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NEW AND UPDATED

APPLICABLE FOR SEPTEMBER' 25 AND JANUARY' 26

COST & MANAGEMENT ACCOUNTING REVIEWER

4

Chapter-wise compilation
RTP, MTP and PYP questions

KEY HIGHLIGHTS

- EASY TO HARD DIFFICULTY LEVEL
- CHAPTERS RANKED AS A, B AND C BY IMPORTANCE
- REFERENCE TO ALL QUESTIONS
- QUICK RECAP OF IMPORTANT CONCEPTS
- EXAM INSIGHTS
- LAST DAY REVISION QUESTIONS MARKED

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ABC Analysis

A Very Important, Read on priority

B Moderately Important

C Less critical but still essential

Ensure you thoroughly read all chapters without skipping any. The ABC analysis is designed to help you prioritize based on past trends, but it should not replace comprehensive preparation.

CHAPTER 1: INTRODUCTION TO COST AND MANAGEMENT ACCOUNTING

CONCEPTS OF THIS CHAPTER	
• Cost and Management Accounting: meaning, objectives, importance. • Role and functions of Cost Accounting Department. • Installation of Cost Accounting System. • Difference: Cost, Financial, and Management Accounting. • Elements and classifications of cost. • Segregate semi-variable costs into fixed and variable. • Cost reduction vs. cost control. • Methods and techniques of costing. • Overview of Digital Costing System.	LDR **LDR Questions** **Q 25** **Q 27**

Questions & Answers

Question 25 — LDR

DISCUSS cost classification based on variability and controllability.
(MTP 5 Marks Nov'21 & Mar'18 RTP May'21 & May'19, SM)

Answer 25

Based on this classification, costs are classified into three groups viz., fixed, variable and semi-variable.

(a) **Fixed costs**– These are the costs which are incurred for a period, and which, within certain output and turnover limits, tend to be unaffected by fluctuations in the levels of activity (output or turnover). They do not tend to increase or decrease with the changes in output. For example, rent, insurance of factory building etc., remain the same for different levels of production.

(b) **Variable Costs–** These costs tend to vary with the volume of activity. Any increase in the activity results in an increase in the variable cost and vice-versa. For example, cost of direct material, cost of direct labour, etc.

(c) **Semi-variable costs–** These costs contain both fixed and variable components and are thus partly affected by fluctuations in the level of activity. Examples of semi variable costs are telephone bills, gas and electricity etc.

Costs here may be classified into controllable and uncontrollable costs.

(a) **Controllable Costs: -** Cost that can be controlled, typically by a cost, profit or investment centre manager is called controllable cost. Controllable costs incurred in a particular responsibility center can be influenced by the action of the manager heading that responsibility centre. For example, direct costs comprising direct labour, direct material, direct expenses and some of the overheads are generally controllable by the shop floor supervisor or the factory manager.

(b) **Uncontrollable Costs -** Costs which cannot be influenced by the action of a specified member of an undertaking are known as uncontrollable costs. For example, expenditure incurred by, say, the tool room is controllable by the foreman in-charge of that section but the share of the tool-room expenditure which is apportioned to a machine shop is not controlled by the machine shop foreman.

Question 27 LDR

Cost and Management Accounting information is used by different stakeholders. The users of the information can be broadly categorised into internal and external to the entity.

GIVE two examples of internal users and three examples of external users and EXPLAIN how they are concerned with the Cost and Management Accounting information. ***(MTP 5 Marks Nov'24)***

Answer 27

Internal Users

Internal users, who use the Cost and Management Accountinginformation may include the followings:

(a) Policy Makers- The policy makers are those who formulate strategies

(i) to achieve the goals (short & long term both) to fulfil theobjectives of the organisation.

(ii) to position the organisation into the competitive marketenvironment.

(iii) to design the organisational structure to get the policy andstrategies implemented. etc.

(b) Managers- The managers use the information

(i) to know the cost of a cost object and cost centre

(ii) to know the price for the product or service

(iii) to measure and evaluate performance of responsibilitycentres

(iv) to the know the profitability-product-wise, department-wise, customer-wise etc.

(v) to evaluate the strategic options and to make decisions

(c) Operational level staff- The operational level staff like supervisors, foreman, team leaders require information

(i) to know the objectives and performance goals for them

(ii) to know product and service specifications like volume,quality and process etc.

(iii) to know the performance parameters against which their performance is measured and evaluated.

(iv) to know divisional (responsibility centre) profitability etc.

(d) Employees- Employees are concerned with the information related with time and attendance, incentives for work, performance standards etc.

External Users

External users, who use the Cost and Management Accounting information may include the followings:

(a) Regulatory Authorities- Regulatory Authorities are concerned with cost accounting data and information for different purpose which includes tariff determination, providing subsidies, rate fixation etc. To do this the regulatory bodies require information on the basis of some standards and format in this regard.

(b) Auditors- The auditors while conducting audit of financial accounts or for some other special purpose audit like cost audit etc. require information related with costing and reports reviewed by management etc.

(c) Shareholders- Shareholders are concerned with information that effect their investment in the entity. Management communicates to the shareholders through periodic communique, annual reports etc. regarding new orders received, product expansion, market share for products etc.

(d) Creditors and Lenders- Creditors and lenders are concerned with data and information which affects an entity's ability to serve lenders or creditors. For example, any financial institutions which provides loan to an entity against book debts and inventories are more concerned with regular reporting on net debt position and stock balances.

CHAPTER 2: MATERIAL COST

CONCEPTS OF THIS CHAPTER	LDR Questions
• Materials: meaning, need, importance. • Procedures and documentation for procuring, storing, issuing materials. • Inventory control techniques and stock level determination. • Compute EOQ and determine optimum order quantity. • Methods of inventory accounting; prepare stock ledger. • Normal vs. abnormal loss and accounting treatment.	Q 11 Q 30 Q 33 Q 34

Questions & Answers

Theory Questions

Question 11 LDR

HOW is slow moving and non-moving item of stores detected and WHAT steps are necessary to reduce such stocks? *(MTP 4 Marks Apr'24,SM)*

Answer 11

Detection of slow moving and non-moving item of stores:

The existence of slow moving and non-moving item of stores can be detected in the following ways.

(i) By preparing and perusing periodic reports showing the status of different items or stores.

(ii) By calculating the inventory turnover period of various items in terms of number of days/ months of consumption.

(iii) By computing inventory turnover ratio periodically, relating to the issues as a percentage of average stock held.

(iv) By implementing the use of a well designed information system.

Necessary steps to reduce stock of slow moving and non-moving item of stores:

(i) Proper procedure and guidelines should be laid down for the disposal of non-moving items, before they further deteriorates in value.

(ii) Diversify production to use up such materials.

(iii) Use these materials as substitute, in place of other materials.

n Material B. Or Material A has a less holding period.

Question 30 LDR

Tesco cycles Ltd. used about 3,60,000 cycle locks per annum and the usage is fairly constant at 30,000 per month. The cycle lock costs ₹ 240 each at wholesale rate and carrying cost is estimated to be 10% of the annual average inventory value. The cost to place an order is ₹ 1200. It takes 45 days to receive delivery from the date of order. In order to avoid any kind of disruption in assembly line, safety stock of 6,500 cycle locks is always maintained by Tesco Cycles Ltd.(Assume 360 days in a year).

Compute:

(i) E.O.Q.

(ii) The re-order level.

(iii) The company has been offered a quantity discount of 2% on the purchase of cycle locks provided the order size is 30,000 units at a time. Advise whether quantity discount offer can be accepted?

(PYP 5 Marks May '24) (Same concept different figures MTP 5 Marks Apr'24 Mar'23 & Oct'20, PYP May'18, SM)

Answer 30

(i) Calculation of Economic Order Quantity

EOQ = $\sqrt{\frac{2AO}{C}} = \sqrt{\frac{2\times 3,60,000\ units \times ₹1200}{₹24}}$ = 6,000 units

Where,

A = Annual Demand = 3,60,000 units

O = Ordering cost per order = ₹1200

C = Inventory carrying cost per unit per annum = 10% of ₹240 = ₹ 24

(ii) Re-order Level = Safety Stock + Lead Time Consumption

= 6,500 + (1,000 x 45) units = **51,500 units**

Or,

Minimum level of cycle locks + [Average rate of consumption × Average time required to obtain fresh delivery]

= 6,500 + (1,000 x 45) units = **51,500 units**

(iii) Evaluation of Profitability of Different Options of Order Quantity

(a) When EOQ is ordered (order size of 6,000 units)

		(₹)
Purchase Cost	(3,60,000 units × ₹ 240)	8,64,00,000
Ordering Cost	[(3,60,000 units/6,000 units) × ₹ 1,200]	72,000
Carrying Cost	(6,000 units × ₹240 × ½ × 10/100)	72,000
Total Cost		**8,65,44,000**

(b) When Quantity Discount is accepted (order size of 30,000 units)

		(₹)
Purchase Cost	[3,60,000 units × ₹ 235.2 (240- 4.8)]	8,46,72,000
Ordering Cost	[(3,60,000 units/30,000 units) × ₹1,200]	14,400
Carrying Cost	(30,000 units × ₹ 235.2 ×½ × 10/100)	3,52,800
Total Cost		**8,50,39,200**

Advise – The total cost of inventory is lower if discount is accepted. Hence, the company is advised to accept the quantity discount.

Question 33 LDR

A Limited has furnished the following information for the months from 1st January to 30th April, 2023:

	January	February	March	April
Number of Working days	25	24	26	25
Production (in units) per working day	50	55	60	52
Raw Material Purchases (% by weights to total of 4 months)	21%	26%	30%	23%
Purchase price of raw material (per kg)	₹ 10	₹ 12	₹ 13	₹ 11

Quantity of raw material per unit of product: 4 kg.

Opening stock of raw material on 1st January: 6,020 kg. (Cost ₹ 63,210)

Closing stock of raw material on 30th April: 5,100 kg.

All the purchases of material are made at the start of each month.

Required:

(i) Calculate the consumption of raw materials (in kgs) month-by- month and in total.

(ii) Calculate the month-wise quantity and value of raw materials purchased.

(iii) Prepare the priced stores ledger for each month using the FIFO method. ***(PYP 10 Marks, May'23)***

Answer 33

i) Calculation of consumption of Raw Material (in kgs) month by month and total

Particulars	Jan	Feb	March	April	Total
No. of working days	25	24	26	25	-
Production (Per day)	50	55	60	52	-
Production	1,250	1,320	1,560	1,300	5,430
Raw Material Consumed (in kgs)	**5,000**	**5,280**	**6,240**	**5,200**	21,720

Calculation of Raw Material Purchased

Purchased	(Kg)
Closing stock on 30th April	5,100
Add: Raw Material consumed	21,720
Less: Opening stock on 1st January	(6,020)
Raw Material purchased	20,800

ii) Calculation of month wise quantity and value of raw material purchased

	%	Purchased (Kg)	Price (₹)	Value (₹)
January	21	4,368	10	43,680
February	26	5,408	12	64,896
March	30	6,240	13	81,120
April	23	4,784	11	52,624
Total		20,800		2,42,320

iii) Store Price Ledger by using FIFO method.

Months	Particulars	Receipts			Issue			Balance		
		Qty	Rate	Amount (₹)	Qty	Rate	Amount (₹)	Qty	Rate	Amount (₹)
Jan	Opening							6,020	10.5	63,210
	Purchases	4,368	10	43,680				6,020	10.5	63,210
								4,368	10	43,680
					5,000	**10.5**	**52,500**	**1,020**	**10.5**	**10,710**
								4,368	**10**	**43,680**
Feb	Purchases	5,408	12	64,896				1,020	10.5	10,710
								4,368	10	43,680
								5,408	12	64,896
	Consumption				**1,020**	**10.5**	**10,710**	**108**	**10**	**1,080**
					4,260	**10**	**42,600**	**5,408**	**12**	**64,896**
March	Purchase	6,240	13	81,120				108	10	1,080
								5,408	12	64,896
								6,240	13	81,120
	Consumption				**108**	**10**	**1,080**			
					5,408	**12**	**64,896**			
					724	**13**	**9,412**	**5,516**	**13**	**71,708**
April	Purchase	4,784	11	52,624				5,516	13	71,708
								4,784	11	52,624
	Consumption				**5,200**	**13**	**67,600**	**316**	**13**	**4,108**
								4,784	**11**	**52,624**
										56,732

EXAM INSIGHTS: This numerical question was based on Material Costing. Many examinees find difficulty in the calculation of month-wise quantity purchased hence, they could not be to complete the priced store ledger correctly. The overall performance of the examinees was **average.**

Question 34 LDR

A Ltd. produces a product 'Exe' using a raw material Dee. To produce one unit of Exe, 2 kg of Dee is required. As per the sales forecast conducted by the company, it will able to sale 20,000 units of Exe in the coming year. The following is the information regarding the raw material Dee:

(i) The Re-order quantity is 200 kg. less than the Economic Order Quantity (EOQ).
(ii) Maximum consumption per day is 20 kg. more than the average consumption per day.
(iii) There is an opening stock of 2,000 kg.
(iv) Time required to get the raw materials from the suppliers is 4 to 8 days.
(v) The purchase price is Rs.125 per kg.

There is an opening stock of 1,800 units of the finished product Exe.
The rate of interest charged by bank on Cash Credit facility is 13.76%.
To place an order company has to incur Rs. 720 on paper and documentation work.
From the above information COMPUTE the followings in relation to raw material Dee:

(a) Re-order Quantity
(b) Maximum Stock level
(c) Minimum Stock level
(d) Impact on the profitability of the company by not ordering the EOQ.

[Take 364 days for a year] ***(MTP 10 Marks Apr'19, RTP May'19) (Same concept different figures RTP May'21)***

Answer 34

Working Notes:

(i) Computation of Annual consumption & Annual Demand for raw material 'Dee':

Sales forecast of the product 'Exe'	20,000 units
Less: Opening stock of 'Exe'	1,800 units
Fresh units of 'Exe' to be produced	18,200 units
Raw material required to produce 18,200 units of 'Exe' (18,200 units × 2 kg.)	36,400 kg.
Less: Opening Stock of 'Dee'	2,000 kg.
Annual demand for raw material 'Dee'	34,400 kg.

(ii) Computation of Economic Order Quantity (EOQ):

$$EOQ = \frac{\sqrt{2\ X\ Annual\ Demand\ of\ 'Dee' \times Ordering cost}}{Carrying\ Cost\ Per\ Unit\ Per\ annum}$$

$$= \sqrt{\frac{2X34{,}400\ kg.X\ Rs.720}{Rs.125\ X\ 13.76\%}} = \frac{\sqrt{2x34{,}400kg.X\ Rs.720}}{Rs.17.2} = 1{,}697 \text{ kg.}$$

(iii) Re- Order level:

= (Maximum consumption per day × Maximum lead time)

$$= \left\{\left(\frac{Annual\ Consumption\ of\ 'Dee'}{364\ Days} + 20kg.\right) X\ 8\ days\right\}$$

$$= \left\{\left(\frac{36{,}400kg.}{364\ Days} + 20kg.\right) X\ 8\ days\right\} = 960\text{kg.}$$

(iv) Minimum consumption per day of raw material 'Dee':

Average Consumption per day = 100kg.

Hence, Maximum Consumption per day = 100 kg. + 20 kg. = 120 kg.

So, Minimum consumption per day will be

$$\text{Average Consumption} = \frac{\text{Min.consumption} + \text{Max.consumption}}{2}$$

Or, 100 kg. = $\frac{\text{Min.consumption+ 120kg.}}{2}$

Or, Min. consumption = 200 kg – 120 kg. = 80 kg.

(a) Re-order Quantity:

EOQ – 200 kg. = 1,697 kg. – 200 kg. = 1,497 kg.

(b) Maximum Stock level:

= Re-order level + Re-order Quantity – (Min. consumption per day × Min. lead time)

= 960 kg. + 1,497 kg. – (80 kg. × 4 days)

= 2,457 kg. – 320 kg. = 2,137 kg.

(c) Minimum Stock level:

= Re-order level – (Average consumption per day × Average lead time)

= 960 kg. – (100 kg. × 6 days) = 360 kg.

(d) Impact on the profitability of the company by not ordering the EOQ.

