted and actual revenues may differ because of either volume of units sold or price of units sold. To compare budgeted and actual revenues, the price and volume components of revenue must be distinguished from one another.

2. Investment Center

An investment center is an organizational unit whose manager is responsible for managing revenues and current expenses.

The investment center is particularly appropriate for those cases where investment decisions must be made very rapidly in order to take advantage of changes in local business conditions. This is a particularly important issue for those companies in rapidly expanding markets, or where consumer needs change rapidly, where waiting for investment approval from a central authority may result in lost sales.

In addition, the center's manager has the authority to acquire, use, and dispose of plant assets to earn the highest feasible rate of return on the center's asset base. Many investment centers are independent, free standing divisions or corporate subsidiaries.

Q4

June'23

From the following information obtained from the books of M/s AYC Limited, **calculate** Economic Value Added (EVA).

Equity Share of ₹ 100 each	Nos. 1,50,000
10% Debenture of ₹ 10 each	Nos. 20,00,000
Tax rate	30%
Degree of Financial Leverage (DFL)	1.1 times
Securities Premium (₹)	₹ 1,50,00,000
Reserve & Surplus (₹) (including Capital Reserve of ₹ 90 lacs)	₹ 2,00,00,000

It is the prevailing practice for the companies in the industry to which AYC Limited belongs to pay at least a dividend of 14% p.a. to its Equity Shareholders. [6]

Reference	What's New
Economic Value added	

Answer

Economic Value Added (EVA) = ₹ 70,00,000

Introduction to learning curve

Q1

MTP June'23 Set 1

- (i) Carson, Inc., uses a learning curve of 80 percent for all new products it develops. A trial run of 500 units of a new product shows total labour-related costs (direct, indirect labour, and fringe benefits) of ₹ 1,20,000. Management plans to produce 1,500 units of the new product during the next year.

Compute the expected labour-related costs for the year to produce the 1,500 units.

Find the unit cost of production for next year.

- (ii) **State** the limitations and the problems associated with learning curve analysis. [5 + 3 = 8]

Reference	What's New
Labour Related Costs, Limitations	

Answer

- (i) **1st Batch = 500 units**

Quantity	Cumulative Average Cost	Cumulative Total Cost
500 units	240 (120000 ÷ 500)	1200000 (given)
1000 units	192 (80% of 240)	192000
2000 units	153.6 (80% of 192)	307200

Cost of producing 2000 units	₹ 3,07,200
Less Initial Cost of producing 500 units	₹ 1,20,000
Cost of production of 1500 units (in next year)	₹ 1,87,200
Per Unit Cost ₹ 1,87,200 ÷ 1500 Units	1,24,800

- (ii) **Limitations and problems associated with learning curve analysis include:**

- a. Learning curve analysis is appropriate only for labour-intensive operations involving repetitive tasks where repeated trials improve performance. If the production process primarily relies on robotics and computer controls, little repetitive labour is involved and thus little opportunity exists for learning to take place.

- b. The learning rate is assumed to be constant. In real life, the decline in labour time might not be constant.
- c. The reliability of a learning curve calculation can be jeopardized because an observed change in productivity might actually be associated with factors other than learning, such as a change in the labour mix, the product mix, or other factors. If some factor or factors other than learning are affecting productivity, a learning model developed using the affected historical data will produce in-accurate estimates of labour time and cost.

Q2

MTP June'23 Set 2

MAGNA CARTA LTD a manufacturers of fountain pens received an order for 16 units of a new fountain pen called the DENIMA. The first unit required 40 direct labour hours. So far, 4 units have been completed and a total of 102.40 direct labour hours has been recorded for the 4 units. The Production Manager expects on 80% learning effect for this type of work.

The direct cost attributed to the centre in which the unit is manufactured and its costs are as follows:

	₹
Direct Material	30.00 per unit
Direct Labour	6.00 per hour
Variable overhead	0.50 per direct labour hour
Fixed overheads apportioned	5.00 per direct labour hour

You are required to **calculate** the estimated product cost for the initial order based on the cost data given. [6]



Reference

Estimated Product Cost for the Initial Order

What's **New**

Answer

MAGNA CARTA LTD received an order for 16 units of a new fountain pen called the DENIMA. The first unit required 40 direct labour hours. The production schedule is subject to 80% learning effect which implies that for every doubling of production the cumulative average labour hour would be 80% of the previous and the total would be the multiplied effect of the number of units produced and the cumulative average labour hour. The table shown below shows the effect of 80% learning effect.

Production (units)	Cumulative Average labour hour	Total labour hour
1	40	40
2	32 (0.80×40)	64
4	25.6 (0.80×32)	102.40
8	20.48 (0.80×25.6)	163.843
16	16.384 (0.80×20.48)	262.144

Computation of total cost for the initial order of 16 units:

	₹
Material (30 × 16)	480.00
Direct labour (262.144 [as calculated in above table] × 6)	1572.86
Variable overheads (0.5 × 262.144)	131.07
Fixed overhead apportioned (5 × 262.144)	1310.72
Total cost	3494.65

Q) 3

June'23

What do you mean by Learning Curve? State the applications of Learning Curve. [4]

<p>Reference</p> <p>Learning Curve and Application</p>	<p>What's New</p>
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Answer

Learning Curve:

A learning curve is a function that measures how labour hours per unit reduces as units of production increases, because workers are learning and becoming expert at their jobs. The management uses this technique to predict how labour hours and labour cost will decrease as more units are produced.

Application of Learning Curve:

The areas in which the application of learning curve can help an organization are as follows:

- Improvement of productivity:** As the experience is gained, the performance of workers improves, time taken per unit of production is reduced and thus productivity increases.
- Cost Prediction:** Learning Curve provides better cost predictions to enable organization to quote competitive price for potential orders.

3. **Work scheduling:** Learning curve enables organizations to predict the inputs required more effectively and helps in the preparation of accurate delivery schedule.
4. **Standards setting:** Organizations prepare budgets & standards considering learning curve to avoid significance variances.