		When purchasing the ROQ	When purchasing the EOQ
I	Order quantity	1,497 kg.	1,697 kg.
II	No. of orders a year	34,400kg. /1,497kg. = 22.9or 23orders	34,400 kg. /1,697kg. = 20.27or 21orders
III	Ordering Cost	23 orders × Rs. 720 = Rs.16,560	21 orders × Rs. 720 = Rs.15,120
IV	Average Inventory	1,497kg. /2 = 748.5kg.	1,697kg. /2 = 848.5kg.
V	Carrying Cost	748.5 kg. × Rs. 17.2 = Rs.12,874.2	848.5 kg. × Rs. 17.2 = Rs.14,594.2
VI	Total Cost	Rs. 29,434.20	Rs. 29,714.20

Cost saved by not ordering EOQ = Rs. 29,714.20 - Rs. 29,434.20 = Rs. 280.

CHAPTER 3: EMPLOYEE COST AND DIRECT EXPENSES

CONCEPTS OF THIS CHAPTER	LDR Questions
• Employee cost: meaning and importance. • Attendance and payroll procedures. • Idle time and overtime: meaning, treatment. • Employee turnover: meaning, reasons, measurement, cost impact. • Remuneration and incentive methods: wages, bonus calculation. • Efficiency rating procedures. • Direct expenses: measurement and treatment.	Q 8 Q 26 Q 29 Q 33

Questions & Answers

Theory Questions

Question 8 LDR

Explain the treatment of Overtime Premium in following situations:

(i) **SV & Co. wants to grab some special orders, and overtime is required to meet the same.**

(ii) **Dept. X has to work overtime to make up a shortfall in production due to some fault of management in dept. Y.**

(iii) **S Ltd. has to work overtime regularly throughout the year as a policy due to the workers' shortage.**

(iv) **Due to flood in Odisha, RS Ltd. has to work overtime to complete the job.**

(v) **A customer requested the company MN Ltd. to expedite the job because of his urgency of work.**

(PYP 5 Marks May'22)

Answer 8

Treatment of Overtime premium in different situations

Situation	Treatment
(i) SV & Co. wants to grab some special orders, and overtime is required to meet the same.	If overtime is required to cope with general production programmes or for meeting urgent orders, **the overtime premium should be treated as overhead cost of the particular department or cost centre which works overtime.**
(ii) Dept. X has to work overtime to make up a shortfall in production due to some fault of management in dept. Y.	If overtime is worked in a department due to the fault of another department, **the overtime premium should be charged to the latter department (Y).**
(iii) S Ltd. has to work overtime regularly throughout the year as a policy due to the workers' shortage.	The overtime premium is treated as a part of **employee cost and job is charged at an effective average wage rate.**
(iv) Due to flood in Odisha, RS Ltd. has to work overtime to complete the job.	Overtime worked on account of abnormal conditions such as flood, earthquake etc., should **not be charged to cost, but to Costing Profit and Loss Account.**
(v) A customer requested the company MN Ltd. to expedite the job because of his urgency of work.	Where overtime is worked at the request of the customer, overtime premium is also **charged to the job/ customer directly.**

Question 26 LDR

In a factory, the basic wage rate is Rs. 300 per hour and overtime rates are as follows:

Before and after normal working hours	**180% of basic wage rate**
Sundays and holidays	**230% of basic wage rate**
During the previous year, the following hours were worked	

- Normal time	1,00,000 hours
- Overtime before and after working hours	20,000 hours
Overtime on Sundays and holidays	5,000 hours
Total	1,25,000 hours

The following hours have been worked on job 'A'

Normal	1,000 hours
Overtime before and after working hrs.	100 hours.
Sundays and holidays	25 hours.
Total	1,125 hours

You are required to CALCULATE the labour cost chargeable to job 'A' and overhead in each of the following instances:

(i) Where overtime is worked regularly throughout the year as a policy due to the workers' shortage.

(ii) Where overtime is worked irregularly to meet the requirements of production.

(iii) Where overtime is worked at the request of the customer to expedite the job.

(MTP 10 Marks, Oct'20) (Same concept different figures RTP Nov'21, Old & New SM)

Answer 26

Workings

Basic wage rate: ₹ 300 per hour

Overtime wage rate before and after working hours : ₹ 300 × 180% = 540 per hour

Overtime wage rate for Sundays and holidays: ₹ 300 × 230% = 690 per hour

Computation of average inflated wage rate (including overtime premium):

Particulars	Amount (Rs.)
Annual wages for the previous year for normal time (1,00,000 hrs. × Rs. 300)	3,00,00,000
Wages for overtime before and after working hours (20,000 hrs. × Rs. 540)	1,08,00,000
Wages for overtime on Sundays and holidays (5,000 hrs. × Rs. 690)	34,50,000
Total wages for 1,25,000 hrs.	**4,42,50,000**

Average inflated wage rate = $\frac{Rs.4,42,50,000}{1,25,000\ hours}$ = ₹ 354

(i) Where overtime is worked regularly as a policy due to workers' shortage:

The overtime premium is treated as a part of employee cost and job is charged at an inflated wage rate. Hence, employee cost chargeable to job 'A'

= Total hours × Inflated wage rate = 1,125 hrs. × Rs. 354 = Rs. 3,98,250

(ii) Where overtime is worked irregularly to meet the requirements of production:

Basic wage rate is charged to the job and overtime premium is charged to factory overheads as under:

Employee cost chargeable to Job 'A': 1,125 hours @ Rs.300 per hour = Rs.3,37,500

Factory overhead: {100 hrs. × Rs. (540 – 300)} + {25 hrs. × Rs. (690 – 300)}

= {Rs. 24,000 + Rs. 9,750} = Rs. 33,750

(iii) Where overtime is worked at the request of the customer, overtime premium is also charged to the job as under:

Job 'A' Employee cost	1,125 hrs. @ Rs. 300	=	3,37,500
Overtime premium	100 hrs. @ Rs. (540 – 300)	=	24,000
	25 hrs. @ Rs. (690 – 300)	=	9,750
Total			**3,71,250**

Question 29 LDR

HR Ltd. is progressing in its legal industry. One of its trainee executives, Mr. H, in the Personnel department has calculated labour turnover rate 24.92% for the last year using Flux method.

Following is the data provided by the Personnel department for the last year:

Employees	At the beginning	Joined	Left	At the end
Records clerk	810	1,620	90	2,340
Human Resource Manager	?	30	90	60
Legal Secretary	?	90	---	?

Staff Attorney	?	30	30	?
Associate Attorney	?	30	---	45
Senior Staff Attorney	6	---	---	18
Senior Records clerk	12	---	---	51
Litigation attorney	?	---	---	?
Employees transferred from the Subsidiary Company				
Senior Staff Attorney	---	12	---	---
Senior Records clerk	---	39	---	---
Employees transferred to the Subsidiary Company				
Litigation attorney	---	---	90	---
Associate Attorney	---	---	15	---

At the beginning of the year there were total 1,158 employees on the payroll of the company. The opening strength of the Legal Secretary, Staff Attorney and Associate Attorney were in the ratio of 3 : 3 : 2.

The company has decided to abandon the post of Litigation attorney and consequently all the Litigation attorneys were transferred to the subsidiary company.

The company and its subsidiary are maintaining separate set of books of account and separate Personnel Department.

You are required to:

(a) CALCULATE Labour Turnover rate using Replacement method and Separation method.

(b) VERIFY the Labour turnover rate calculated under Flux method by Mr. H *(RTP Nov'22)*

Answer 29

Working Notes:

(i) Calculation of no. of employees at the beginning and end of the year

	At the Beginning of the year	At the end of the year
Records clerk	810	2,340
Human Resource Manager [Left- 90 + Closing- 60 – Joined- 30]	120	60
Legal Secretary*	45	135
Staff Attorney*	45	45
Associate Attorney*	30	45
Senior Staff Attorney	6	18
Senior Records clerk	12	51
Litigation attorney	90	0
Total	**1,158**	**2,694**

(*) At the beginning of the year:

Strength of Legal Secretary, Staff Attorney and Associate Attorney =

[1158 – {810 + 120 + 6 + 12 + 90} employees] or [1158 – 1038 = 120 employees]

[{Legal Secretary - $120 \times \frac{3}{8} = 45$, Staff Attorney - $120 \times \frac{3}{8} = 45$ & Associate Attorney - $120 \times \frac{2}{8} = 30$} employees]

At the end of the year:

[Legal Secretary -(Opening 45 + 90 Joining) = 135; Staff Attorney - (Opening 45 + 30 Joined – 30 Left) = 45]

(ii) No. of Employees Separated, Replaced and newly recruited during the year

Particulars	Separations	New Recruitment	Replacement	Total Joining
Records clerk	90	1,530	90	1,620
Human Resource Manager	90	--	30	30
Legal Secretary	--	90	--	90
Staff Attorney	30	--	30	30
Associate Attorney	15	15	15	30
Senior Staff Attorney	--	12	--	12
Senior Records clerk	--	39	--	39
Litigation attorney	90	--	--	--
Total	**315**	**1,686**	**165**	**1,851**

(Since, HR Ltd. and its subsidiary are maintaining separate Personnel Department, so transfer-in and transfer-out are treated as recruitment and separation respectively.)

(a) Calculation of Labour Turnover rate:

Replacement Method $= \frac{\text{No.of employees replaced during the year}}{\text{Average no.of employees onroll}} \times 100$

$= \frac{165}{(1,158+2,694)/2} \times 100 = \frac{165}{1,926} \times 100 = 8.57\%$

Separation Method $= \frac{\text{No. of employees separated during the year}}{\text{Average no. of employees onroll}} \times 100$

$= \frac{315}{1,926} \times 100 = 16.36\%$

(b) Labour Turnover rate under Flux Method:

$= \frac{\text{No.of employees(Joined+Separated)duringthe year}}{\text{Averageno.of employees on roll}} \times 10$

$= \frac{\text{No.of employees (Replaced + New recruited + Separated) during the year}}{\text{Average no.of employees on roll}} \times 100$

$= \frac{1,851+315}{1,926} \times 100 = 112.46\%$

Labour Turnover rate calculated by Mr. H is incorrect as it seems he has not taken the No. of new recruitment while calculating the labour turnover rate under Flux method.

Question 33 LDR

The following particulars have been compiled in respect of three workers, which are under consideration of the management.

	I	II	III
Actual hours worked	380	100	540
Hourly rate of wages (in ₹)	40	50	60
Productions in units:			
- Product X	210	-	600
- Product Y	360	-	1350
- Product Z	460	250	-
Standard time allowed per unit of each product is:			
	X	Y	Z
Minutes	15	20	30

For the purpose of piece rate, each minute is valued at ₹ 1/- You are required to calculate the wages of each worker under:

(i) Guaranteed hourly rate basis

(ii) Piece work earning basis, but guaranteed at 75% of basic pay (Guaranteed hourly rate if his earnings are less than 50% of basic pay.)

(iii) Premium bonus basis where the worker received bonus based on Rowan scheme.

(MTP 10 Marks Mar'24) (MTP 5 Marks May '20, RTP May'19) (Same concept different figures MTP 5 Marks Nov'21)

Answer 33

(i) Computation of wages of each worker under guaranteed hourly rate basis

Worker	Actual hours worked (Hours)	Hourly wage rate (₹)	Wages (₹)
I	380	40	15,200
II	100	50	5,000
III	540	60	32,400

(ii) Computation of Wages of each worker under piece work earning basis

Product	Piece rate per unit (₹)	Worker-I		Worker-II		Worker-III	
		Units	Wages (₹)	Units	Wages (₹)	Units	Wages (₹)
X	15	210	3,150	-	-	600	9,000
Y	20	360	7,200	-	-	1,350	27,000
Z	30	460	13,800	250	7,500	-	-
Total			24,150		7,500		36,000

Since each worker's earnings are more than 50% of basic pay.

Therefore, worker-I, II and III will be paid the wages as computed i.e. ₹24,150, ₹7,500 and ₹36,000 respectively.

Working Notes:

1. Piece rate per unit

Product	Standard time per unit in minute	Piece rate each minute (₹)	Piece rate per unit (₹)
X	15	1	15
Y	20	1	20
Z	30	1	30

2. Time allowed to each worker

Worker	Product-X	Product-Y	Product-Z	Total Time (Hours)
I	210 units × 15 = 3,150	360 units × 20 = 7,200	460 units × 30 = 13,800	24,150/60 = 402.50
II	-	-	250 units × 30 = 7,500	7,500/60 = 125
III	600 units × 15 = 9,000	1, 350 units × 20 = 27,000	-	36,000/60 = 600

(iii) Computation of wages of each worker under Premium bonus basis (where each worker receives bonus based on Rowan Scheme)

Worker	Time Allowed (Hr.)	Time Taken (Hr.)	Time saved (Hr.)	Wage Rate per hour (₹)	Earnings (₹)	Bonus (₹) *	Total Earning (₹)
I	402.5	380	22.5	40	15,200	850	16,050
II	125	100	25	50	5,000	1,000	6,000
III	600	540	60	60	32,400	3,240	35,640

$*\frac{\text{Time Taken}}{\text{Time Allowed}} \times$ Time Saved$\times$ Wage Rate

Worker-I = $\frac{380}{402.5} \times 22.5 \times 40 = 850$; Worker-II = $\frac{100}{125} \times 25 \times 50 = 1{,}000$

Worker-I = $\frac{540}{600} \times 60 \times 60 = 3{,}240$

CHAPTER 4: OVERHEADS-ABSORPTION COSTING METHOD

CONCEPTS OF THIS CHAPTER	
• Overheads: production, administrative, selling & distribution. • Allocation, apportionment, and absorption of overheads. • Under-absorption and over-absorption of overheads; apply in cost computation. • Accounting and control of administrative, selling, and distribution overheads. • Methods to calculate overhead rate.	LDR Questions Q 10 Q 17 Q 21 Q 22

Questions & Answers

Theory Questions

Question 10 LDR

Vivi Ltd. manufactures a single product. It recovers factory overheads at a pre - determined rate of ₹ 20 per man-day.

During the year 2020-21, the total factory overheads incurred and the man-days actually worked were ₹ 35.50 lakhs and 1.50 lakh days respectively. Out of the amount of ₹ 35.50 lakhs, ₹ 2.00 lakhs were in respect of wages for strike period and ₹ 1.00 lakh was in respect of expenses of previous year booked in this current year. During the period, 50,000 units were sold. At the end of the period, 12,000 completed units were held in stock but there was no opening stock of finished goods. Similarly, there was no stock of uncompleted units at the beginning of the period but at the end of the period there were 20,000 uncompleted units which may be treated as 65% complete in all respects.

On investigation, it was found that 40% of the unabsorbed overheads were due to factory inefficiency and the rest were attributable to increase in the cost of indirect materials and indirect labour. You are required to:

(i) Calculate the amount of unabsorbed overheads during the year 2020 -21.

(ii) Show the accounting treatment of unabsorbed overheads in cost accounts and pass journal entry. ***(PYP 10 Marks Dec'21)***

Answer 10

(i) Amount of under-absorption of overheads during the year 2020-21

		(₹)
Total production overheads actually incurred during the year 2020-21		35,50,000
Less: Wages paid during strike period	₹2,00,000	
Wages of previous year booked in current year	₹ 1,00,000	3,00,000
Net production overheads actually incurred: (A)		32,50,000
Production overheads absorbed by 1.50 lakh man-days @ ₹ 20 per man-day: (B)		30,00,000
Amount of under-absorption of production overheads: [(A)–(B)]		2,50,000

(ii) Accounting treatment of under absorption of production overheads: It is given in the statement of the question that 62,000 units (50,000 sold + 12,000 closing stock – 0 opening stock) were completely finished and 20,000 units were 65% complete, 40% of the under-absorbed overheads were due to factory inefficiency and the rest were attributable to increase in cost of indirect materials and indirect labour.

	(₹)
1. (40% of ₹2,50,000) i.e. ₹ 1,00,000 of under – absorbed overheads were due to factory inefficiency. This being abnormal, should be debited to the Costing Profit and Loss A/c	1,00,000
2. Balance (60% of ₹ 2,50,000) i.e. ₹ 1,50,000 of under – absorbed overheads should be distributed over work-in- progress, finished goods and cost of sales by using supplementary rate	1,50,000

Total under-absorbed overheads	2,50,000

Apportionment of unabsorbed overheads of ₹1,50,000 over work-in-progress, finished goods and cost of sales.