Q4

MTP Dec'23 Set 1

A firm received an order to make and supply eight units of standard product which involves intricate labour operations. The first unit was made in 10 hours. It is understood that this type of operations is subject to 80% learning rate. The workers are getting a wage rate of ₹ 12 per hour.

- (i) **What** is the total time and labour cost required to execute the above order?
- (ii) If a repeat order of 24 units is also received from the same customer, **what** is the labour cost necessary for the second order? [7]



Reference

Total Time and Labour Cost for First Order and Repeat Order

What's **New**

Answer

- (i) 80% Learning Curve results are given below:

Production (Units)	Cumulative Average Time (hours)	Total Time (hours)
1	10	10
2	8	16
4	6.4	25.6
8	5.12	40.96
16	4.096	65.54
32	3.2768	104.86

Labour time required for first eight units = 40.96 hours

Labour cost required for 8 units = 40.96 hours × ₹ 12/hr = ₹ 491.52

- (ii) Labour time for 32 units = 104.86 hours

Labour time for first eight units = 40.96 hours

Labour time required for 2nd order for 24 units = 63.90 hours (104.86 – 40.96)

Labour cost for 24 units = 63.90 hours × ₹ 12/hr = ₹ 766.80

Chapter 9

Responsibility Accounting

Q5

MTP Dec'23 Set 1

Explain the relation between decentralization and responsibility accounting.

[7]

<p>Reference</p> <p>Decentralization And Responsibility Accounting</p>	<p>What's New</p>
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Answer

A responsibility accounting system facilitates decentralization by providing information about the performance, efficiency, and effectiveness of organizational subunits and their managers. Responsibility accounting is the key management control tool in a decentralized organization.

The term 'responsibility accounting' refers to the accounting process that reports how well managers (of responsibility centres) have fulfilled their responsibility. It is a system that measures the plans (by budgets) and actions (by actual results) of each responsibility centre. Also known as activity or profitability accounting, it is an information system that personalizes control reports by accumulating and reporting cost and revenue information according to defined responsibility centres within a company. Responsibility accounting systems are tailored to the organizational structure so that revenue and costs are accumulated and reported by centres of responsibility within the organization.

Responsibility accounting is the system for collecting and reporting revenue and cost information by areas of responsibility. It operates on the premise that managers should be held responsible for their performance, the performance of their subordinates, and all activities within their responsibility center. Responsibility accounting, also called profitability accounting and activity accounting.

A responsibility accounting system produces responsibility reports that assist each successively higher level of management in evaluating the performances of subordinate managers and their respective organizational units. The reports should be tailored to fit the planning, controlling, and decision-making needs of subordinate managers and should include both monetary and nonmonetary information.

In the past, the major emphasis in organizational planning was on optimizing economic resources to achieve company objectives. However, in recent years the value of human resources has been recognized and become an important consideration in planning. In general, a company is organized along lines of responsibility. The traditional organizational chart, with its pyramid shape, illustrates the lines of responsibility flowing from the CEO down through the vice presidents to middle- and lower-level managers. It indicates, as organizations grow larger, these lines of responsibility become longer and more numerous. The structure becomes cumbersome. Contemporary practice is moving toward a flattened hierarchy. This structure— emphasizing teams—is consistent with decentralization. Organizing divisions as responsibility centers creates the opportunity to control the divisions through the use of responsibility accounting. Revenue center control is achieved by evaluating the efficiency and the effectiveness of divisional managers on the basis of sales revenue.

Chapter **10**
Decision Theory

Q1

MTP June'23 Set 1

Farmer Visal can plant either corn or soybeans. The probabilities that the next harvest prices will go up, stay the same, or go down are 0.25, 0.30, and 0.45, respectively. If the prices go up, the corn crop will net ₹ 30,000 and the soybeans will net ₹ 10,000. If the prices remain unchanged, McCoy will (barely) break even.

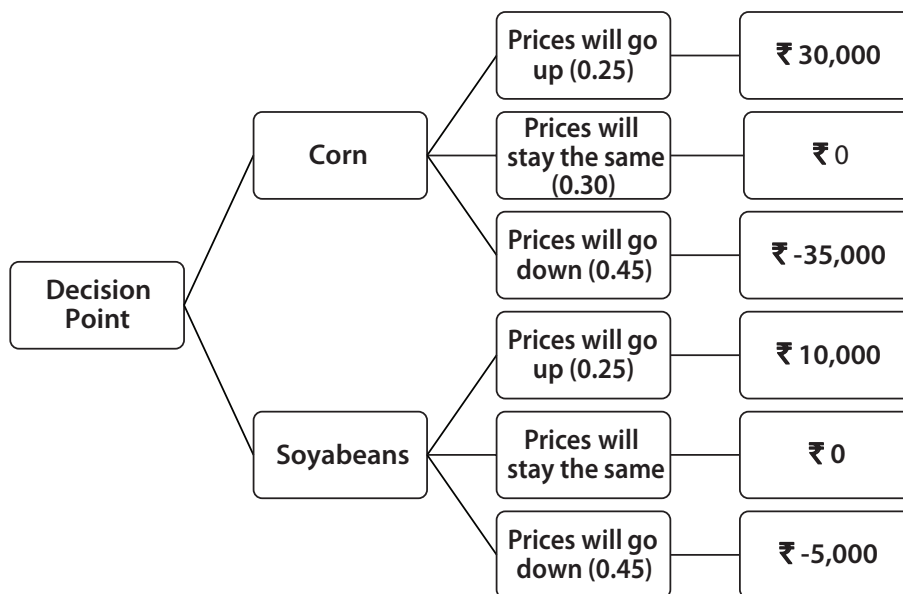
But if the prices go down, the corn and soybeans crops will sustain losses of ₹ 35,000 and ₹ 5000, respectively.

- (i) **Represent** McCoy's problem as a decision tree.
- (ii) **Suggest** Visal on the crop that he should plant. [7]

<p>Reference Decision Tree</p>	<p>What's New</p>
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Answer

(a)



- (ii) $EV(\text{corn}) = - ₹ 8,250, [(30000 \times 0.25) + (- 35000 \times 0.45)]$
 $EV(\text{soybeans}) = ₹ 250, [(10000 \times 0.25) + (- 5000 \times 0.45)]$
 Therefore, select soybeans.