	Equivalent Completed units	(₹)
Work-in-progress (13,000 units × ₹ 2) (Refer to Working Note)	20000 * 65% = 13,000	26,000
Finished goods (12,000 units × ₹ 2)	12,000	24,000
Cost of sales (50,000 units × ₹ 2)	50,000	1,00,000
	75,000	1,50,000

Journal entry:

Work-in-progress control A/c	Dr.	₹ 26,000
Finished goods control A/c	Dr.	₹ 24,000
Cost of Sales A/c	Dr.	₹ 1,00,000
Costing Profit & Loss A/c	Dr.	₹ 1,00,000
To Overhead control A/c		₹ 2,50,000

Working Note:

Supplementary overhead absorption rate = $\frac{Rs.1,50,000}{75,000\ units}$ = Rs. 2 per unit

EXAM INSIGHTS: The question tested the knowledge of examinees on the treatment of unabsorbed Overheads in cost accounting. Examinees had to calculate unabsorbed overheads and pass journal entry after allocating them to Cost of Sales, WIP, and Finished stock by using supplementary rate. Performance of the examinees was above average.

Question 17

LDR

SE Limited manufactures two products- A and B. The company had budgeted factory overheads amounting to ₹ 36,72,000 and budgeted direct labour hour of 1,80,000 hours. The company uses pre-determined overhead recovery rate for product costing purposes.

The department-wise break-up of the overheads and direct labour hours were as follows:

Particulars	Budgeted overheads	Budgeted direct labour hours	Rate per direct labour hour
Department Pie	₹ 25,92,000	90,000 hours	₹ 28.80
Department Qui	₹ 10,80,000	90,000 hours	₹ 12.00
Total	₹ 36,72,000	1,80,000 hours	

Additional Information:

Each unit of product A requires 4 hours in department Pie and 1 hour in department Qui. Also, each unit of product B requires 1 hour in department Pie and 4 hours in department Qui.

This was the first year of the company's operation. There was no WIP at the end of the year. However, 1,800 and 5,400 units of Products A and B were on hand at the end of the year.

The budgeted activity has been attained by the company. You are required to:

(i) **DETERMINE the production and sales quantities of both products 'A' and 'B' for the above year.**

(ii) **ASCERTAIN the effect of using a pre-determined overhead rate instead of department-wise overhead rates on the company's income due to its effect on stock value.**

(iii) **CALCULATE the difference in the selling price due to the use of pre-determined overhead rate instead of using department-wise overhead rates. Assume that the direct costs (material and labour costs) per unit of products A and B were ₹ 25 and ₹ 40 respectively and the selling price is fixed by adding 40% over and above these costs to cover profit and selling and administration overhead.** ***(RTP Nov'22)***

Answer 17

i. Computation of production and sales quantities:

The products processing times are as under –

Product	A	B	Total
Department Pie	4 hours	1 hour	90,000 hours
Department Qui	1 hour	4 hours	90,000 hours

Let X and Y be the number of units (production quantities) of the two products.
Converting these into equations, we have –
4X + Y = 90,000 &
X + 4Y = 90,000
Solving the above, we get X = 18,000; Y = 18,000
Hence, the Production and Sales Quantities are determined as under –

Product	Production Quantity	Closing Stock (Given)	Sales Quantity (Balancing Figure)
A	18,000 units	1,800 units	16,200 units
B	18,000 units	5,400 units	12,600 units

ii. Effect of using pre-determined rate of overheads on the company's profit

Product	Closing Stock Quantity	Overhead included using pre-determined rate	Overhead included using department rate	Difference in overhead in closing stock value / Effect on closing stock value
A	1,800 units	1,800 x 5 hours x ₹ 20.40 = ₹ 1,83,600	Pie = 1,800 units x 4 hours x ₹ 28.80 = ₹ 2,07,360 Qui = 1,800 units x 1 hour x ₹ 12 = ₹ 21,600	**(-) ₹ 45,360**
B	5,400 units	5,400 x 5 hours x ₹ 20.40 = ₹ 5,50,800	Pie = 5,400 units x 1 hour x ₹ 28.80 = ₹ 1,55,520	**(+) ₹ 1,36,080**
			Qui = 5,400 units x 4 hours x ₹12 = ₹ 2,59,200	
Total		₹ 7,34,400	₹ 6,43,680	**(+) ₹ 90,720**

Use of pre-determined overhead rate has resulted in over valuation of stock by ₹ 90,720 due to which the company's income would be affected (increase) by ₹ 90,720. Profit would be affected only to the extent of Overhead contained in closing finished goods and closing WIP, if any.

iii. Effect of using pre-determined on the products' selling prices

Particulars	Product A	Product B
Selling Price per unit if pre-determined overhead rate is used	₹177.80	₹ 198.80
Selling Price per unit if department wise rate is used	₹ 213.08	₹163.52
Difference	₹ 35.28	₹ 35.28
	Under-Priced	Over-Priced

Workings:

1. **Pre-determined overhead recovery rate** = $\frac{₹36,72,000}{1,80,000\ hours}$ = ₹ 20.40 per direct labour hour

2. **If pre-determined recovery rate is used**

Particulars	Product A in ₹	Product B in ₹
Materials & Labour	25.00	40.00
Add: Production Overhead A = 5 hours x ₹ 20.40 per hour B = 5 hours x ₹ 20.40 per hour	102.00	102.00
Cost of production	127.00	142.00
Add: 40% of margin	50.80	56.80
	177.80	198.50

3. **If department-wise recovery rate is used**

Particulars	Product A in ₹	Product B in ₹
Materials & Labour	25.00	40.00
Add: Production Overhead	127.20	76.80
A = Pie = 4 hours x ₹ 28.80 Qui = 1 hour x ₹ 12		

B = Pie = 1 hour x ₹ 28.80 Qui = 4 hours x ₹ 12		
Cost of production	152.20	116.80
Add: 40% of margin	60.88	46.72
Selling Price per unit	213.08	163.52

Question 21 LDR

PL Ltd. has three production departments P1, P2 and P3 and two service departments S1 and S2. The following data are extracted from the records of the company for the month of October, 2020:

	(Rs.)
Rent and rates	12,50,000
General lighting	1,50,000
Indirect Wages	3,75,000
Power	5,00,000
Depreciation on machinery	10,00,000
Insurance of machinery	4,00,000

Other Information:

	P1	P2	P3	S1	S2
Direct wages (Rs.)	7,50,000	5,00,000	7,50,000	3,75,000	1,25,000
Horse Power of Machines used	60	30	50	10	-
Cost of machinery (Rs.)	60,00,000	80,00,000	1,00,00,000	5,00,000	5,00,000
Floor space (Sq. ft)	2,000	2,500	3,000	2,000	500
Number of light points	10	15	20	10	5
Production hours worked	6,225	4,050	4,100	-	-

Expenses of the service departments S1 and S2 are reapportioned as below:

	P1	P2	P3	S1	S2
S1	20%	30%	40%	-	10%
S2	40%	20%	30%	10%	-

Required:

(i) COMPUTE overhead absorption rate per production hour of each production department.

(ii) DETERMINE the total cost of product X which is processed for manufacture in department P1, P2 and P3 for 5 hours, 3 hours and 4 hours respectively, given that its direct material cost is Rs. 12,500 and direct labour cost is Rs. 7,500. *(RTP Nov'21) (Same concepts different figures RTP May'20, SM, MTP 10 Marks Mar'22, PYP 10 Marks Nov'20)*

Answer 21

Primary Distribution Summary

Item of cost	Basis of apportionment	Total (Rs.)	P1 (Rs.)	P2 (Rs.)	P3 (Rs.)	S1 (Rs.)	S2 (Rs.)
Direct wages	Actual	5,00,000	--	--	--	3,75,000	1,25,000
Rent and Rates	Floor area (4 : 5 : 6 : 4 : 1)	12,50,000	2,50,000	3,12,500	3,75,000	2,50,000	62,500
General lighting	Light points (2 : 3 : 4 : 2 : 1)	1,50,000	25,000	37,500	50,000	25,000	12,500
Indirect wages	Direct wages (6 : 4 : 6 : 3 : 1)	3,75,000	1,12,500	75,000	1,12,500	56,250	18,750
Power	Horse Power of machines used (6 : 3 : 5 : 1)	5,00,000	2,00,000	1,00,000	1,66,667	33,333	-
Depreciation of machinery	Value of machinery (12 : 16 : 20 : 1 : 1)	10,00,000	2,40,000	3,20,000	4,00,000	20,000	20,000
Insurance of	Value of machinery	4,00,000	96,000	1,28,000	1,60,000	8,000	8,000

machinery	(12 : 16 : 20 : 1 : 1)						
		41,75,000	**9,23,500**	**9,73,000**	**12,64,167**	**7,67,583**	**2,46,750**

Overheads of service cost centres

Let S1 be the overhead of service cost centre S1 and S2 be the overhead of service cost centre S2.

S_1 = 7,67,583 + 0.10 S_2

S_2 = 2,46,750 + 0.10 S_1

Substituting the value of S_2 in S_1 we get

S_1 = 7,67,583 + 0.10 (2,46,750 + 0.10 S_1)

S_1 = 7,67,583 + 24,675 + 0.01 S_1

0.99 S_1 = 7,92,258

∴ S_1 = Rs. 8,00,260

∴ S_2 = 2,46,750 + 0.10 X 8,00,260

= Rs. 3,26,776

Secondary Distribution Summary

Particulars	**Total (Rs.)**	$P_1(rs.)$	$P_2(rs.)$	$P_3(rs.)$
Allocated and Apportioned Over-heads as per primary distribution	31,60,667	9,23,500	9,73,000	12,64,167
S_1	8,00,260	1,60,052	2,40,078	3,20,104
S_2	3,26,776	1,30,710	65,355	98,033
		12,14,262	**12,78,433**	**16,82,304**

(i) Overhead rate per hour

	P1	**P2**	**P3**
Total overheads cost (Rs.)	12,14,262	12,78,433	16,82,304
Production hours worked	6,225	4,050	4,100
Rate per hour (Rs.)	**195.06**	**315.67**	**410.32**

(ii) Cost of Product X

	(Rs.)
Direct material	12,500.00
Direct labour	7,500.00
Prime cost	**20,000.00**
Production on overheads	
P_1 5 hours X Rs. 195.06 = 975.30	
P_2 3 hours X Rs. 315.67 = 947.01	
P_3 4 hours X Rs. 410.32 = 1,641.28	3,563.59
Factory cost	**23,563.59**

Question 22 LDR

In a manufacturing company, the overhead is recovered as follows: Factory Overheads: a fixed percentage basis on direct wages and Administrative overheads: a fixed percentage basis on factory cost.

The company has furnished the following data relating to two jobs undertaken by it in a period.

	Job 1(₹)	**Job 2(₹)**
Direct materials	**1,08,000**	**75,000**
Direct wages	**84,000**	**60,000**
Selling price	**3,33,312**	**2,52,000**
Profit percentage on total cost	**12%**	**20%**

You are required to:

(i) Compute the percentage recovery rates of factory overheads and administrative overheads.

(ii) Calculate the amount of factory overheads, administrative overheads and profit for each of the two jobs.

(iii) Using the above recovery rates, determine the selling price to be quoted for job 3. Additional data pertaining to Job 3 is as follows:

Direct materials	**₹ 68,750**
Direct wages	**₹ 22,500**

Profit percentage on selling price	15%

(PYP 10 Marks May'22) (Same concept different figures SM,MTP 10 Marks Oct'23)

Answer 22

Computation of percentage recovery rates of factory overheads and administrative overheads.

Let the factory overhead recovery rate as percentage of direct wages be F and administrative overheads recovery rate as percentage of factory cost be A.

Factory Cost of Jobs:

Direct materials + Direct wages + Factory overhead

For Job 1 = ₹ 1,08,000 +₹ 84,000 + ₹ 84,000F

For Job 2 = ₹ 75,000 +₹ 60,000 + ₹ 60,000F

Total Cost of Jobs:

Factory cost + Administrative overhead

For Job 1 = (₹ 1,92,000 + ₹ 84,000F) + (₹ 1,92,000 + ₹ 84,000F) A = ₹ 2,97,600*

For Job-2 = (₹ 1,35,000 + ₹ 60,000F) + (₹1,35,000+ ₹ 60,000F) A = ₹ 2,10,000**

The value of F & A can be found using following equations

1,92,000 + 84,000F + 1,92,000A + 84,000AF	=	₹ 2,97,600	……eqn (i)
1,35,000 + 60,000F + 1,35,000A + 60,000AF	=	₹ 2,10,000	……eqn (ii)

Multiply equation (i) by 5 and equation (ii) by 7

9,60,000 + 4,20,000F + 9,60,000A + 4,20,000AF	=	₹14,88,000	...eqn (iii)
9,45,000 + 4,20,000F + 9,45,000A + 4,20,000AF	=	₹ 14,70,000	...eqn (iv)
- - - -		-	
15,000 + 15,000A	=	₹18,000	

15,000 A = 18,000 – 15,000

A = 0.20

Now putting the value of A in equation (i) to find the value of F

1,92,000 + 84,000F + (1,92,000 × 0.20) + (84,000 F × 0.20)= ₹ 2,97,600

Or

1,92,000 + 84,000F+38,400+16,800 F = ₹2,97,600

1,00,800 F = 67,200

F = 0.667

On solving the above relations: F = 0.667 and A = 0.20

Hence, percentage recovery rates of:

Factory overheads = 66.7% or 2/3rd of wages and

Administrative overheads = 20% of factory cost.

Working note:

Total Cost = $\frac{Selling\ price}{(100\% + Percentage\ of\ profit)}$

*For Job 1 = $\frac{₹\ 3,33,312}{(100\% + 12\%)}$ = ₹ 2,97,600

**For Job 2 $\frac{₹2,52,000}{(100\% + 20\%)}$ = ₹ 2,10,000

(ii) **Statement of jobs, showing amount of factory overheads, administrative overheads and profit:**

	Job 1 (₹)	Job 2 (₹)
Direct materials	1,08,000	75,000
Direct wages	84,000	60,000
Prime cost	1,92,000	1,35,000
Factory overheads		
2/3rd of direct wages	**56,000**	**40,000**
Factory cost	2,48,000	1,75,000
Administrative overheads		
20% of factory cost	**49,600**	**35,000**
Total cost	**2,97,600**	**2,10,000**
Profit (12% & 20% respectively)	**35,712**	**42,000**

Selling price	3,33,312	2,52,000

(iii) **Selling price of Job 3**

	(₹)
Direct materials	68,750
Direct wages	22,500
Prime cost	91,250
Factory overheads (2/3rd of Direct Wages)	15,000
Factory cost	1,06,250
Administrative overheads (20% of factory cost)	21,250
Total cost	**1,27,500**
Profit margin (balancing figure)	22,500
Selling price $\left(\frac{Total\ Cost}{85\%}\right)$	**1,50,000**

EXAM INSIGHTS: This numerical question tested the knowledge of examinees on the topic overheads - absorption costing method. Examinees had to calculate factory overheads and administrative overheads recovery rate using equations and then to calculate factory overheads, administrative overheads and profit amount for two jobs. Most of the examinees failed to calculate recovery rates correctly. Performance of the examinees was below average.

CHAPTER 5: ACTIVITY BASED COSTING

CONCEPTS OF THIS CHAPTER	
• Problems of Traditional Costing System. • Usefulness of Activity Based Costing (ABC). • Cost allocation under ABC. • Different levels of activities under ABC. • Stages, advantages, and limitations of ABC. • Requirements for ABC implementation. • Concept of Activity Based Management (ABM). • Concept of Activity Based Budgeting (ABB).	LDR Questions Q 14 Q 22 Q 23 Q 26

Questions & Answers

Theory Questions

Question 14 LDR

'Humara - Apna' bank offers three products, viz., deposits, Loans and Credit Cards. The bank has selected 4 activities for a detailed budgeting exercise, following activity based costing methods.
The bank wants to know the product wise total cost per unit for the selected activities, so that prices may be fixed accordingly.
The following information is made available to formulate the budget:

Activity	Present Cost (Rs.)	Estimation for the budget period
ATM Services:		
(a) Machine Maintenance	4,00,000	All fixed, no change.
(b) Rents	2,00,000	Fully fixed, no change.
(c) Currency	1,00,000	Expected to double during budget period.
Replenishment Cost	7,00,000	(This activity is driven by no. of ATM transactions)
Computer Processing	5,00,000	Half this amount is fixed and no change is expected. The variable portion is expected to increase to three times the current level. (This activity is driven by the number of computer transactions)
Issuing Statements	18,00,000	Presently, 3 lakh statements are made. In the budget period, 5 lakh statements are expected. For every increase of one lakh statement, one lakh rupees is the budgeted increase. (This activity is driven by the number of statements)
Computer Inquiries	2,00,000	Estimated to increase by 80% during the budget period. (This activity is driven by telephone minutes)

The activity drivers and their budgeted quantifies are given below:

Activity Drivers	Deposits	Loans	Credit Cards
No. of ATM Transactions	1,50,000	---	50,000
No. of Computer Processing Transactions	15,00,000	2,00,000	3,00,000
No. of Statements to be issued	3,50,000	50,000	1,00,000
Telephone Minutes	3,60,000	1,80,000	1,80,000

The bank budgets a volume of 58,600 deposit accounts, 13,000 loan accounts, and 14,000 Credit Card Accounts.
Required
(i) CALCULATE the budgeted rate for each activity.

(ii) PREPARE the budgeted cost statement activity wise.

(iii) COMPUTE the budgeted product cost per account for each product using (i) and (ii) above.

(MTP 10 Marks Apr'19 & Oct'23, SM) (Same concepts different figures MTP 10 Marks Apr'22)

Answer 14

Statement Showing "Budgeted Cost per unit of the Product"

Activity	Activity Cost (Budgeted (Rs.)	Activity Driver	No. of Units of Activity Driver (Budget)	Activity Rate (Rs.)	Deposits	Loans	Credit Cards
ATM Services	8,00,000	No. of ATM Transaction	2,00,000	4.00	6,00,000	---	2,00,000
Computer Processing	10,00,000	No. of Computer Transaction	20,00,000	0.50	7,50,000	1,00,000	1,50,000
Issuing Statements	20,00,000	No. of Statements	5,00,000	4.00	14,00,000	2,00,000	4,00,000
Customer Inquiries	3,60,000	Telephone Minutes	7,20,000	0.50	1,80,000	90,000	90,000
Budgeted Cost	41,60,000				29,30,000	3,90,000	8,40,000
Units of Product (as estimated in the budget period)					58,600	13,000	14,000
Budgeted Cost per unit of the product					50	30	60

Working Note

Activity	Budgeted Cost (Rs.)	Remark
ATM Services:		
(a) Machine Maintenance	4,00,000	- All fixed, no change.
(b) Rents	2,00,000	- Fully fixed, no change.
(c) Currency Replenishment Cost	2,00,000	- Doubled during budget period.
Total	8,00,000	
Computer Processing	2,50,000	- Rs.2,50,000 (half of Rs.5,00,000) is fixed and no change is expected.
	7,50,000	- Rs.2,50,000 (variable portion) is expected to increase to three times the current level.
Total	10,00,000	
Issuing Statements	18,00,000	- Existing.
	2,00,000	- 2 lakh statements are expected to be increased in budgeted period. For every increase of one lakh statement, one lakh rupees is the budgeted increase.
Total	20,00,000	
Computer Inquiries	3,60,000	- Estimated to increase by 80% during the budget period. (Rs.2,00,000 x 180%)
Total	3,60,000	

Question 22 LDR

Alpha Limited has decided to analyse the profitability of its five new customers. It buys bottled water at ₹ 90 per case and sells to retail customers at a list price of ₹ 108 per case. The data pertaining to five customers are:

	Customers				
	A	B	C	D	E

Cases sold	4,680	19,688	1,36,800	71,550	8,775
Listed Selling Price	₹ 108	₹ 108	₹ 108	₹ 108	₹ 108
Actual Selling Price	₹ 108	₹ 106.20	₹ 99	₹ 104.40	₹ 97.20
Number of Purchaseorders	15	25	30	25	30
Number of Customervisits	2	3	6	2	3
Number of deliveries	10	30	60	40	20
Kilometers travelledper delivery	20	6	5	10	30
Number of expedited deliveries	0	0	0	0	1

Its five activities and their cost drivers are:

Activity	Cost Driver Rate
Order taking	₹ 750 per purchase order
Customer visits	₹ 600 per customer visit
Deliveries	₹ 5.75 per delivery Km travelled
Product handling	₹ 3.75 per case sold
Expedited deliveries	₹ 2,250 per expedited delivery

Required:

(i) COMPUTE the customer-level operating income of each of five retailcustomers now being examined (A, B, C, D and E). Comment on the results.

(ii) STATE what insights are gained by reporting both the list selling priceand the actual selling price for each customer? *(SM)(Same concept different figures MTP 10 Marks, Oct'21, PYP Nov'19, 10 Marks, MTP 10 Marks Oct'22, RTP May '24)*

Answer 22

Working note:

Computation of revenues (at listed price), discount, cost of goods soldand customer level operating activities costs:

	Customers				
	A	B	C	D	E
Cases sold: (a)	4,680	19,688	1,36,800	71,550	8,775
Revenues (at listed price)(₹): (b) {(a) × ₹ 108)}	5,05,440	21,26,304	1,47,74,400	77,27,400	9,47,700
Discount(₹): (c) {(a) × Discount percase}	-	35,438 (19,688 cases × ₹ 1.80)	12,31,200 (1,36,800 cases × ₹ 9)	2,57,580 (71,550 cases × ₹ 3.60)	94,770 (8,775 cases × ₹ 10.80)
Cost of goodssold (₹) : (d) {(a) × ₹ 90}	4,21,200	17,71,920	1,23,12,000	64,39,500	7,89,750
Customer level operating activities costs					
Order takingcosts (₹): (No. of Purchase × ₹750)	11,250	18,750	22,500	18,750	22,500
Customer visits costs (₹) (No. of customer visits × ₹ 600)	1,200	1,800	3,600	1,200	1,800
Delivery vehicles travel costs (₹) (₹ 5.75 perkm) (Kms travelledby delivery vehicles × ₹ 5.75 per km.)	1,150 (5.75 x 10x 20)	1,035 (5.75 x 30 x 6)	1,725 (5.75 x 60x 5)	2,300 (5.75 x 40 x 10)	3,450 (5.75 x 20 x 30)
Product handlingcosts (₹) {(a) ×₹ 3.75}	17,550	73,830	5,13,000	2,68,313	32,906
Cost of	-	-	-	-	2,250

expediting deliveries (₹) {No. of expedited deliveries × ₹2,250}					
Total cost ofcustomer level operating activities (₹)	31,150	95,415	5,40,825	2,90,563	62,906

(i) Computation of Customer level operating income

	Customers				
	A (₹)	**B (₹)**	**C (₹)**	**D (₹)**	**E (₹)**
Revenues (At list price) (Refer toworking note)	5,05,440	21,26,304	1,47,74,400	77,27,400	9,47,700
Less: Discount (Refer toworking note)	-	35,438	12,31,200	2,57,580	94,770
Revenue (At actual price)	**5,05,440**	**20,90,866**	**1,35,43,200**	**74,69,820**	**8,52,930**
Less: Cost of goods sold (Refer to working note)	4,21,200	17,71,920	1,23,12,000	64,39,500	7,89,750
Gross margin	84,240	3,18,946	12,31,200	10,30,320	63,180
Less: Customerlevel operatingactivities costs (Refer to working note)	31,150	95,415	5,40,825	2,90,563	62,906
Customer level operating income	53,090	2,23,531	6,90,375	7,39,757	274

Comment on the results:

Customer D is the most profitable customer. D's profits are even higher than C (whose revenue is the highest) despite having only 52.30% ofthe unit volume of customer C. The main reason is that C receives a discount of ₹ 9 per case while customer D receives only a ₹ 3.60 discount per case.

Customer E is the least profitable. The profits of E is even less than A (whose revenue is least) Customer E received a discount of ₹ 10.80 per case, makes more frequent orders, requires more customer visits and requires more delivery kms. in comparison with customer A.

(ii) Insight gained by reporting both the list selling price and the actual selling price for each customer:

Separate reporting of both-the listed and actual selling prices enables Alpha Ltd. to examine which customer has received what discount per case, whether the discount received has any relationship with the sales volume. The data given below provides us with the following information;

Sales volume	**Discount per case (₹)**
C (1,36,800 cases)	9.00
D (71,550 cases)	3.60
B (19,688 cases)	1.80
E (8,775 cases)	10.80
A (4,680 cases)	0

The above data clearly shows that the discount given to customers per case has a direct relationship with sales volume, except in the case of customer E. The reasons for ₹ 10.80 discount per case for customer E should be explored.

EXAM INSIGHTS: This was a numerical problem from the topic 'Concepts of Activity Based Costing (ABC)' which required preparing customer level operating income using cost driver rates and examining the result and commenting on the customer by comparison of result/ other parameters. Performance of the examinees was above average.

Question 23 LDR

RST Limited specializes in the distribution of pharmaceutical products. It buys from the pharmaceutical companies and resells to each of the three different markets.

(i) General Supermarket Chains
(ii) Drugstore Chains
(iii) Chemist Shops

The following data for the month of April in respect of RST Limited has beenreported:

	General Supermarket Chains (₹)	Drugstore Chains (₹)	Chemist Shops (₹)
Average revenue per delivery	84,975	28,875	5,445
Average cost of goods sold perdelivery	82,500	27,500	4,950
Number of deliveries	330	825	2,750

In the past, RST Limited has used gross margin percentage to evaluate therelative profitability of its distribution channels. The company plans to use activity –based costing for analysing theprofitability of its distribution channels.

The Activity analysis of RST Limited is as under:

Activity Area	Cost Driver
Customer purchase order processing	Purchase orders by customers
Line-item ordering	Line-items per purchase order
Store delivery	Store deliveries
Cartons dispatched to stores	Cartons dispatched to a store perdelivery
Shelf-stocking at customer store	Hours of shelf-stocking

The April month's operating costs (other than cost of goods sold) of RST Limited are ₹ 8,27,970. These operating costs are assigned to five activity areas. The cost in each area and the quantity of the cost allocation basis usedin that area for the month of April are as follows:

Activity Area	Total costs (₹)	Total Units of CostAllocation Base
Customer purchase orderprocessing	2,20,000	5,500 orders
Line-item ordering	1,75,560	58,520 line items
Store delivery	1,95,250	3,905 store deliveries
Cartons dispatched tostore	2,09,000	2,09,000 cartons
Shelf-stocking atcustomer store	28,160	1,760 hours

Other data for the month of April include the following:

	General Supermarket Chains	Drugstore Chains	Chemist Shops
Total number of orders	385	990	4,125
Average number of line itemsper order	14	12	10
Total number of store deliveries	330	825	2,750
Average number of cartonsshipped per store delivery	300	80	16
Average number of hours of shelf-stocking per storedelivery	3	0.6	0.1

Required:

(i) COMPUTE gross-margin percentage for each of its three distributionchannels and compute RST Limited's operating income.
(ii) COMPUTE the rate per unit of the cost-allocation base for each of thefive activity areas.
(iii) COMPUTE the operating income of each distribution channel using the activity-based costing information. Comment on the results. What new insights are available with the activity-based cost information?
(iv) DESCRIBE four challenges one would face in assigning the total operating costs of ₹ 8,27,970 to five activity areas. (SM) (Same concept different figures RTP May'22) (MTP 10 Marks Sep'23)

Answer 23

(i) RST Limited's

Statement of operating income and gross margin percentagefor each of its three distribution channel

Particulars	General Super Market Chains	Drugstore Chains	Chemist Shops	Total
Revenues: (₹)	2,80,41,750 (330 × ₹ 84,975)	2,38,21,875 (825 × ₹ 28,875)	1,49,73,750 (2,750 × ₹ 5,445)	6,68,37,375
Less: Cost of goods sold: (₹)	2,72,25,000 (330 × ₹ 82,500)	2,26,87,500 (825 × ₹ 27,500)	1,36,12,500 (2,750 × ₹ 4,950)	635,25,000
Gross Margin:(₹)	8,16,750	11,34,375	13,61,250	33,12,375
Less: Otheroperating costs: (₹)				8,27,970
Operating income:(₹)				24,84,405
Gross Margin	2.91%	4.76 %	9.09%	4.96%
Operatingincome %				3.72

(ii) Computation of rate per unit of the cost allocation base foreach of the five activity areas for the month of April

	(₹)
Customer purchase order processing(₹ 2,20,000/ 5,500 orders)	40 per order
Line item ordering (₹ 1,75,560/ 58,520 line items)	3 per line item order
Store delivery (₹ 1,95,250/ 3,905 store deliveries)	50 per delivery
Cartons dispatched (₹ 2,09,000/ 2,09,000 dispatches)	1 per dispatch
Shelf-stocking at customer store (₹)(₹ 28,160/ 1,760 hours)	16 Per hour

(iii) Operating Income Statement of each distribution channel in April (Using the Activity based Costing information)

	General Super Market Chains	Drugstore Chains	Chemist Shops
Gross margin (₹) : (A) (Refer to (i) part of the answer)	8,16,750	11,34,375	13,61,250
Operating cost (₹): (B) (Refer to working note)	1,62,910	1,90,410	4,74,650
Operating income (₹): (A–B)	6,53,840	9,43,965	8,86,600
Operating income (in %) (Operating income/Revenue) ×100	2.33	3.96	5.92

Comments and new insights: The activity-based cost information highlights, how the 'Chemist Shops' uses a larger amount of RST Ltd.'s resources per revenue than do the other two distribution channels. Ratio of operating costs to revenues, across these markets is:

General supermarket chains (₹ 1,62,910/ ₹ 2,80,41,750) × 100	0.58%
Drug store chains (₹ 1,90,410/ ₹ 2,38,21,875) × 100	0.80%
Chemist shops (₹ 4,74,650/ ₹ 1,49,73,750) ×100	3.17%

Working note:

Computation of operating cost of each distribution channel:

	GeneralSuper MarketChains (₹)	Drugstore Chains (₹)	Chemist Shops (₹)
Customer purchase order processing	15,400 (₹ 40 × 385 orders)	39,600 (₹ 40 × 990 orders)	1,65,000 (₹ 40 ×4125 orders)
Line itemordering	16,170 (₹ 3 × 14 x 385)	35,640 (₹ 3 × 12 x 990)	1,23,750 (₹ 3 × 10 × 4125)
Store delivery	16,500 (₹ 50 × 330 deliveries)	41,250 (₹ 50 × 825 deliveries)	1,37,500 (₹ 50 × 2750 deliveries)
Cartons dispatched	99,000 (₹1× 300 cartons × 300 deliveries)	66,000 (₹1 × 80 cartons × 825 deliveries)	44,000 (₹1 × 16 cartons × 2,750 deliveries)
Shelf stocking	15,840 (₹ 16 × 330 deliveries × 3 Av. hrs.)	7,920 (₹ 16 × 825 deliveries × 0.6 Av. hrs)	4,400 (₹ 16 × 2,750 deliveries × 0.1 Av. hrs)
Operating cost	1,62,910	1,90,410	4,74,650

(iv) Challenges faced in assigning total operating cost of ₹ 8,27,970:

- Choosing an appropriate cost driver for activity area.
- Developing a reliable data base for the chosen cost driver.
- Deciding, how to handle costs that may be common across several activities.
- Choice of the time period to compute cost rates per cost driver.
- Behavioral factors.

Question 26 LDR

SOFTHUG is a global brand created by Green-lush Ltd. The company manufactures three range of beauty soaps i.e. SOFTHUG- Gold, SOFTHUG- Pearl, and SOFTHUG- Diamond. The budgeted costs and production for the month of May, 2024 are as follows:

	SOFTHUG- Gold		SOFTHUG- Pearl		SOFTHUG- Diamond	
Production of soaps (Units)	4,000		3,000		2,000	
Resources per Unit:	Qty	Rate	Qty	Rate	Qty	Rate
- Essential Oils	60 ml	₹ 200/100 ml	55 ml	₹ 300/100 ml	65 ml	₹ 300/100 ml
- Cocoa Butter	20 g	₹ 200/100 g	20 g	₹ 200/100 g	20 g	₹ 200/100 g
- Filtered Water	30 ml	₹ 15/100 ml	30 ml	₹ 15/100 ml	30 ml	₹ 15/100 ml
- Chemicals	10 g	₹ 30/100 g	12 g	₹ 50/100 g	15 g	₹ 60/100 g
- Direct Labour	30 minutes	₹ 10/hour	40 minutes	₹ 10/hour	60 minutes	₹ 10 / hour

Green-lush Ltd. followed an Absorption Costing System and absorbed its production overheads, to its products using direct labour hour rate, which were budgeted at ₹ 1,98,000.

Now, Green-lush Ltd. is considering adopting an Activity Based Costing system. For this, additional information regarding budgeted overheads and their cost drivers is provided below:

Particulars	(₹)	Cost drivers
Forklifting cost	58,000	Weight of material lifted
Supervising cost	60,000	Direct labour hours
Utility cost	80,000	Number of Machine operations

The number of machine operators per unit of production are 5, 5, and 6 for SOFTHUG- Gold, SOFTHUG- Pearl, and SOFTHUG- Diamond respectively.