Q2

MTP June'23 Set 1

For the upcoming planting season, farmer Visal can plant corn (A1), wheat (A2), or soybeans (A3) or use the land for grazing (A4). The payoffs associated with the different actions are influenced by the amount of rain: heavy rainfall (S1), moderate rainfall (S2), light rainfall (S3), or drought (S4). The payoff matrix (in thousands of rupees) is estimated as;

	S1	S2	S3	S4
A1	-20	60	30	-5
A2	40	50	35	0
A3	-50	100	45	-10
A4	12	15	15	10

Develop a course of action for farmer Visal based on each of the four decision criterion under uncertainty. [8]



Reference

Maximin, Laplace, Savage, Hurwicz

What's **New**

Payoff Matrix

Answer

The four criteria under uncertainty are

1. The maximin or Minimax Criterion
2. The Laplace Criterion
3. The savage Criterion
4. The Hurwicz Criterion

These are given below

- (i) The **Maximin** (since it is a payoff maximisation)

	S1	S2	S3	S4	Row min	
A1	-20	60	30	-5	-20	
A2	40	50	35	0	0	
A3	-50	100	45	-10	-50	
A4	12	15	15	10	10	← maximin

(ii) The **Laplace Criterion** - Assume equal probabilities (1/4) as there are four states of finance

	S1	S2	S3	S4	EV = $\sum P(X_i) \times X_i$	Figures in ₹ thousand
A1	-20	60	30	-5	$\frac{1}{4}(-20+60+30-5) = 16.25$	₹16,250
A2	40	50	35	0	$\frac{1}{4}(40+50+35+0) = 31.75$	₹ 31,250
A3	-50	100	45	-10	$\frac{1}{4}(-50+100+45-10) = 21.25$	₹ 21,250
A4	12	15	15	10	$\frac{1}{4}(12+15+15+10) = 13$	₹ 13,000

Since it is a payoff maximization problem, decision A2 would be selected which implicates highest payoff of ₹31,250

(iii) **Savage Criterion**

This criterion posits the formulation of a regret matrix. The original matrix

	S1	S2	S3	S4
A1	-20	60	30	-5
A2	40	50	35	0
A3	-50	100	45	-10
A4	12	15	15	10

The regret matrix is determined by subtracting the given values from 40, 100, 45, and 10 from columns 1 to 4, respectively, and so the following regret matrix is obtained. Now we can calculate minimize (since it is a payoff maximization problem)

	S1	S2	S3	S4	
A1	60	40	15	15	60
A2	0	50	10	10	50 ← Minimax
A3	90	0	0	20	90
A4	38	85	30	0	85

(iv) The **Hurwicz Criterion**

The following table summarizes the computation

Alternative	Rowmin	Row Max	$[\alpha(\text{Rowmax})+(1-\alpha)(\text{Rowmin})]$
A1	-20	60	$[\alpha(60)+(-20)(1-\alpha)] = 60\alpha - 20 + 20\alpha = 80\alpha - 20$
A2	0	50	$[\alpha(50)+(0)(1-\alpha)] = 50\alpha$
A3	-50	100	$[\alpha(100)+(-50)(1-\alpha)] = 150\alpha - 50$
A4	10	15	$[\alpha(15)+(10)(1-\alpha)] = 5\alpha + 10$

The decision maker will have to decide upon the appropriate α . And thus he can decide upon the optimum alternative.



MTP June'23 Set 2


TIKLIBUKLI School is situated in the outskirts of a town and the school is preparing a summer camp in the jungles of Sonargaon, to train the students in wilderness survival. The school estimates that attendance can fall into one of four categories: 200, 250, 300, and 350 persons. The cost of the camp will be the smallest when its size meets the demand exactly. Deviations above or below the ideal demand levels incur additional costs resulting from constructing more capacity than needed or losing income opportunities when the demand is not met. Letting a_1 to a_4 represent the sizes of the camp (200, 250, 300, and 350 persons) and s_1 to s_4 the level of attendance, the following table summarizes the cost matrix (in thousands of Rupees) for the situation:

	S1	S2	S3	S4
A1	5	10	18	25
A2	8	7	12	23
A3	21	18	12	21
A4	30	22	19	15

The authorities request your consultancy to apply the following decision criterion and determine the appropriate course of action;

- (i) The Minimax Criterion
- (ii) The Laplace Criterion
- (iii) The Savage Criterion
- (iv) The Hurwicz Criterion

[1 + 2 + 2 + 2 = 7]

 <p>Reference Minimax, Laplace, Savage and Hurwicz Criterion</p>	<p>What's New Cost Matrix</p>
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Answer

- (i) **The Minimax Criterion**

	s1	s2	s3	s4	Row Max	
a1	5	10	18	25	25	
a2	8	7	12	23	23	
a3	21	18	12	21	21	← Minimax
a4	30	22	19	15	30	

(ii) The Laplace Criterion

Assume equal probabilities (1/4) as there are four states of nature.

	s1	s2	s3	s4	EV = $\sum P(X_i) \times X_i$	Figures in ₹ thousand
a1	5	10	18	25	$\frac{1}{4}(5 + 10 + 18 + 25) = 14.5$	₹ 14,500
a2	8	7	12	23	$\frac{1}{4}(8 + 7 + 12 + 23) = 12.5$	₹ 12,500
a3	21	18	12	21	$\frac{1}{4}(21 + 18 + 12 + 21) = 18.0$	₹ 18,000
a4	30	22	19	15	$\frac{1}{4}(30 + 22 + 19 + 15) = 21.5$	₹ 21,500

Since it is a cost minimisation problem, decision a2 would be selected which implicates the lowest cost of ₹ 12500.