(Consider (i) Mass of 1 litre of Essential Oils and Filtered Water equivalent to 0.8 kg and 1 kg respectively (ii) Mass of output produced is equivalent to the mass of input materials taken together.)

You are required to:

(i) PREPARE a statement showing the unit costs and total costs of each product using the absorption costing method.

(ii) PREPARE a statement showing the product costs of each product using the ABC approach.

(iii)* STATE what are the reasons for the different product costs under the two approaches? *(RTP Sep'24,SM)(MTP 10 Marks Oct'20)

Answer 26

(i) Traditional Absorption Costing

	SOFTHUG- Gold	SOFTHUG - Pearl	SOFTHUG - Diamond	Total
(a) Production of soaps (Units)	4,000	3,000	2,000	9,000
(b) Direct labour (minutes)	30	40	60	-
(c) Direct labour hours (a × b)/60 minutes	2,000	2,000	2,000	6,000

Overhead rate per direct labour hour:

= Budgeted overheads ÷ Budgeted labour hours

= ₹ 1,98,000 ÷ 6,000 hours

= ₹ 33 per direct labour hour

Unit Costs:

	SOFTHUG- Gold (₹)	SOFTHUG- Pearl (₹)	SOFTHUG- Diamond (₹)
Direct Costs:			
- Direct labour	5.00 $\left(\frac{10\times30}{60}\right)$	6.67 $\left(\frac{10\times40}{60}\right)$	10.00 $\left(\frac{10\times60}{60}\right)$
- Direct Material (Refer working note 1)	167.50	215.50	248.50
Production Overhead:	16.50 $\left(\frac{33\times30}{60}\right)$	22.00 $\left(\frac{33\times40}{60}\right)$	33.00 $\left(\frac{33\times60}{60}\right)$
Total unit costs	189.00	244.17	291.50
Number of units	4,000	3,000	2,000
Total costs	**7,56,000**	**7,32,510**	**5,83,000**

Working note -1

Calculation of Direct material cost

	SOFTHUG- Gold (₹)	SOFTHUG- Pearl (₹)	SOFTHUG- Diamond (₹)
Essential oils	120.00 $\left(\frac{200\times60}{100}\right)$	165.00 $\left(\frac{300\times55}{100}\right)$	195.00 $\left(\frac{300\times65}{100}\right)$
Cocoa Butter	40.00 $\left(\frac{200\times20}{100}\right)$	40.00 $\left(\frac{200\times20}{100}\right)$	40.00 $\left(\frac{200\times20}{100}\right)$
Filter water	4.50 $\left(\frac{15\times30}{100}\right)$	4.50 $\left(\frac{15\times30}{100}\right)$	4.50 $\left(\frac{15\times30}{100}\right)$
Chemicals	3.00 $\left(\frac{30\times10}{100}\right)$	6.00 $\left(\frac{50\times12}{100}\right)$	9.00 $\left(\frac{60\times15}{100}\right)$
Total costs	**167.50**	**215.50**	**248.50**

(ii) Activity Based Costing

	SOFTHUG-Gold	SOFTHUG-Pearl	SOFTHUG- Diamond	Total
Quantity (units)	4,000	3,000	2,000	-
Weight per unit (grams)	108 {(60 × 0.8) + 20 + 30 + 10}	106 {(55 × 0.8) + 20 + 30 + 12}	117 {(65 × 0.8) + 20 + 30 + 15}	-
Total weight (grams)	4,32,000	3,18,000	2,34,000	9,84,000
Direct labour (minutes)	30	40	60	-
Direct labour hours	2,000 $\left(\frac{4,000\times30}{60}\right)$	2,000 $\left(\frac{3,000\times40}{60}\right)$	2,000 $\left(\frac{2,000\times60}{60}\right)$	6,000
Machine operations per unit	5	5	6	-
Total operations	20,000	15,000	12,000	47,000

Forklifting rate per gram = ₹ 58,000 ÷ 9,84,000 grams = ₹ 0.06 per gram

Supervising rate per direct labour hour = ₹ 60,000 ÷ 6,000 hours = ₹ 10 per labour hour

Utilities rate per machine operations = ₹ 80,000 ÷ 47,000 machine operations = ₹ 1.70 per machine operations

Unit Costs under ABC:

	SOFTHUG - Gold (₹)	SOFTHUG - Pearl (₹)	SOFTHUG - Diamond (₹)
Direct Costs:			
- Direct Labour	5.00	6.67	10.00
- Direct material	167.50	215.50	248.50
Production Overheads:			
Forklifting cost	6.48 (0.06 × 108)	6.36 (0.06 × 106)	7.02 (0.06 × 117)

Supervising cost	5.00 $\left(\frac{100\times30}{60}\right)$	6.67 $\left(\frac{10\times40}{60}\right)$	10.00 $\left(\frac{10\times60}{60}\right)$
Utilities	8.50 (1.70 × 5)	8.50 (1.70 × 5)	10.20 (1.70 × 6)
Total unit costs	192.48	243.70	285.72
Number of units	4,000	3,000	2,000
Total costs	**7,69,920**	**7,31,100**	**5,71,440**

(iii) **Comments:** The difference in the total costs under the two systems is due to the differences in the overheads borne by each of the products. The Activity Based Costs appear to be more precise.

CHAPTER 6: COST SHEET

CONCEPTS OF THIS CHAPTER	LDR Questions
• Classify and ascertain cost by function. • Prepare cost sheet/statement for production and services.	Q 21 Q 25 Q 27 Q 29

Questions & Answers

Theory Questions

Question 21 LDR

Vivit Su Ltd. has the capacity to produce 2,00,000 units of a product every month. Its works cost at varying levels of production is as under:

Level	Works cost per unit (Rs.)
10%	400
20%	390
30%	380
40%	370
50%	360
60%	350
70%	340
80%	330
90%	320
100%	310

Its fixed administration expenses amount to Rs 3,60,000 and fixed marketing expenses amount to Rs 4,80,000 per month respectively. The variable distribution cost amounts to ₹ 30 per unit.

It can sell 100% of its output at ₹ 500 per unit provided it incurs the following further expenditure:

(i) It gives gift items costing ₹ 30 per unit of sale;

(ii) It has lucky draws every month giving the first prize of Rs. 60,000; 2nd prize of Rs. 50,000, 3rd. prize of Rs. 40,000 and ten consolation prizes of Rs. 5,000 each to customers buying the product.

(iii) It spends Rs.2,00,000 on refreshments served every month to its customers;

(iv) It sponsors a television programmer every week at a cost of Rs.20,00,000 per month.

It can market 50% of its output at ₹ 560 by incurring expenses referred from (ii) to (iv) above and 30% of its output at ₹ 600 per unit without incurring any of the expenses referred from (i) to (iv) above.

PREPARE a cost sheet for the month showing total cost and profit at 30%, 50% and 100% capacity level & COMPARE its profit.

(MTP 10 Marks, Oct'20) (Same concept different figures MTP 10 Marks Apr'22, SM)

Answer 21

Cost Sheet (For the month)

Level of Capacity	30%		50%		100%	
	60,000 units		1,00,000 units		2,00,000 units	
	Per unit (₹)	Total (₹)	Per unit (₹)	Total (₹)	Per unit(₹)	Total(₹)
Works Cost	**380.00**	**2,28,00,000**	**360.00**	**3,60,00,000**	**310.00**	**6,20,00,000**
Add: Fixed administration expenses	6.00	3,60,000	3.60	3,60,000	1.80	3,60,000
Add: Fixed marketing expenses	8.00	4,80,000	4.80	4,80,000	2.40	4,80,000

Add: Variable distribution cost	30.00	18,00,000	30.00	30,00,000	30.00	60,00,000
Add: Special Costs:						
- Gift items costs	-	-	-	-	30.00	60,00,000
- Customers' prizes*	-	-	2.00	2,00,000	1.00	2,00,000
- Refreshments	-	-	2.00	2,00,000	1.00	2,00,000
- Television programme sponsorship cost	-	-	20.00	20,00,000	10.00	20,00,000
Cost of sales	**424.00**	**2,54,40,000**	**422.40**	**4,22,40,000**	**386.20**	**7,72,40,000**
Profit (Bal. fig.)	176.00	1,05,60,000	137.60	1,37,60,000	113.80	2,27,60,000
Sales revenue	**600.00**	**3,60,00,000**	**560.00**	**5,60,00,000**	**500.00**	**10,00,00,000**

*** Customers' prize cost:**

Particulars	Amount (₹)
1st Prize	60,000
2nd Prize	50,000
3rd Prize	40,000
Consolation Prizes (10 × ₹ 5,000)	50,000
Total	**2,00,000**

Comparison of Profit

30% capacity	50% capacity	100% capacity
Rs. 176/Rs. 600 × 100	Rs. 137.6 / Rs. 560 × 100	Rs.113.8 / Rs.500 × 100
29.33 %	**24.57%**	**22.76%**

Profit (in value as well as in percentage) is higher at 30% level of capacity than that at 50% and 100% level of capacity.

Question 25

LDR

WEPL Ltd is engaged in producing electronic equipments. It has furnished following details related to its products produced during a month:

	Units	Amount (₹)
Opening stock	10,000	5,00,00,000
Purchases	4,90,000	25,20,00,000
Closing stock	17,500	85,00,000
Works-in-progress		
Opening	20,000	1,20,00,000
Closing	10,000	60,50,000
Direct employees' wages, allowancesetc.		5,50,50,000
Primary packaging cost (per unit)		140
R&D expenses & Quality controlexpenses		1,90,00,000
Guards' salaries		20,00,000
Directors' salaries		60,00,000
Consumable stores, depreciation onplant related to factory overhead		3,42,00,000
Product inspection (before primarypackaging)		22,00,000
Rearrangement design of factorymachine		75,00,000
Administrative overheads related to production		3,45,00,000
Selling expenses		3,94,50,000
Royalty paid for production		3,10,50,000
Cost of web-site (for online sale) maintenance		60,75,000
Gifts & Snacks		30,50,000
GST (credit allowed)		5,50,00,000
AMC cost of CCTV		10,00,000
Hiring of cars for the transportation of employees and guests		25,00,000
Audit and Legal Fees		29,00,000

Secondary packaging cost (per unit)		20

Distribution of the following costs:
Guard's salaries to Factory, Office and Distribution in the ratio 7: 2:1.
Hiring of cars is only for selling and distribution
AMC of CCTV to Factory, Office and Selling in the ratio 6 : 2 : 2.

The company paid EPF of 12% over above basic pay. However, Guardswill not receive any incentive or EPF.
It has lucky draws every month giving the first prize of ₹1,00,000; 2nd prize of ₹50,000, 3rd prize of ₹ 20,000 and three consolation prizes of ₹10,000 each to customers buying the product.
It also sponsors a television programme every week at a cost of ₹20,00,000 per month.
The hiring of cars attracts GST under RCM @5% without credit.
There was a normal scrap of 2,000 units of direct material which realized ₹350 per unit. The entire finished product was sold at a profit margin of25% on sales.
You are required to PREPARE a cost sheet *(MTP 7 Marks Aug'24)*

Answer 25

Cost Sheet

Particulars	Units	Amount (₹)
Material		
Opening stock	10,000	5,00,00,000
Add: Purchases	4,90,000	25,20,00,000
Less: Closing stock	(17,500)	(85,00,000)
	4,82,500	**29,35,00,000**
Less: Normal wastage of materials realized@ ₹350 per unit	(2,000)	(7,00,000)
Material consumed		29,28,00,000
Direct employee's wages and allowances		5,50,50,000
Direct expenses- Royalty paid for production		3,10,50,000
Prime cost	4,80,500	**37,89,00,000**
Factory overheads - Consumable stores,depreciation etc.		3,42,00,000
Rearrangement design of factory machine		75,00,000
Gross Works Cost	4,80,500	**38,64,00,000**
Add: Opening WIP	20,000	1,20,00,000
Less: Closing WIP	(10,000)	(60,50,000)
Factory/Works Cost	4,90,500	**39,23,50,000**
AdministrationOverheads related to production		3,45,00,000
R&D expenses and Quality control cost		1,90,00,000
AMC cost of CCTV installed at factory premises		6,00,000
Guard Salaries for factory premises		14,00,000
Product Inspection		22,00,000
Add: Primary packaging cost @ ₹ 140 per unit		6,86,70,000
Cost of production	4,90,500	**51,87,20,000**
Administration Overheads		
Guard salaries for office		4,00,000
Audit and legal fees		29,00,000
Director's Salaries		60,00,000
EPF Director's Salaries @12%		7,20,000
AMC cost for CCTV installed at office.		2,00,000
Selling and Distribution Overheads		
Cost of maintaining website for online sale		60,75,000
Secondary packaging cost @ ₹ 20 per unit	4,90,500	98,10,000
Gift and snacks		30,50,000
Guard salaries for selling department		2,00,000

AMC cost for CCTV installed at selling department		2,00,000
Hiring charges of cars		25,00,000
Add: GST @5% on RCM basis		1,25,000
Television programme sponsorship cost		20,00,000
Customers' prize cost*		2,00,000
Selling expenses		3,94,50,000
Cost of sales		**58,64,75,000**
Add: Profit @ 25% on sales or 33.333% of cost		19,54,89,712
Sales value		**78,19,64,712**

***Customers' prize cost:**

	Amount (₹)
1st Prize	1,00,000
2nd Prize	50,000
3rd Prize	20,000
Consolation Prizes (3 × ₹10,000)	30,000
Total	**2,00,000**

***Customers' prize cost:**

	Amount (₹)
1st Prize	1,00,000
2nd Prize	50,000
3rd Prize	20,000
Consolation Prizes (3 × ₹10,000)	30,000
Total	**2,00,000**

Question 27

LDR

The following information is available from SN Manufacturing Limited's for the month of April 2023.

	April 1	**April 30**
Opening and closing inventories data:		
Stock of finished goods	**2,500 units**	**?**
Stock of raw materials	**₹ 42,500**	**₹ 38,600**
Work-in progress	**₹ 42,500**	**₹ 42,800**
Other data are: Raw materials Purchased		**₹ 6,95,000**
Carriage inward		**₹ 36,200**
Direct wages paid		**₹ 3,22,800**
Royalty paid for production		**₹ 35,800**
Purchases of special designs, moulds and patterns (estimated life 12 Production cycles)		**₹ 1,53,600**
Power, fuel and haulage (factory)		**₹ 70,600**
Research and development costs for improving the production process (amortized)		**₹ 31,680**
Primary packing cost (necessary to maintain quality)		**₹ 6920**
Administrative Overhead		**₹ 46,765**
Salary and wages for supervisor and foremen		**₹ 28,000**

Other information:

- **Opening stock of finished goods is to be valued at ₹ 8.05 per unit.**

- **During the month of April, 1,52,000 units were produced and 1,52,600 units were sold. The closing stock of finished goods is to be valued at the relevant month's cost of production. The company follows the FIFO method.**
- **Selling and distribution expenses are to be charged at 20 paisa per unit.**
- **Assume that one production cycle is completed in one month.**

Required:

(i) Prepare a cost sheet for the month ended on April 30, 2023, showing the various elements of cost (raw material consumed, prime cost, factory cost, cost of production, cost of goods sold, and cost of sales).

(ii) Calculate the selling price per unit if profit is charged at 20 percent on sales. ***(PYP 10 Marks, May'23)***

Answer 27

Cost Sheet for the month of April 2023

Particulars	Amount(₹)	Amount(₹)
Raw materials consumed:		
Raw materials purchased	6,95,000	
Add: Carriage inward	36,200	
Add: Value of opening stock of raw materials	42,500	
Less: Value of closing stock of raw materials	(38,600)	**7,35,100**
Direct wages paid		3,22,800
Royalty paid for production		35,800
Amortised cost of special designs, moulds and patterns (₹153,600 ÷ 12)		12,800
Power, fuel and haulage (factory)*		70,600
Prime Cost*		**11,77,100**
Salary and wages of supervisor and foremen		28,000
Gross Works Cost		12,05,100
Add: Opening stock of WIP		42,500
Less: Closing stock of WIP		(42,800)
Factory/ Works Cost		**12,04,800**
Research and development cost	31,680	
Primary packing cost	6,920	38,600
Cost of Production		12,43,400
Add: Opening stock of finished goods (₹ 8.05 × 2,500 units)		20,125
Less: Value of closing stock [(2,500+152,000 -1,52,600) × (12,43,400 ÷ 152000)		(15,542)
Cost of Goods Sold		12,47,983
Add: Administrative overheads		46,765
Add: Selling and distribution expenses (₹ 0.20 × 1,52,600)		30,520
Cost of Sales		13,25,268
Add: Profit (20% on Sales or 25% on cost of sales)		3,31,317
Sales value		16,56,585
Selling price per unit (₹ 16,56,585 ÷ 1,52,600 units)		10.86

*May be taken as part of Factory / Works cost, however Total Factory Cost will remain the same. If taken as part of factory cost then prime cost will be ₹ 11,06,500.