(iii) The Savage Criterion

This criterion posits the formulation of a regret matrix. The regret matrix is determined by subtracting 5, 7, 12, and 15 from columns 1 to 4, respectively. And so the following regret matrix is got.

	s1	s2	s3	s4	Row Max	
a1	0	3	6	10	10	
a2	3	0	0	8	8	← Minimax
a3	16	11	0	6	16	
a4	25	15	7	0	25	

(iv) The Hurwicz Criterion

The following table summarizes the computation

Alternative	Row Min	Row Max	α (Row Min) + (1- α) (Row Max)
a1	5	25	25 - 20 α
a2	7	23	23 - 16 α
a3	12	21	21 - 9 α
a4	15	30	30 - 15 α

The decision maker will have to decide upon the appropriate α . And thus he can decide upon the optimum alternative.

Q4

June'23 MTP Set 2

How will you use the concept of Expected Value of Perfect Information (EVPI) in managerial decision making? [2]

Reference Expected Value of Perfect Information	What's New
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Answer

Expected Value of Perfect Information (EVPI) is the maximum amount that is worth paying for additional information in an uncertain situation, calculated by comparing the expected value of a decision if the information is acquired against the expected value in the absence of the information. It is calculated by comparing the expected value of a decision if the information is acquired against the expected value in the absence of the information.

Q5

June'23 MTP Set 2

A company wishes to go ahead with one of two mutually exclusive projects, but the profit outcome from each project will depend on the strength of sales demand, as follows.

	Strong Demand Profit (₹)	Moderate Demand Profit (₹)	Weak Demand Profit/(Loss) (₹)
Project 1	80,000	50,000	(5,000)
Project 2	60,000	25,000	10,000
Probability of demand	0.2	0.4	0.4

The company could purchase market research information at a cost of ₹ 4,500. This would predict demand conditions with perfect accuracy.

What value the company obtain from this perfect market research information? [6]

Reference Value of Perfect Information	What's New
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Answer

Expected value in the absence of the information = ₹ 1,500

EV of Project 1 = $(0.2 \times ₹ 80,000) + (0.4 \times ₹ 50,000) - (0.4 \times ₹ 5,000) = ₹ 34,000$

EV of Project 2 = $(0.2 \times ₹ 60,000) + (0.4 \times ₹ 25,000) + (0.4 \times ₹ 10,000) = ₹ 26,000$

Project 1 would be chosen on the basis if EV without perfect information. With perfect information, this decision would be changed to Project 2 if market research indicates weak demand.

EV with perfect information : $(0.2 \times ₹ 80,000) + (0.4 \times ₹ 50,000) + (0.4 \times ₹ 10,000)$

= ₹ **40,000**

Value of perfect information = ₹ $(40,000 - ₹ 34,000) - ₹ 4,500$ cost = ₹ **1,500**

Q) 6

June'23

Mr. Kunch, a business man has two independent investments A and B available to him but he lacks the capital to undertake both of them simultaneously.

He can choose to take A first and then stop, or, if A is successful then take B, or, vice versa. The probability of success on A is 0.7 while for B it is 0.4. Both investments require an initial capital outlay of ₹ 2000; and both return nothing if the venture is unsuccessful. Successful completion of A will return ₹ 3,000 (over cost), and successful completion of B will return ₹ 5,000 (over cost).

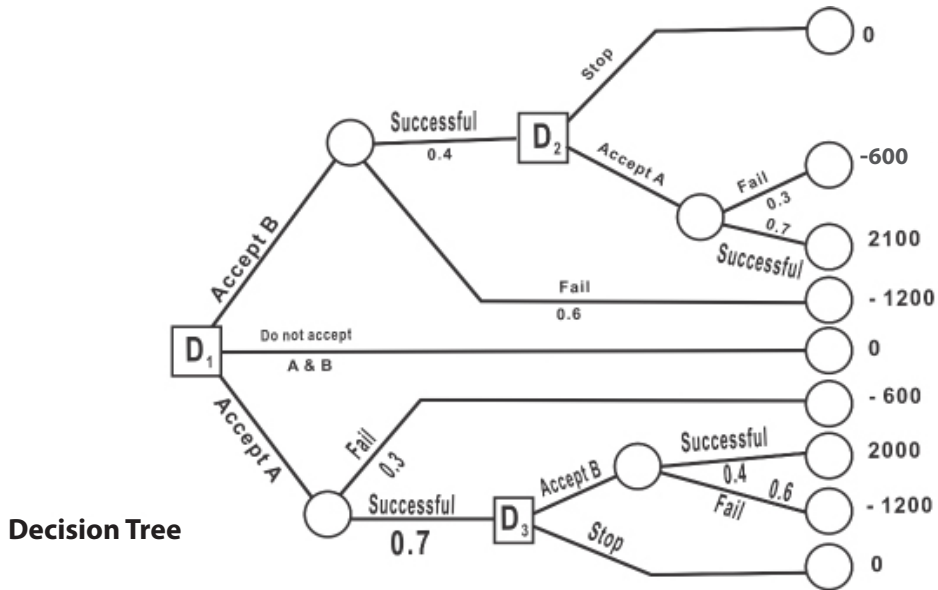
Required:

- (i) **Represent** Mr. Kunch's problem as decision tree.
- (ii) **Suggest** Mr. Kunch as to which investment he should chose. [7]

<p>Reference</p> <p>Decision Tree and Suggestion</p>	<p>What's New</p>
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Answer

(i)



(ii) The best strategy is to accept A first, and then to accept B, if A is successful.

Q7

June'23

SIDSORY Ltd., a food products company, is contemplating the introduction of a revolutionary new product with new packaging to replace the existing product at a much higher price (S_2), or, a moderate change in the composition of the existing product with a new packaging at a small increase in price (S_1), or, a small change in the price (S_3). The possible states of nature or events are (i) high increase in the sales (N_1), (ii) no change in the sales (N_2) and (iii) decrease in the sales (N_3). The marketing department of the company worked out the pay-offs in terms of yearly net profits for each of the strategies for these events (expected sales). This is represented in the following table.

Pay-offs (in ₹)

Strategies	State of Nature		
	N_1	N_2	N_3
S_1	7,00,000	3,00,000	1,50,000
S_2	5,00,000	4,50,000	0
S_3	3,00,000	3,00,000	2,00,000

Required:

Develop a course of action for SIDSORY Ltd., based on—

(i) Maximin Criterion

- (ii) Maximax Criterion
- (iii) Laplace Criterion
- (iv) Hurwicz Criterion [$\alpha = 0.4$] [8]

<p>Reference</p> <p>Maximin, Maximax, Laplace and Hurwicz Criterion</p>	<p>What's New</p>
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Answer

- (i) Maximin Criterion: S_3 Strategy is to be selected.
- (ii) Maximax Criterion: S_1 Strategy is to be selected.
- (iii) Laplace Criterion: S_1 Strategy is Selected.
- (iv) Hurwicz Criterion ($\alpha = 0.4$): S_1 Strategy is Selected.

Q 8

Postal Test Paper

What is Decision Theory and **how** is it related to other theories? [7]

<p>Reference</p> <p>Decision Theory and its Relation</p>	<p>What's New</p>
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Answer

Decision making is the most significant aspect of the management process. Efficacy of every aspect of management (planning, organizing, control, etc.) is pivoted on the effectivity of the decision making process. Effective decision making is linked to fulfilment of the objectives of the organization. An elaborately designed decision making process helps to make a more deliberate and effective decision.

The **steps** of the process are discussed below:

Step 1: Identify the decision – it is important to identify the nature of decision that the decision maker is faced with. This paves way for making effective decisions.

Step 2: Gather relevant information - Before decision making, it is important to gather all relevant information.

The **source of information** can be two types,

- Internal source- information available within the organisation.
- External source – information that are available beyond the scope of the organisation.

Step 3: Identify the alternatives – on the basis of the information collected the alternatives are zeroed upon. At this juncture it is important to make a list of all possible alternatives in order to make a correct and effective decision.

Step 4: Consider the evidence - In this step, the decision maker uses his knowledge and emotion to imagine what it would be like if one particular alternative is chosen and carried out. This would have to be thought about for all the possible alternatives. As the decision maker goes through this process (often with subtlety), he starts developing a notion as to which alternative results in the achievement of the organisational goal.

Step 5: Take action - In this step the decision maker is ready to make his call which is decided upon in the previous step.

Step 6: Review of the decision - After the above steps are undertaken and a decision is arrived at, the process of evaluation has to begin where the impact of the decision is considered. If the desired result is not achieved, the whole process has to be revisited.

The theoretical underpinnings of the decision making process is the subject matter of Decision Theory. The following aspects are noteworthy:

- Decision theory involves economic and statistical approaches for studying an individual's choices. Because it is based on ideas, attitudes, and wishes, analysts refer to it as a theory of choice.
- Decision theory enables the entity to make the most rational decision feasible in unknown and uncertain conditions, repercussions, and behaviours.
- In order to make better business decisions, companies worldwide use this theory to understand how customers and markets operate.
- Mathematicians, economists, marketers, data and social scientists, biologists, psychologists, philosophers, and politicians use two theory forms: normative and descriptive.

Though decision theory deals with the methods for determining the optimal course of action when a number of alternatives are available, given that the consequences cannot be forecast with certainty, for the purpose of this section of the study note, discussion is restricted to problems occurring in business, with consequences that can be described in Rupees of profit or revenue, cost or loss. For these problems, it is reasonable to consider that the best alternative is the one which results in the highest profit or revenue, or lowest cost or loss, on the average, in the long run.

Q9

MTP Dec'23 Set 1

Describe the meaning of uncertainty in decision making.

[7]

<p>Reference</p> <p>Uncertainty In Decision Making</p>	<p>What's New</p>
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Answer

In case of certainty, the future is known and the decision maker, thus, need not worry about the happening /not happening of a particular state of nature as the future is cent percent assured. Whereas under condition of uncertainty, the future states of nature are unknown. There is no information available on the happening /not happening of the future state of nature. In decision making under uncertainty, the probability distribution associated with the states is either unknown or cannot be determined. This lack of information has led to the development of special decision criteria.

In simple terms, situations where objectives probabilities cannot be assigned to the states of the nature as no prior information is available gives rise to the condition of decision making under uncertainty.

Uncertainty, in common parlance, is a state of not knowing whether a proposition is true or false. Suppose Mr A went to a casino. There the dealer is about to roll a dice. If the result is a six, Mr A is going to lose ₹100.

What is Mr A's risk? What, is the subjective opinion (subjective probability) that Mr A will lose ₹100?

It may seem to be one chance in six (which is a general answer). But it is not known from previous how many sides the dice have. The information that the die is 10 sided one changes the perspective about probability of throwing a six. This example illustrates how one can be uncertain but not realize it. To clarify, an individual is uncertain of a proposition if she

- does not know it to be true or false or
- is oblivious to the proposition.

Probability is often used as a metric of uncertainty, but its usefulness is limited. At best, probability quantifies perceived uncertainty.

A decision problem, where a decision-maker is aware of various possible states of nature but has insufficient information to assign any probabilities of occurrence to them, is termed as decision-making under uncertainty. A decision under uncertainty is when there are many unknowns and no possibility of knowing what could occur in the future to alter the outcome of a decision.

The decision maker feels the uncertainty about a situation when he can't predict with complete confidence what the outcomes of the actions will be. The decision maker experiences uncertainty about a specific question when he can't give a single answer with complete confidence.



Time Allowed: 3 Hours

Full Marks: 100

The figures in the margin on the right side indicate full marks.

Where considered necessary, suitable assumptions may be made and clearly indicated in the answer.

Answer Question No. 1 and any five from Question No. 2, 3, 4, 5, 6, 7 and 8.