Alternative Solution (Based on work-in-progress figure of ₹ 45,500 as on 1st April 2023 as per Hindi part of Question paper)

Particulars	Amount(₹)	Amount(₹)

Raw materials consumed:		
Raw materials purchased	6,95,000	
Add: Carriage inward	36,200	
Add: Value of opening stock of raw materials	42,500	
Less: Value of closing stock of raw materials	(38,600)	7,35,100
Direct wages paid		3,22,800
Royalty paid for production		35,800
Amortised cost of special designs, moulds and patterns (₹ 153,600 ÷ 12)		12,800
Power, fuel and haulage (factory)*		70,600
Prime Cost		**11,77,100**
Salary and wages of supervisor and foremen		28,000
Gross Works Cost		12,05,100
Add: Opening stock of WIP		45,500
Less: Closing stock of WIP		(42,800)
Factory/ Works Cost		**12,07,800**
Research and development cost	31,680	
Primary packing cost	6,920	38,600
Cost of Production		**12,46,400**
Add: Opening stock of finished goods (₹ 8.05 × 2,500 units)		20,125
Less: Value of closing stock [(2,500+1,52,000 -1,52,600) × (12,46,400÷1,52,000)		(15,580)
Cost of Goods Sold		**12,50,945**
Add: Administrative overheads		46,765
Add: Selling and distribution expenses (₹ 0.20 × 1,52,600)		30,520
Cost of Sales		**13,28,230**
Add: Profit (20% on Sales or 25% on cost of sales)		3,32,058
Sales value		16,60,288
Selling price per unit (₹ 16,60,288 ÷ 1,52,600 units)		**10.88**

*May be taken as part of Factory / Works cost, however Total Factory Cost will remain the same. If taken as part of factory cost then prime cost will be ₹ 11,06,500.

EXAM INSIGHTS: This numerical question was based on the Cost Sheet. Most of the examinees could not be able to classify the items under the correct headings. Hence, **a below average** performance was observed.

Question 29

LDR

Following information is available from the books of YSPP Ltd. for the current year ending 31st March:

S. No.	Particulars	(₹)	(₹)
(i)	Raw materials purchased		35,00,00,000
(ii)	Freight inwards		39,22,100
(iii)	Wages paid to factory workers		1,02,20,000
(iv)	Contribution made towards employees' PF & ESIS		12,60,000
(v)	Hire charges paid for hiring specific equipment		8,40,000
(vi)	Amount paid for power & fuel		16,17,000
(vii)	Amount paid for purchase of moulds and patterns (life is equivalent to four years production)		31,36,000

(viii)	Job charges paid tojob workers		28,42,000
(ix)	Lease rent paid for production assets		3,92,000
(x)	Depreciation on:		
	Factory building	2,94,000	
	Office building	1,96,000	
	Plant & Machinery	4,41,000	
	Delivery vehicles	3,01,000	12,32,000
(xi)	Salary paid to supervisors		4,41,000
(xii)	Repairs & Maintenance paid for: Plant & Machinery	1,68,000	
	Sales office building	63,000	2,31,000
(xiii)	Insurance premium paid for:		
	Plant & Machinery	1,09,200	
	Factory building	63,350	
	Stock of raw materials & WIP	1,26,000	2,98,550
(xiv)	Expenses paid for quality control check activities		68,600
(xv)	Salary paid to quality control staffs		3,36,700
(xvi)	Research & development cost paid for improvement in production process		63,700
(xvii)	Expenses paid for administration of factory work		4,15,100
(xviii)	Salary paid to functional mangers:		
	Production control	33,60,000	
	Finance & Accounts	32,13,000	
	Sales & Marketing	35,42,000	1,01,15,000
(xix)	Salary paid to General Manager		43,96,000
(xx)	Packing cost paid for:		
	Primary packing necessary to maintain quality	3,36,000	
	For re-distribution of finished goods	3,92,000	7,28,000
(xxi)	Fee paid to auditors		6,30,000
(xxii)	Fee paid to independent directors		7,70,000
(xxiii)	Value of stock as on 1st April (beginning):		
	Raw materials	63,00,000	
	Work-in-process	32,20,000	
	Finished goods	38,50,000	1,33,70,000
(xxiv)	Value of stock as on 31st March (ending):		
	Raw materials	33,60,000	
	Work-in-process	30,45,000	
	Finished goods	63,00,000	1,27,05,000

Due to delay in picking up cargo from the port, YSPP Ltd. had to pay ₹ 15,000 as demurrage in the month of March. From the above data you are required to PREPARE Statement of cost for YSPP Ltd. for the year ended 31st March, showing (i) Prime cost, (ii) Factory cost, (iii) Cost of Production, (iv) Cost of sales.
(MTP 8 Marks Nov'24)

Answer 29

Statement of Cost of YSPP Ltd. for the year ended 31st March:

S. NO.	PARTICULARS	(₹)	(₹)
(I)	Material consumed:		
	Raw materials purchased	35,00,00,000	
	Freight inwards	39,22,100	
	Add: opening stock of raw materials	63,00,000	
	Less: closing stock of raw materials	(33,60,000)	35,68,62,100
(II)	Direct employee (labour) cost:		
	Wages paid to factory workers	1,02,20,000	
	Contribution made towards employees' PF & ESIS	12,60,000	1,14,80,000

(III)	Direct expenses:		
	Hire charges paid for hiring specific equipment	8,40,000	
	Amount paid for power & fuel	16,17,000	
	Amortised cost of moulds and patterns	7,84,000	
	Job charges paid to job workers	28,42,000	60,83,000
	Prime cost		**37,44,25,100**
(IV)	Works/ factory overheads:		
	Lease rent paid for production assets	3,92,000	
	Depreciation on factory building	2,94,000	
	Depreciation on plant & machinery	4,41,000	
	Repairs & maintenance paid for plant & machinery	1,68,000	
	Insurance premium paid for plant & machinery	1,09,200	
	Insurance premium paid for factory building	63,350	
	Insurance premium paid for stock of raw materials & WIP	1,26,000	
	Salary paid to supervisors	4,41,000	20,34,550
	Gross factory cost		37,64,59,650
	Add: opening value of w-i-p		32,20,000
	Less: closing value of w-i-p		(30,45,000)
	Factory cost		**37,66,34,650**
(V)	Quality control cost:		
	Expenses paid for quality control check activities	68,600	
	Salary paid to quality control staffs	3,36,700	4,05,300
(VI)	Research & development cost paid for improvement in production process		63,700
(VII)	Administrationcost related with production:		
	-Expenses paid for administration of factory work	4,15,100	
	-Salarypaid to production control manager	33,60,000	37,75,100
(VIII)	Add: primary packing cost		3,36,000
	Cost of production		**38,12,14,750**
	Add: opening stock of finished goods		38,50,000
	Less: closing stock of finished goods		(63,00,000)
	Cost of goods sold		37,87,64,750
(IX)	Administrative overheads:		
	Depreciation on office building	1,96,000	
	Salary paid to manager- finance & accounts	32,13,000	
	Salary paid to general manager	43,96,000	
	Fee paid to auditors	6,30,000	
	Fee paid to independent directors	7,70,000	92,05,000
(X)	Selling overheads:		
	Repairs & maintenance paid for sales office building	63,000	
	Salary paid to manager- sales & marketing	35,42,000	36,05,000
(XI)	Distribution overheads:		
	Depreciation on delivery vehicles	3,01,000	
(XII)	Packing cost paid for re- distribution of finished goods	3,92,000	6,93,000
	Cost of sales		**39,22,67,750**

Note: Demurrage is a type of penalty, thus will not form part of cost.

CHAPTER 7: COST ACCOUNTING SYSTEM

CONCEPTS OF THIS CHAPTER	
• Cost Accounting System: overview. • Difference: Integral vs Non-Integral system. • Ledgers maintained in both systems. • Reasons for profit differences in Financial and Cost Accounting. • Prepare reconciliation statement for profit differences. • Accounting for Management Information and Cost Control.	LDR Questions Q 9 Q 33 Q 35

Questions & Answers

Theory Questions

Question 9 LDR

WHAT are the essential pre-requisites for integrated accounts? *(MTP 4 Marks July'24) (PYP 5 Marks Nov'20, RTP May'23, SM May'22, MTP 5 Marks Mar'22)*

Answer 9

The essential pre-requisites for integrated accounts include the following steps:

1. The management's decision about the extent of integration of thetwo sets of books. Some concerns find it useful to integrate up to the stage of prime cost or factory cost while other prefers full integration of the entire accounting records.
2. A suitable coding system must be made available so as to servethe accounting purposes of financial and cost accounts.
3. An agreed routine, with regard to the treatment of provision foraccruals, prepaid expenses, other adjustment necessary for preparation of interim accounts.
4. Perfect coordination should exist between the staff responsible for the financial and cost aspects of the accounts and an efficient processing of accounting documents should be ensured.
   Under this system there is no need for a separate cost ledger. Of course, there will be a number of subsidiary ledgers; in addition to the useful Customers' Ledger and the Purchase Ledger, there will be: (a) Stores Ledger; (b) Stock Ledger and (c) Job Ledger.

Question 33 LDR

XYZ Ltd. maintains a non-integrated accounting system for the purpose of management information. The following are the data related with year 2020-21:

Particulars	Amount ('000)
Opening balances:	
- Stores ledger control A/c	48,000
- Work-in-process control A/c	12,000
- Finished goods control A/c	2,58,000
- Building construction A/c	6,000
- Cost ledger control A/c	3,24,000
During the year following transactions took place:	
Materials:	
- Purchased	24,000

- Issued to production	30,000
- Issued to general maintenance	3,600
- Issued to building construction	2,400
Wages:	
- Gross wages paid	90,000
- Indirect wages paid	24,000
- For building construction	6,000
Factory overheads:	
- Actual amount incurred (excluding items shown above)	96,000
- Absorbed in building construction	12,000
- Under-absorbed	4,800
Royalty paid	3,000
Selling distribution and administration overheads	15,000
Sales	2,70,000

At the end of the year, the stock of raw material and work-in-process was ₹ 33,00,000, and ₹15,00,000 respectively. The loss arising in the raw material account is treated as factory overheads. The building under construction was completed during the year. Gross profit margin is 20% on sales.

Required: PREPARE the relevant control accounts to record the above transactions in the cost ledger of the company. *(MTP 10 Marks Nov'21,RTP Nov'21 & May'22)* (Same concept different figures SM)

Answer 33

Cost Ledger Control Account

Particulars	(₹in '000)	Particulars	(₹in '000)
To Costing P&L A/c	2,70,000	By Balance b/d	3,24,000
To Building Construction A/c	26,400	By Stores Ledger control A/c	24,000
To Balance c/d	2,89,800	By Wages Control A/c	90,000
		By Factory overhead control A/c	96,000
		By Royalty A/c	3,000
		By Selling. Distribution and Administration overheads	15,000
		By Costing P&L A/c	34,200
	5,86,200		5,86,200

Stores Ledger Control Account

Particulars	(₹ in '000)	Particulars	(₹ in '000)
To Balance b/d	48,000	By WIP control A/c	30,000
To Cost Ledger control A/c	24,000	By Factory overheads control A/c	3,600
		By Building construction A/c	2,400
		By Factory overhead control A/c (loss) (bal. fig.)	3,000
		By Balance c/d	33,000
	72,000		72,000

Wages Control Account

Particulars	(₹ in '000)	Particulars	(₹ in '000)
To Cost Ledger control A/c	90,000	By Factory overhead control A/c	24,000
		By Building Construction A/c	6,000
		By WIP Control A/c (bal. fig.)	60,000
	90,000		90,000

Factory Overhead Control Account

Particulars	(₹ in '000)	Particulars	(₹ in '000)
To Stores Ledger control A/c	3,600	By Building Construction A/c	12,000
To Wages Control A/c	24,000	By Costing P&L A/c	4,800
To Cost Ledger control A/c	96,000	By WIP Control A/c (bal. fig)	1,09,800
To Stores Ledger control A/c (loss)	3,000		
	1,26,600		1,26,600

Royalty Account

Particulars	(₹ in '000)	Particulars	(₹ in '000)
To Cost Ledger control A/c	3,000	By WIP Control A/c	3,000
	3,000		3,000

Work-in-process Control Account

Particulars	(₹ in '000)	Particulars	(₹ in '000)
To Balance b/d	12,000	By Finished goods control A/c (bal. fig)	1,99,800
To Stores Ledger control A/c	30,000		
To Wages Control A/c	60,000		
To Factory overhead control A/c	1,09,800		
To Royalty A/c	3,000	By Balance c/d	15,000
	2,14,800		2,14,800

Finished Goods Control Account

Particulars	(₹ in '000)	Particulars	(₹ in '000)
To Balance b/d	2,58,000	By Cost of Goods Sold A/c (Refer working note)	2,16,000
To WIP control A/c	1,99,800	By Balance c/d	2,41,800
	4,57,800		4,57,800

Cost of Goods Sold Account

Particulars	(₹ in '000)	Particulars	(₹ in '000)
To Finished Goods control A/c	2,16,000	By Cost of sales A/c	2,16,000
	2,16,000		2,16,000

Selling, Distribution and Administration Overhead Control Account

Particulars	(₹ in '000)	Particulars	(₹ in '000)
To Cost Ledger control A/c	15,000	By Cost of sales A/c	15,000
	15,000		15,000

Cost of Sales Account

Particulars	(₹ in '000)	Particulars	(₹ in '000)
To Cost of Goods Sold A/c	2,16,000	By Costing P&L A/c	2,31,000
To Selling, Distribution and Administration A/c	15,000		
	2,31,000		2,31,000

Costing P&L Account

Particulars	(₹ in '000)	Particulars	(₹ in '000)
To Cost of Sales A/c	2,31,000	By Cost Ledger control A/c	2,70,000
To Factory overhead control A/c	4,800		
To Cost Ledger control A/c	34,200		
	2,70,000		2,70,000

Building Construction Account

Particulars	(₹ in '000)	Particulars	(₹ in '000)
To Balance b/d	6,000	By Cost Ledger control A/c	26,400
To Stores Ledger control A/c	2,400		
To Wages Control A/c	6,000		
To Factory overhead control A/c	12,000		
	26,400		26,400

Trial Balance

Particulars	Dr. (₹ in '000)	Cr. (₹ in '000)
Stores Ledger Control A/c	33,000	
WIP Control A/c	15,000	
Finished Goods Control A/c	2,41,800	
Cost Ledger Control A/c		2,89,800
	2,89,800	2,89,800

Working Note:

Cost of Goods sold = $\frac{Rs.2,70,000 \times 80}{100}$ = Rs. 2,16,000

Question 35 LDR

The financial books of a company reveal the following data for the year ended 31st March, 2023:

	(₹)
Opening Stock:	
Finished goods 625 units	**1,06,250**
Work-in-process	**92,000**
01.04.2022 to 31.03.2023	
Raw materials consumed	**16,80,000**
Direct Labour	**12,20,000**
Factory overheads	**8,44,000**
Administration overheads (production related)	**3,96,000**
Dividend paid	**2,44,000**
Bad Debts	**36,000**
Selling and Distribution Overheads	**1,44,000**
Interest received	**76,000**
Rent received	**92,000**
Sales 12,615 units	**45,60,000**
Closing Stock: Finished goods 415 units	**91,300**
Work-in-process	**82,400**

The cost records provide as under:

- **Factory overheads are absorbed at 70% of direct wages.**
- **Administration overheads are recovered at 15% of factory cost.**
- **Selling and distribution overheads are charged at ₹ 6 per unit sold.**
- **Opening Stock of finished goods is valued at ₹ 240 per unit.**
- **The company values work-in-process at factory cost for both Financial and Cost Profit Reporting.**

Required:

(i) Prepare statements for the year ended 31st March, 2023 showing:

- **the profit as per financial records**
- **the profit as per costing records.**

(ii) Prepare a statement reconciling the profit as per costing records with the profit as per financial records. *(RTP Nov'23, Nov'22)* (Same concept different figures RTP Nov'18, RTP May'21)