SECTION - A

(Compulsory)

1. (a) Choose the correct alternative

[1 × 12 = 12]

- (i) _____ is the study of managerial aspects of financial accounting.
- Cost accounting
 - Financial accounting
 - Management accounting
 - Business accounting
- (ii) Just-in-time inventory management and Activity based costing were developed during the _____.
- 1st stage
 - 2nd stage
 - 3rd stage
 - 4th stage
- (iii) In an ABC system, the allocation bases that are used for applying costs to services or procedures are called:
- Cost Pool
 - Cost Drivers
 - Cost Absorption
 - Cost Object
- (iv) Which of the following would not be deducted from sales in a management report prepared using ABC?
- Direct materials
 - Direct labour
 - Variable selling and administration costs
 - Shipping costs



- (v) _____ an item for which cost measurement is required e.g. product, job or a customer.
- Cost Pool
 - Cost Driver
 - Cost Absorption
 - Cost Object
- (vi) Which of the following criterion is not used for decision-making under uncertainty?
- Maximin
 - Maximax
 - Minimax
 - Maximise expected value
- (vii) Circumstances that influence the profitability of a decision are referred to as _____.
- Strategies
 - A payoff matrix
 - States of nature
 - the marginal utility of money
- (viii) In a responsibility accounting system, managers are accountable for:
- Incremental costs.
 - Product costs but not for period costs.
 - Costs over which they have control.
 - Variable costs but not for fixed costs.
- (ix) A company has two divisions. The divisions are identical in terms of the number and type of machines they have and the operations they carry out. However, one division was set up four years ago and the other was set up one year ago. Head office appraises the division using both return on the investment (ROI) and residual income (RI). Which of the following statements is correct in relation to the outcome of the appraisal for each division?
- Both ROI and RI will favour the older division
 - ROI will favour the older division, but RI will treat each fairly
 - RI will favour the newer division and ROI will favour the older division
 - Both RI and ROI will favour the newer division



- (x) Which of the following would be an argument for the use of net book value in the computation of operating assets in return on investment calculations?
- It allows the manager to replace old, worn- out equipment with a minimum adverse impact on ROI.
 - It allows ROI to decrease over time as assets get older.
 - It is consistent with how plant and equipment items are reported on the balance sheet.
 - It eliminates both age of equipment and method of depreciation as factors in ROI computations.
- (xi) Production at 60% activity is ₹ 600 units, if flexible budget needs to be calculated at 80% activity what will be units produced?
- ₹ 800
 - ₹ 600
 - ₹1200
 - ₹ 1000
- (xii) In which of the following circumstances is there a strong argument that profit centre accounting is a waste of time?
- When the transferred item is also sold on an external market.
 - When the supplying division is based in a different country to head office.
 - If the transferred item is a major product of the supplying division.
 - If there is no similar product sold on an external market and the transferred item is a major product of the supplying division.

(b) State True or False:

[1 × 7 = 7]

- Globalization and the rapid growth of international trade has made inter-company pricing an everyday necessity for the vast majority of businesses.
- Divisional Autonomy is the degree of freedom a division manager can exercise in decisions making.
- The Budget manual is a schedule, document or booklet, which shows in a written form, the budgeting organization and procedure.
- If the occurrence or non-occurrence of one event does not change the probability of the occurrence of the other event, the two events are said to be independent.
- Benchmarking is a process of measuring the performance of a company's products, services, or processes against those of another business considered to be the best in the industry.



Time Allowed: 3 Hours

Full Marks: 100

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Where considered necessary, suitable assumptions may be made and clearly indicated in the answer.

Answer Question No. 1 and any five from Question No. 2, 3, 4, 5, 6, 7 and 8.

SECTION - A

(Compulsory)

1. (a)

(i)	(ii)	(iii)	(iv)	(v)	(vi)	(vii)	(viii)	(ix)	(x)	(xi)	(xii)
c	c	b	d	d	d	c	c	a	c	a	d

(b)

(i)	(ii)	(iii)	(iv)	(v)	(vi)	(vii)
True	True	True	True	True	True	False

(c)

(i)	(ii)	(iii)	(iv)	(v)	(vi)
Cost centres	Excess capacity, variable cost	just-in-time (JIT) production systems, advanced manufacturing technologies (AMTs).	strategic analysis	probabilities	Variable cost

SECTION - B

(answer any five questions)

2. (a) There has been a paradigm shift in the role of the management accountant in the era of globalisation. The focus shifted to strategic analysis. This ushered in the fourth stage of the evolution of management accounting. Authors have opined that most of the management accounting practices used, were actually developed by 1925, and for the next 60 years there was a slowdown, or even a halt, in management accounting innovation.
- Globalisation brought about significant changes in the business environment. Along with the changes the roles of the management accountant had to be redefined. In the following lines some of the impacts of the new business environment on management accounting is discussed.



Time Allowed: 3 Hours

Full Marks: 100

The figures in the margin on the right side indicate full marks.

Where considered necessary, suitable assumptions may be made and clearly indicated in the answer.

Answer Question No. 1 and any five from Question No. 2, 3, 4, 5, 6, 7 and 8.

SECTION - A

(Compulsory)

1. (a) Choose the correct alternative

[1 × 12 = 12]

- (i) In a product mix decision, which is the most important factor to consider in order trying to maximise profit?
- a. contribution per unit of a scarce resource used to make the product
 - b. contribution per unit of the product
 - c. variable cost per unit of the product
 - d. product unit selling price
- (ii) Which of the following costs incurred by a commercial airline can be classified as variable?
- a. Interest costs on leasing of aircraft
 - b. Pilots' salaries
 - c. Depreciation of aircraft
 - d. None of these three costs can be classified as variable
- (iii) A large margin of safety indicates _____.
- a. Over capitalization
 - b. The soundness of business
 - c. Overproduction
 - d. None of the above
- (iv) Usually the production budget is stated in terms of _____.
- a. Money
 - b. Quantity
 - c. Both of the above
 - d. None of the above



- (v) Revision of budgets is necessary when original budget was prepared with _____.
- only management's direction
 - judgement of employees only
 - Inappropriate data
 - All of the above
- (vi) Which of the following is NOT a method of transfer pricing?
- Cost plus transfer price
 - Internal price plus transfer price
 - Market-based transfer price
 - Two-part transfer price
- (vii) What transfer pricing method is preferred by Cost Accountant?
- Cost Based
 - Negotiated
 - Market Based
 - Dual Pricing
- (viii) Management accounting deals with _____ data.
- qualitative
 - quantitative
 - both qualitative and quantitative
 - only non-financial
- (ix) The following is the limitation of management accounting –
- Costly Affair
 - Evolutionary Stage
 - Psychological Resistance
 - All of the above
- (x) Objectives of Management Accounting _____.
- Policy formulation
 - Helpful in decision making
 - Helpful in controlling
 - All of the above
- (xi) Which of the following costs is relevant in decision-making?
- committed costs
 - accounting costs
 - historical costs
 - cash costs