Answer 35

(i) Statement of Profit as per costing records (for the year ended March 31, 2023)

	(₹)		(₹)
To Opening stock of Finished Goods	1,06,250	By Sales	45,60,000
To Work-in-process	92,000	By Closing stock of finished Goods	91,300
To Raw materials consumed	16,80,000	By Work-in-Process	82,400
To Direct labour	12,20,000	By Rent received	92,000
To Factory overheads	8,44,000	By Interest received	76,000
To Administration overheads	3,96,000		
To Selling & distribution overheads	1,44,000		
To Dividend paid	2,44,000		
To Bad debts	36,000		
To Profit	1,39,450		
	49,01,700		49,01,700

Statement of Profit as per costing records(for the year ended March 31,2023)

	(₹)
Sales revenue (A) (12,615 units)	45,60,000
Cost of sales:	

Opening stock (625 units × ₹ 240)	1,50,000
Add: Cost of production of 12,405 units (Refer to working note 2)	43,28,140
Less: Closing stock	(1,44,795)
$\left(\frac{Rs.43,28,140 \times 415\ units}{12,405\ units}\right)$	
Production cost of goods sold (12,615 units)	43,33,345
Selling & distribution overheads (12,615 units × ₹6)	75,690
Cost of sales: (B)	44,09,035
Profit: {(A) – (B)}	1,50,965

(ii) Statement of Reconciliation
(Reconciling the profit as per costing records with the profit as per financial records)

	(₹)	(₹)
Profit as per Cost Accounts		1,50,965
Add: Administration overheads over absorbed (₹5,64,540 – ₹3,96,000)	1,68,540	
Opening stock overvalued (₹1,50,000 – ₹ 1,06,250)	43,750	
Interest received	76,000	
Rent received	92,000	
Factory overheads over recovered (₹ 8,54,000 – ₹ 8,44,000)	10,000	3,90,290
		5,41,255
Less: Selling & distribution overheads under recovery (₹ 1,44,000 – ₹ 75,690)	68,310	
Closing stock overvalued (₹1,44,795 – ₹ 91,300)	53,495	
Dividend	2,44,000	
Bad debts	36,000	(4,01,805)
Profit as per financial accounts		1,39,450

Working notes:

a. Number of units produced

	Units
Sales	12,615
Add: Closing stock	415
Total	13,030
Less: Opening stock	(625)
Number of units produced	12,405

b. Cost Sheet

	(₹)
Raw materials consumed	16,80,000
Direct labour	12,20,000
Prime cost	29,00,000
Factory overheads (70% of direct wages)	8,54,000
Factory cost	37,54,000
Add: Opening work-in-process	92,000
Less: Closing work-in-process	(82,400)
Factory cost of goods produced	37,63,600
Administration overheads (15% of factory cost)	5,64,540
Cost of production of 12,405 units (Refer to working note 1)	43,28,140
Cost of production per unit:= $\frac{Total\ Cost\ of\ Production}{No.of\ units\ Produced} = \frac{Rs.43,28,140}{12,405 units}$ = Rs. 348.90	

CHAPTER 8: UNIT & BATCH COSTING

CONCEPTS OF THIS CHAPTER	
• Unit Costing method: overview and calculation. • Batch Costing method: explanation. • Accounting entries for cost elements under Batch Costing. • Determine cost for a batch. • Difference between Job Costing and Batch Costing.	LDR Questions Q 17 Q 18

Questions & Answers

Theory Questions

Question 17 LDR

Arnav Confectioners (AC) owns a bakery which is used to make bakery items like pastries, cakes and muffins. AC use to bake atleast 50 units of any item at a time. A customer has given an order for 600 cakes. To process a batch of 50 cakes, the following cost would be incurred:

Direct materials - Rs. 5,000
Direct wages - Rs. 500
Oven set-up cost Rs. 750

AC absorbs production overheads at a rate of 20% of direct wages cost. 10% is added to the total production cost of each batch to allow for selling, distribution and administration overheads.

AC requires a profit margin of 25% of sales value. Required:

(i) DETERMINE the price to be charged for 600 cakes.
(ii) CALCULATE cost and selling price per cake.
(iii) DETERMINE what would be selling price per unit If the order is for 605 cakes.
***(MTP 5 Marks Aug'18 & Mar'23,RTP May'18)* (Same concept different figures SM)**

Answer 17

Statement of cost per batch and per order

No. of batch = 600 units ÷ 50 units = 12 batches

	Particulars	Cost per batch (Rs.)	Total Cost (Rs.)
	Direct Material Cost	5,000.00	60,000
	Direct Wages	500.00	6,000
	Oven set-up cost	750.00	9,000
	Add: Production Overheads (20% of Direct wages)	100.00	1,200
	Total Production cost	6,350.00	76,200
	Add: S&D and Administration overheads (10% of Total production cost)	635.00	7,620
	Total Cost	6,985.00	83,820
	Add: Profit (1/3rd of total cost)	2,328.33	27,940
(i)	**Sales price**	**9,313.33**	**1,11,760**
	No. of units in batch	50 units	
(ii)	**Cost per unit** (Rs.6,985 ÷ 50 units)	**139.70**	
	Selling price per unit (9,313.33 ÷ 50 units)	**186.27**	

(iii) If the order is for 605 cakes, then selling price per cake would be as below:

Particulars	Total Cost (Rs.)
Direct Material Cost	60,500

Direct Wages	6,050
Oven set-up cost	9,750
Add: Production Overheads (20% of Direct wages)	1,210
Total Production cost	77,510
Add: S&D and Administration overheads (10% of Total production cost)	7,751
Total Cost	85,261
Add: Profit (1/3rd of total cost)	28,420
Sales price	**1,13,681**
No. of units	605 units
Selling price per unit (Rs.1,13,681 ÷ 605 units)	**187.90**

Question 18 LDR

Arnav Ltd. operates in beverages industry where it manufactures soft- drink in three sizes of Large (3 litres), Medium (1.5 litres) and Small (600 ml) bottles. The products are processed in batches. The 5,000 litres capacity processing plant consumes electricity of 90 Kilowatts per hour and a batch takes 1 hour 45 minutes to complete. Only symmetric size of products can be processed at a time. The machine set-up takes 15 minutes to get ready for next batch processing. During the set-up power consumption is only 20%.

(i) The current price of Large, Medium and Small are ₹ 150, ₹ 90 and ₹ 50 respectively.

(ii) To produce a litre of beverage, 14 litres of raw material-W and 25ml of Material-C are required which costs ₹ 0.50 and ₹ 1,000 per litre respectively.

(iii) 20 direct workers are required. The workers are paid ₹ 880 for 8 hours shift of work.

(iv) The average packing cost per bottle is ₹ 3

(v) Power cost is ₹ 7 per Kilowatt -hour (Kwh)

(vi) Other variable cost is ₹ 30,000 per batch.

(vii) Fixed cost (Administration and marketing) is ₹ 4,90,00,000.

(viii) The holding cost is ₹ 1 per bottle per annum.

The marketing team has surveyed the following demand (bottle) of theproduct:

Large	Medium	Small
3,00,000	7,50,000	20,00,000

You are required to CALCULATE profit/ loss per batch and alsoCOMPUTE Economic Batch Quantity (EBQ). ***(RTP May'24, MTP 10 Marks Apr'22)***

Answer 18

Workings:

1. Maximum number of bottles that can be processed in a batch: = $\frac{5000\ ltrs}{Bottle\ volume}$

Large		Medium		Small	
Qty (ltr)	**Max bottles**	**Qty (ltr)**	**Max bottles**	**Qty (ltr)**	**Max bottles**
3	1,666	1.5	3,333	0.6	8,333

*For simplicity of calculation small fractions has been ignored.

2. Number of batches to be run:

		Large	Medium	Small	Total
A	Demand	3,00,000	7,50,000	20,00,000	
B	Bottles per batch(Refer WN-1)	1,666	3,333	8,333	
C	No. of batches [A÷B]	180	225	240	645

*For simplicity of calculation small fractions has been ignored.

Quantity of Material-W and Material C required to meet demand:

	Particulars	Large	Medium	Small	Total
A	Demand (bottle)	3,00,000	7,50,000	20,00,000	
B	Qty per bottle(Litre)	3	1.5	0.6	
C	Output (Litre)[A×B]	9,00,000	11,25,000	12,00,000	32,25,000
D	Material-W perlitre of output(Litre)	14	14	14	
E	Material-W required (Litre)[C×D]	**1,26,00,000**	**1,57,50,000**	**1,68,00,000**	**4,51,50,000**

F	Material-C required per litreof output (ml)	25	25	25	
G	Material-C required (Litre)[(C×F) ÷1000]	**22,500**	**28,125**	**30,000**	**80,625**

3. No. of Man-shift required:

		Large	Medium	Small	Total
A	No. of batches	180	225	240	645
B	Hours required per batch	2	2	2	
	(Hours)				
C	Total hours required (Hours) [A×B]	360	450	480	1,290
D	No. of shifts required [C÷8]	45	57	60	162
E	**Total manshift [D×20 workers]**	**900**	**1,140**	**1,200**	**3,240**

4. Power consumption in Kwh

		Large	Medium	Small	Total
For processing					
A	No. of batches	180	225	240	645
B	Hours required perbatch (Hours)	1.75	1.75	1.75	1.75
C	Total hours required(Hours) [A×B]	315	393.75	420	1,128.75
D	Power consumption perhour	90	90	90	90
E	**Power consumption inKwh [C×D]**	**28,350**	**35,437.5**	**37,800**	**1,01,587.5**
F	**Per batch consumption(Kwh) [E÷A]**	**157.5**	**157.5**	**157.5**	**157.5**
For set-up					
G	Hours required perbatch (Hours)	0.25	0.25	0.25	0.25
H	Total hours required(Hours) [A×G]	45	56.25	60	161.25
I	Power consumption perhour [20%×90]	18	18	18	18
J	**Power consumption inKwh [H×I]**	**810**	**1,012.5**	**1,080**	**2,902.5**
K	**Per batch consumption(Kwh) [J÷A]**	**4.5**	**4.5**	**4.5**	**4.5**

***** Per batch consumption can be directly calculated as [Hours required per batch x Power consumption per hour]

Calculation of Profit/ loss per batch:

	Particulars	Large	Medium	Small	Total
A	Demand (bottle)	3,00,000	7,50,000	20,00,000	30,50,000
B	Price per bottle(₹)	150	90	50	
C	**Sales value (₹)[A×B]**	**4,50,00,000**	**6,75,00,000**	**10,00,00,000**	**21,25,00,000**
	Direct Materialcost:				
E	Material-W (₹)[Qty in WN-3 × ₹ 0.50]	63,00,000	78,75,000	84,00,000	2,25,75,000
F	Material-C (₹)[Qty in WN-3 × ₹1,000]	2,25,00,000	2,81,25,000	3,00,00,000	8,06,25,000
G	[E+F]	**2,88,00,000**	**3,60,00,000**	**3,84,00,000**	**10,32,00,000**
H	Direct Wages (₹) [Man-shift in WN-4 × × ₹ 880]	7,92,000	10,03,200	10,56,000	28,51,200
I	Packing cost (₹)[A×₹3]	9,00,000	22,50,000	60,00,000	91,50,000
	Power cost (₹)				
J	For processing (₹)[WN-5 × ₹7]	1,98,450	2,48,062.5	2,64,600	7,11,112.5
K	For set-up time(₹) [WN-5 × ₹7]	5,670	7,087.5	7,560	20,317.5
L	[J+K]	**2,04,120**	**2,55,150**	**2,72,160**	**7,31,430**
M	Other variablecost (₹) [No. of batch in WN-2 × ₹ 30,000]	54,00,000	67,50,000	72,00,000	1,93,50,000
N	**Total Variablecost per batch**	**3,60,96,120**	**4,62,58,350**	**5,29,28,160**	**13,52,82,630**
	[G+H+I+L+M]				
O	**Profit/ loss before fixed**	**89,03,880**	**2,12,41,650**	**4,70,71,840**	**7,72,17,370**

	cost [C-N]				
P	Fixed Cost				4,90,00,000
Q	**Total Cost [O-P]**				**2,82,17,370**

Computation of Economic Batch Quantity (EBQ):

EBQ = $\sqrt{\frac{2 \times D \times S}{C}}$

D = Annual Demand for the Product = Refer A below

S = Set-up cost per batch = Refer D below

C = Carrying cost per unit per annum =Refer E below

	Particulars	**Large**	**Medium**	**Small**
A	Annual Demand (bottle)	3,00,000	7,50,000	20,00,000
Set-up Cost:				
B	Power cost for set-up time (₹) [Consumption per batch in WN-5 × ₹7]	31.50	31.50	31.50
C	Other variable cost (₹) *	30,000	30,000	30,000
D	Total Set-up cost [B+C]	30,031.50	30,031.50	30,031.50
E	Holding cost:	1.00	1.00	1.00
F	**EBQ (Bottle)**	**1,34,234**	**2,12,243**	**3,46,592**

* Other variable cost is assumed to be part of set-up cost.

CHAPTER 9: JOB COSTING

CONCEPTS OF THIS CHAPTER	
• Job Costing methods: overview. • Accounting entries for cost elements in Job Costing. • Determine cost for a job.	LDR Questions Q 8 Q 10

Theory Questions

Question 8 LDR

MT Ltd. pays the followings to skilled workers engaged in production works. The following are the employee benefits paid to the employees:

(a)	Basic salary per day	₹1,000
(b)	Dearness allowance (DA)	20% of basic salary
(c)	House rent allowance	16% of basic salary
(d)	Transport allowance	₹50 per day of actual work
(e)	Overtime	Twice the hourly rate (considers basic and DA), only if works more than 9 hours a day otherwise no overtime allowance. If works for more than 9 hours a day then overtime is considered after 8th hours.
(f)	Work of holiday and Sunday	Double of per day basic rate provided works at least 4 hours. The holiday and Sunday basic is eligible for all allowances and statutory deductions.
(h)	Earned leave & Casual leave	These are paid leave.
(h)	Employer's contribution to Provident fund	12% of basic and DA
(i)	Employer's contribution to Pension fund	7% of basic and DA

The company normally works 8-hour a day and 26-day in a month. The company provides 30 minutes lunch break in between.

During the month of August 2020, Mr. Z works for 23 days including 15th August and a Sunday and applied for 3 days of casual leave. On 15th August and Sunday he worked for 5 and 6 hours respectively without lunch break.

On 5th and 13th August he worked for 10 and 9 hours respectively.

During the month Mr. Z worked for 100 hours on Job no.HT200.

You are required to CALCULATE:

(i) Earnings per day

(ii) Effective wages rate per hour of Mr. Z.

(iii) Wages to be charged to Job no.HT200 ***(MTP 10 Marks, Apr'23)***

Answer 8

Workings:

1. Normal working hours in a month = (Daily working hours – lunch break) × no. of days
   = (8 hours – 0.5 hours) × 26 days = 195 hours
2. Hours worked by Mr.Z = No. of normal days worked + Overtime + holiday/ Sunday worked
   = (21 days × 7.5 hours) + (9.5 hours + 8.5 hours) + (5 hours + 6 hours)
   = 157.5 hours + 18 hours + 11 hours = 186.50 hours.

(i) Calculation of earnings per day

Particulars	Amount (₹)
Basic salary (₹1,000 × 26 days)	26,000
Dearness allowance (20% of basic salary)	5,200

	31,200
House rent allowance (16% of basic salary)	4,160
Employer's contribution to Provident fund (12% × ₹31,200)	3,744
Employer's contribution to Pension fund (7% × ₹31,200)	2,184
	41,288
No. of working days in a month (days)	26
Rate per day	1,588
Transport allowance per day	50
Earnings per day	**1,638**

(ii) Calculation of effective wage rate per hour of Mr. Z:

Particulars	**Amount (₹)**
Basic salary (₹1,000 × 26 days)	26,000
Additional basic salary for Sunday & holiday (₹1,000 × 2 days)	2,000
Dearness allowance (20% of basic salary)	5,600
	33,600
House rent allowance (16% of basic salary)	4,480
Transport allowance (₹50 × 23 days)	1,150
Overtime allowance (₹160 × 2 × 2 hours)*	640
Employer's contribution to Provident fund (12% × ₹33,600)	4,032
Employer's contribution to Pension fund (7% × ₹33,600)	2,352
Total monthly wages	46,254
Hours worked by Mr. Z (hours)	186.5
Effective wage rate per hour	**248**

*(Daily Basic + DA) ÷ 7.5 hours

= (1,000+200) ÷ 7.5 = ₹₹160 per hour

(iii) Calculation of wages to be charged to Job no. HT200 = ₹248 × 100 hours = ₹24,800

Exam insights: This numerical question was based on various aspects of Contract Costing Most of the examinees were able to solve the problem correctly. The overall performance of the_examinees was above average.