- (xii) The cost data provide invaluable information for taking the following managerial decision(s)
- To make or buy
 - To own or hire fixed asset
 - Determining the expansion or contraction policy
 - All of the above

(b) State True or False

[1 × 7 = 7]

- Management Accounting reports are public documents.
- The budgetary control system is designed to fix responsibilities on executives through preparation of budgets.
- A cash budget is a summary of all functional budgets.
- Experience curve effects are reinforced when two or more products do not share a common activity or resource.
- Differential Cost is the change in the costs which results from the adoption of an alternative course of action.
- While marginal costing excludes the entire fixed costs, some of the fixed costs may be taken into account as being relevant for the purpose of differential cost analysis.
- The early identification of principal budget factor is important in the budgetary planning process because it indicates which budget should be prepared first.

(c) Fill in the blanks

[1 × 6 = 6]

- The preparation of Du Pont Control chart is related to analysis of _____.
- _____ contains the picture of total plans during the budget period and it comprises information relating to sales, profit, cost, production etc.
- _____ is stated as a budget which is made to change as per the levels of activity attained.
- _____ are often quoted in management literature as those areas in which an organization needs to perform best if it is to achieve overall success.
- If a decision maker can estimate the _____ of future events, these should be incorporated into the decision model.
- Direct costing is also referred as _____.



Time Allowed: 3 Hours

Full Marks: 100

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Where considered necessary, suitable assumptions may be made and clearly indicated in the answer.

Answer Question No. 1 and any five from Question No. 2, 3, 4, 5, 6, 7 and 8.

SECTION - A

(Compulsory)

1. (a)

(i)	(ii)	(iii)	(iv)	(v)	(vi)	(vii)	(viii)	(ix)	(x)	(xi)	(xii)
a	d	b	c	c	b	b	c	d	d	a	d

(b)

(i)	(ii)	(iii)	(iv)	(v)	(vi)	(vii)
False	True	False	False	True	True	True

(c)

(i)	(ii)	(iii)	(iv)	(v)	(vi)
Return on Equity	Master Budget	Flexible Budget	Critical success factor(CSFs)	Probabilities	Marginal costing

SECTION - B

(answer any five questions)

2. (a) Management accounting is an offshoot of financial accounting and has specific linkages with cost accounting. Financial literature suggests that the beginning of management accounting is linked with the requirement for accounting information to optimize economic resources during the Industrial Revolution. The International Accounting Federation (IFAC, 1998) has described the evolution of managerial accounting through four phases.

- First stage (prior to 1950s).
- Second stage (1950s – 1965)
- Third stage (1965 – 1985).
- Fourth stage (1985 – till date)

INTERMEDIATE EXAMINATION

June 2023

P-12(MA)
Syllabus 2022

MANAGEMENT ACCOUNTING

Time Allowed: 3 hours

Full Marks: 100

*The figures in the margin on the right side indicate full marks.
Where considered necessary, suitable assumptions may be made
and clearly indicated in the answer.*

Answer Question No. 1 and any five from Question No. 2, 3, 4, 5, 6, 7 and 8.

Section-A (Compulsory)

1. (a) **Choose the correct answer from the given alternatives:** 1×12=12
- (i) Profit Volume ratio is equal to:
- (A) Variable cost as a percentage of sales
 - (B) Fixed cost as a percentage of sales
 - (C) Excess of sales over variable cost as a percentage of sales
 - (D) Total cost as a percentage of sales
- (ii) A Limited produces 500 units of product in 7,500 hours against standard hours of 8,000. If standard rate per hour is ₹ 75, then labour efficiency variance will be:
- (A) ₹ 37,500 (F)
 - (B) ₹ 37,500 (A)
 - (C) ₹ 40,000 (F)
 - (D) ₹ 38,000 (F)
- (iii) Divisional managers prepare _____ without reference to the past budget or achievements.
- (A) Outcome Budgets
 - (B) Performance Budgets
 - (C) Programme Budgets
 - (D) Zero Base Budgets

- (iv) According to Norton and Kaplan, the balanced scorecard should be used as _____.
- (A) a control system
 - (B) a diagnostic system
 - (C) a strategic system
 - (D) All of the above
- (v) A/An _____ is an organizational unit whose manager is responsible for generating revenue and managing expenses related to current activity.
- (A) Expense Centre
 - (B) Revenue Centre
 - (C) Cost Centre
 - (D) Profit Centre
- (vi) RTM Ltd., using Activity Based Costing (ABC), manufactures two types of products-P and Q respectively. During a period, the company incurred ₹ 50,000 as inspection cost and it worked for 10 and 15 production runs respectively for producing product P and Q. The inspection cost for product P under ABC system was:
- (A) ₹ 20,000
 - (B) ₹ 30,000
 - (C) ₹ 40,000
 - (D) None of the above
- (vii) The minimum expected opportunity loss (EOL) is _____.
- (A) equal to EVPI
 - (B) minimum Regret
 - (C) equal to EMV
 - (D) Both (A) and (B)
- (viii) Responsibility Accounting is used for _____.
- (A) cost control
 - (B) planning
 - (C) decision making
 - (D) pricing

- (ix) The term _____ is used to describe a location to which overhead costs are initially assigned.
- (A) Cost driver
 - (B) Cost pool
 - (C) Activity
 - (D) Cost objects
- (x) Units produced 50,000; Selling price per unit ₹15; Variable cost per unit ₹12; Fixed costs ₹1,60,000. Calculate sales value when the profit to be earned is ₹80,000.
- (A) ₹10,00,000
 - (B) ₹12,00,000
 - (C) ₹9,00,000
 - (D) ₹14,00,000
- (xi) Economic Value Added (EVA) can be calculated as under:
- (A) Return to Equity Shareholders fund – Cost of capital Employed.
 - (B) Return to providers of fund – Cost of capital Employed.
 - (C) Return to Long term loan fund – Cost of capital Employed.
 - (D) Return to Equity Shareholders fund – Cost of Equity.
- (xii) According to DuPont methodology, the parameter(s) that drive Return on Equity (ROE) is/are:
- (A) Operating performance
 - (B) Asset usage performance
 - (C) Financial leverage
 - (D) All of the above
- (b) **State whether the following statements are “True” or “False”:** 1×7=7
- (i) Management accounting deals only with quantitative data.
 - (ii) In marginal costing both fixed and variable cost are considered for product costing and inventory valuation.
 - (iii) Unavoidable fixed costs are considered as relevant cost.
 - (iv) Standards are arrived at on the basis of past performance.
 - (v) Division under transfer pricing system is treated as Cost Centre.
 - (vi) Production budget is also known as Subsidiary Budget.
 - (vii) Return on Investment (ROI) ignores the cost of equity capital.

SUGGESTED ANSWERS TO QUESTIONS

SECTION – A

1 (a)

- (i) (C)
- (ii) (A)
- (iii) (D)
- (iv) (C)
- (v) (D)
- (vi) (A)
- (vii) (D)
- (viii) (A)
- (ix) (B)
- (x) (B)
- (xi) (B)
- (xii) (D)

1 (b)

- (i) False
- (ii) False
- (iii) False
- (iv) False
- (v) False
- (vi) True
- (vii) True

1 (c)

- (i) Standard
- (ii) Cost-volume-profit (CVP) / Break even
- (iii) Angle of Incidence
- (iv) Cost driver
- (v) Margin of safety
- (vi) Learning curve



Time Allowed: 3 Hours

Full Marks: 100

The figures in the margin on the right side indicate full marks.

SECTION – A

1. Multiple Choice Questions:

[15 x 2 = 30]

- (i) _____ is the study of managerial aspects of financial accounting
- Cost accounting
 - Financial accounting
 - Management accounting
 - Business accounting
- (ii) X Company uses activity-based costing for Product B and Product D. The total estimated overhead cost for the parts administration activity pool was ₹5,50,000 and the expected activity was 2000 part types. If Product D requires 1200 part types, the amount of overhead allocated to product D for parts administration would be:
- ₹2,75,000
 - ₹3,00,000
 - ₹3,30,000
 - ₹3,45,000
- (iii) Cost attribution to cost units on the basis of benefit received from indirect activities, such as ordering, setting-up, assuring quality is known as:
- Allocation
 - Activity-based costing
 - Always better control
 - Absorption
- (iv) What is Margin of Safety if Sales is 20,000 units and B.E.P is 15,000 units?
- 15000 units
 - 5000 units
 - 10000 units
 - 20000 units
- (v) Fixed cost per unit decrease when
- Production volume increases
 - Production volume decreases
 - Variable costs per unit decreases
 - Prime costs per unit decreases



MANAGEMENT ACCOUNTING

- (vi) The break-even point of a manufacturing company is ₹1,60,000. Fixed cost is ₹48,000. Variable cost is ₹12 per unit. The PV ratio will be:
- 20%
 - 40%
 - 30%
 - 25%
- (vii) A radio manufacturer finds that it costs ₹6.25 per unit to make component M-140 and the same is available in the market at ₹5.75 each. Continuous supply is also fully assured. The break-down cost per unit as follows: Materials ₹2.75, Labour ₹1.75 other variable expenses ₹0.50, Depreciation and other fixed cost ₹1.25. What would be your decision, if the supplier offered the component at ₹4.85 per unit?
- Make
 - Buy
 - Sell
 - None of the above
- (viii) Which one of the following is not considered as a method of Transfer Pricing?
- A Negotiated Transfer Pricing
 - B Market Price Based Transfer Pricing
 - C Fixed Cost Based Transfer Pricing
 - D Opportunity Cost Based Transfer Pricing
- (ix) Standard quantity of material for one unit of output is 10 kgs @ ₹8 per kg. Actual output during a given period is 800 units. The standards quantity of raw material
- 8,000 kgs
 - 6,400 Kgs
 - 64,000 Kgs
 - None of these
- (x) Standard price of material per kg is ₹20, standard usage per unit of production is 5 kg. Actual usage of production 100 units is 520 kgs, all of which was purchase at the rate of ₹ 22 per kg. Material cost variance is
- ₹ 2,440 (A)
 - ₹ 1,440 (A)
 - ₹ 1,440 (F)
 - ₹ 2,300 (F)
- (xi) Given Production at 60% activity, 600 units, Material ₹50 per unit, Labour ₹ 20 per unit, Direct expenses ₹5 per unit, Factory overheads ₹20,000 (60% variable) and Administration expenses ₹15,000 (60% fixed). What will be the total cost per unit for production at 80% capacity?
- ₹ 1,01,000
 - ₹ 126.25
 - ₹ 122



MANAGEMENT ACCOUNTING

d. ₹ 1,22,000

(xii) _____ is prepared for single level of activity and single set of business conditions.

- a. Fixed budget
- b. Flexible budget
- c. Both a and b
- d. None of the above

(xiii) If the time taken to produce the first unit of a product is 4000 hrs, what will be the total time taken to produce the 5th to 8th unit of the product, when a 90% learning curve applies?

- a. 10,500 hours
- b. 12,968 hours
- c. 9,560 hours
- d. 10,368 hours

(xiv) In responsibility cost accounting the costs in focus are _____.

- a. Controllable costs
- b. Uncontrollable costs
- c. Both A and B
- d. None of the above

(xv) ABC stocks a weekly lifestyle magazine. The owner buys the magazines for ₹0.30 each and sells them at the retail price of ₹0.50 each.

At the end of the week unsold magazines are obsolete and have no value. The estimated probability distribution for weekly demand is shown below.

Weekly demand in units	Probability
20	0.20
30	0.55
40	0.25
1.00	

What is the expected value of demand?

- a. 30
- b. 20
- c. 25
- d. None of the above

Answer:

(i)	(ii)	(iii)	(iv)	(v)	(vi)	(vii)	(viii)	(ix)	(x)	(xi)	(xii)	(xiii)	(xiv)	(xv)
c	c	b	b	a	c	b	c	a	b	b	a	d	a	a