Question 10

LDR

Allurgy Ltd. is into metallic tools manufacturing. It has four production departments. The work performed in every department is fairly uniform, thus the manager of the company created a policy to recover the production overheads of the entire company by adopting a single blanket rate.

The relevant data for a month are given below:

Departments	Direct Materials (₹)	DirectWages (₹)	Factory Overheads (₹)	DirectLabourHours	MachineHours
Budget:					
Operating	64,35,000	7,92,000	35,64,000	1,98,000	7,92,000
Assembly	11,73,000	24,15,000	9,66,000	6,90,000	69,000
Quality Control	5,10,000	10,50,000	4,20,000	3,00,000	30,000
Packing	9,90,000	6,93,000	12,37,500	4,95,000	-
Actual:	-	-	-	-	-
Operating	77,22,000	9,50,400	38,61,000	2,37,600	9,50,400
Assembly	9,38,400	18,63,000	5,79,600	6,21,000	75,900
Quality Control	4,08,000	8,10,000	2,52,000	2,70,000	33,000
Packing	11,88,000	8,91,000	13,36,500	5,94,000	-

Additional details relating to one of the jobs during the month are also provided below:

Job No. 157

Departments	DirectMaterials (₹)	DirectWages (₹)	DirectLabour Hours	MachineHours
Operating	11,880	2,376	594	1,782

Assembly	4,140	2,484	828	207
Quality Control	1,800	1,080	360	90
Packing	2,970	594	396	-

During Quality Control phase of this particular Job, the company incurred certain additional expenditure of ₹ 495 on direct wages as there were certain production that was not as perfect as the saleable product. The defective units were normal in nature and after rectification have been brought to the required degree of perfection.

The company adds 25% on the factory cost to cover administration overheads and profit.

You are required to figure out the following:

(a) COMPUTE the overhead absorption rate as per the blanket rate based on the percentage of total factory overheads to total factory wages and determine the selling price of the Job No. 157.

(b) The new manager thinks that the machinery is used to a varying degree in the different departments. Thus, it is not appropriate to follow one blanket rate for the whole company. Therefore, suggest an alternative method of absorption of the factory overheads and CALCULATE the overhead rates based on the method so suggested. (4 Marks)

(c) DETERMINE the selling price of Job 157 based on the overhead rates calculated in (b) above. (3 Marks)

(d) CALCULATE the department-wise under or over recovery of overheads based on the company's current policy and the method suggested in (b) above. *(MTP 4 Marks Aug'24)*

Answer 10

Computation of overhead absorption rate
(as per the blanket rate)

Department	Budgeted factory Overheads (₹)	Budgeted direct wages (₹)
Operating	35,64,000	7,92,000
Assembly	9,66,000	24,15,000
Quality Control	4,20,000	10,50,000
Packing	12,37,500	6,93,000
Total	**61,87,500**	**49,50,000**

Overhead absorption rate = $\frac{\text{Budgeted factory Overheads}}{\text{Budgeted direct wages}} \times 100$ = $\frac{61,87,500}{49,50,000} \times 100$

= 125% of Direct wages

Selling Price of the Job No. 157

Particulars	Operating (₹)	Assembly (₹)	Quality Control (₹)	Packing (₹)	Total (₹)
Direct Materials	11,880	4,140	1,800	2,970	20,790
Direct Wages	2,376	2,484	1,080	594	6,534
Rectification cost of normal defectives			495		495
Overheads [(125% x (6,534 + 495)]					8,786.25
Total Factory Cost					**36,605.25**
Add: Mark-up (25% x ₹ 36,605.25)					9,151.31
Selling Price					**45,756.56**

(b) As the machinery is used to a varying degree in different departments, the use of **departmental rates** is preferred. The overhead recovery rates in different departments would be as follows:

a. **Operating Department:** The use of machine hours is the predominant factor of production in Operating Department. Hence, machine hour rate should be used to recover overheads.
The overhead recovery rate based on machine hours would becalculated as follows:
Machine hour rate = $\frac{\text{Budgeted factory Overheads}}{\text{Budgeted machine hours}}$ = $\frac{₹\ 35,64,000}{7.92.000}$ = ₹ 4.50 per hour

b. **Assembly Department:** Direct labour hours is the main factor of production in Assembly Department. Hence, direct labour hour rate should be used to recover overheads.
The overhead recovery rate based on direct labour hours would be calculated as follows:

Direct labour hour rate = $\frac{\text{Budgeted factory Overheads}}{\text{Budgeted direct labour hours}} = \frac{₹\ 9,66,000}{6.90.000}$ = ₹ 1.40 per hour

c. **Quality Control Department:** Direct labour hours is the main factor of production in Quality Control Department. Hence, direct labour hour rate should be used to recover overheads.
The overhead recovery rate based on direct labour hours would be calculated as follows:
Direct labour hour rate = $\frac{\text{Budgeted factory Overheads}}{\text{Budgeted direct labour hours}} = \frac{₹\ 4,20,000}{3.00.000}$ = ₹ 1.40 per hour

d. **Packing Department:** Direct labour hours is the main factor of production in Packing Department. Hence, direct labour hour rate should be used to recover overheads.
The overhead recovery rate based on direct labour hours would be calculated as follows:
Direct labour hour rate = $\frac{\text{Budgeted factory Overheads}}{\text{Budgeted direct labour hours}} = \frac{₹\ 12,37,500}{4,95.000}$ = ₹ 2.50 per hour

(c) Selling Price of Job No. 157

[based on the overhead rates calculated in (b) above]

Particulars	Operating (₹)	Assembly (₹)	QualityControl (₹)	Packing (₹)	Total (₹)
Direct Materials	11,880	4,140	1,800	2,970	20,790
Direct Wages	2,376	2,484	1,080	594	6,534
Rectification costof normal defectives			495		495
Overheads (refer working note)					10,672
Total Factory Cost					**38,491**
Add: Mark-up (25% x ₹38,491)					9,622.75
Selling Price					**48,113.75**

Working note:

Overhead Statement

Department	Basis	Hours	Rate (₹)	Overheads (₹)
Operating	Machine hour	1,782	4.50	8,019
Assembly	Direct labour hour	828	1.40	1,159
Quality Control	Direct labour hour	360	1.40	504
Packing	Direct labour hour	396	2.50	990
			Total	**10,672**

(d) Department-wise statement of under or over recovery of overheads

a. As per the current policy

Particulars	Operating (₹)	Assembly (₹)	QualityControl (₹)	Packing (₹)	Total (₹)
Direct wages(Actual)	9,50,400	18,63,000	8,10,000	8,91,000	45,14,400
Overheads recovered @ 125%of Direct wages: (A)	11,88,000	23,28,750	10,12,500	11,13,750	56,43,000
Actual overheads:(B)	38,61,000	5,79,600	2,52,000	13,36,500	60,29,100
(Under)/Over recovery of overheads: (A–B)	**(26,73,000)**	**17,49,150**	**7,60,500**	**(2,22,750)**	**(3,86,100)**

b. As per the method suggested

	Machine hours (Operating)	Direct labour hours (Assembly)	Direct labourhours (Quality Control)	Directlabour hours(Packing)	Total (₹)
Hours worked	9,50,400	6,21,000	2,70,000	5,94,000	
Rate/hour (₹)	4.50	1.40	1.40	2.50	
Overhead recovered (₹): (A)	42,76,800	8,69,400	3,78,000	14,85,000	70,09,200
Actual overheads(₹): (B)	38,61,000	5,79,600	2,52,000	13,36,500	60,29,100
(Under)/Over recovery: (A- B)	**4,15,800**	**2,89,800**	**1,26,000**	**1,48,500**	**9,80,100**

CHAPTER 10: PROCESS & OPERATION COSTING

CONCEPTS OF THIS CHAPTER	
• Process and Operation Costing: meaning. • Treatment of process loss and gains in cost accounts. • Compute equivalent completed production units. • Methods of valuation of work in process. • Meaning and treatment of inter-process profits.	LDR Questions Q 19 Q 24 Q 25 Q 26

Questions & Answers

Theory Questions

Question 19 LDR

XYZ Ltd. is manufacturer of medicines. It carries on production operation in two processes. The material first passes through Process I, where Medicine ' X' is produced. Following data are given for the month October, 2022:

Opening work-in-progress quantity (Material 100% and conversion 50% complete)	(in Liter)	12,000
Material input quantity	(in Liter)	60,000
Work completed quantity	(in Liter)	40,000
Closing work-in-progress quantity (Material 100% and conversion 80% complete)	(in Liter)	15,000
Opening work-in-progress cost		
Material cost	(in ₹)	1,75,000
Processing cost	(in ₹)	1,40,000
Material input cost	(in ₹)	7,70,000
Processing cost	(in ₹)	8,35,000

Normal process loss is 15% of material input. It has no realizable value.

Any quantity of Medicine 'X' can be sold for ₹ 42.50 per Liter. Alternatively, it can be transferred to Process II for further processing and then sold as Medicine ' XYZ' for ₹ 50 per Liter. Further materials are added in Process II, which yield 1.25 Liter of Medicine ' XYZ' for every Liter of Medicine 'X' of Process I. Out of the 40,000 Liter of work completed in Process I, 10,000 Liter are sold as Medicine 'X' and 30,000 Liter are passed through Process II for sale as Medicine 'XYZ'.

The monthly costs incurred in Process II (other than the cost of Medicine ' X') are:

Input	30,000 Liter of Medicine 'X'
Materials Cost	₹ 2,75,000
Processing Costs	₹ 2,50,000

You are required to:

(i) **PREPARE Statement of Equivalent production and determine the cost per Liter of Medicine 'X' in Process I, using the weighted average cost method.**

(ii) **Company is mulling over the option to sell the 30,000 Liter of Medicine ' X' at Process-I without processing it further in Process-II. WILL IT BE beneficial for the company over the current pattern of processing 30,000 Liter in process-II? *(MTP 10 Marks, Sep'22)***

Answer 19

(i) Process I Statement of Equivalent Production (Under Weighted Average Method)

Particulars	Input units	Particulars	Output units	Equivalent Production	
				Material	Conversion

	(in Liter)		(in Liter)	(%)	Equivalent units (in Liter)	(%)	Equivalent units (in Liter)
Opening WIP	12,000	Units introduced and completed	40,000	100	40,000	100	40,000
New Material Introduced	60,000	Normal Loss (15% of 60,000 liters)	9,000	-	-	-	-
		Closing WIP	15,000	100	15,000	80	12,000
		Abnormal Loss (Bal. fig.)	8,000	100	8,000	100	8,000
	72,000		72,000		63,000		60,000

Statement of Cost for Each Element

Elements of Costs	Material (₹)	Conversion Cost (₹)
Costs of Opening WIP	1,75,000	1,40,000
Cost of the Process (for the period)	7,70,000	8,35,000
Total Cost	**9,45,000**	**9,75,000**
Equivalent Units (in liter)	63,000	60,000
Cost Per equivalent Units (in liter)	**₹ 15**	**₹ 16.25**

Therefore, Cost of Medicine 'X' is ₹ 31.25 per liter (₹ 15 + ₹ 16.25)

(ii) Statement showing comparative data to decide whether 30,000 Liters of Medicine 'X' should be further processed into 'XYZ'

	Alternative 1	Alternative 2
	Sell medicine 'X' afterProcess I (₹)	**Process further into 'XYZ' (₹)**
Sales	**12,75,000 (30,000 liters x ₹ 42.50)**	**18,75,000 (37,500 liters x ₹ 50)**
Less: Costs:		
Process I - Costs (30,000 liters x ₹ 31.25)	9,37,500	9,37,500
Material in Process II	-	2,75,000
Conversion cost in Process II	-	2,50,000
Total Cost	**9,37,500**	**14,62,500**
Profit	**3,37,500**	**4,12,500**

Hence, company should process further as it will increase profit further by ₹ 75,000 (₹ 4,12,500 – ₹ 3,37,500)

Question 24 LDR

A Manufacturing unit manufactures a product which passes through three distinct Processes - A, B and C. The following data is given:

	Process A	Process B	Process C
Material consumed (in ₹)	36,400	31,500	28,000
Direct wages (in ₹)	56,000	49,000	42,000

- **The total Production Overhead of ₹ 2,20,500 was recovered @ 150% of Direct wages.**
- **15,000 units at ₹ 28 each were introduced to Process 'A'.**
- **The output of each process passes to the next process and finally, 12,000 units were transferred to Finished Stock Account from Process ' C'.**
- **No stock of materials or work in progress was left at the end.**

The following additional information is given:

Process	% of wastage to normal input	Value of Scrap per unit (₹)
A	6%	15.40
B	?	28.00
C	5%	14.00

You are required to:

(i) FIND OUT the percentage of wastage in process 'B', given that the output of Process 'B' is transferred to Process 'C' at ₹ 56 per unit.

(ii) PREPARE Process accounts for all the three processes A, B and C.

(MTP 10 Marks, Apr'22) (Same concept different figures PYP 10 Marks Jul'21)

Answer 24

Process-A Account

Particulars	Units	Dr. (₹)	Particulars	Units	Cr. (₹)
To Material introduced	15,000	4,20,000	By Normal Loss A/c [(6% of 15,000 units) x ₹ 15.40]	900	13,860
To Additional material	--	36,400	By Process-B A/c (₹ 41.31* × 14,100 units)	14,100	5,82,540
To Direct wages	--	56,000			
To Production OH	--	84,000			
	15,000	5,96,400		15,000	5,96,400

* Cost per unit of completed units

$= \frac{\text{Total Cost} - \text{Realisable value from normal loss}}{\text{Inputs units} - \text{Normal loss units}} = \frac{\text{Rs.5,96,400} - \text{Rs.13,860}}{\text{15,000 units} - \text{900 units}}$ = Rs. 41.31

Dr. Process-B Account Cr.

Particulars	Units	(₹)	Particulars	Units	(₹)
To Process-A A/c	14,100	5,82,540	By Normal Loss A/c [(#13.44% of 14,100 units) x ₹ 28]	1,895	53,060
To Additional material	--	31,500	By Process-C A/c (₹ 56 × 12,205 units)	12,205	6,83,480
To Direct wages	--	49,000			
To Production OH	--	73,500			
	14,100	7,36,540		14,100	7,36,540

#Calculation for % of wastage in process 'B':

Let's consider number of units lost under process 'B' = b

Now, $\frac{\text{Total Cost} - \text{Realisable value from normal loss}}{\text{Inputs units} - \text{Normal loss units}}$ = 56

$\frac{\text{Rs.7,36,540} - \text{Rs.28b}}{\text{14,100 units} - \text{b}}$ = Rs. 56

₹ 7,36,540 - ₹ 28b = ₹ 7,89,600 - ₹ 56b

28b = ₹ 53,060 => b = 1,895 units

% of wastage = 1,895 units /14,100 units = **13.44%**

Process-C Account

Particulars	Units	Dr. (₹)	Particulars	Units	Cr. (₹)
To Process-B A/c	12,205	6,83,480	By Normal Loss A/c [(5% of 12,205 units) x ₹ 14]	610	8,540
To Additional material	--	28,000	By Finished Stock A/c (₹ 69.68$ × 12,000 units)	12,000	8,36,160
To Direct wages	--	42,000			
To Production OH	--	63,000			
To Abnormal gain (₹ 69.68$ × 405 units)	405	28,220			
	12,610	8,44,700		12,610	8,44,700

Cost per unit of completed units = $\frac{\text{Total Cost} - \text{Realisable value from normal loss}}{\text{Input units} - \text{Normal loss units}}$

$= \frac{\text{Rs.8,16,480} - \text{Rs.8,540}}{\text{12,205 units} - \text{610 units}}$

= ₹69.68

Question 25 LDR

STG Limited is a manufacturer of Chemical 'GK', which is required for industrial use. The complete production operation requires two processes. The raw material first passes through Process I, where Chemical 'G' is produced. Following data is furnished for the month April 2022:

Particulars	(in kgs.)
Opening work-in-progress quantity (Material 100% and conversion 50% complete)	9,500

Material input quantity	1,05,000
Work Completed quantity	83,000
Closing work-in-progress quantity (Material 100% and conversion 60% complete)	16,500

You are further provided that:

Particulars	(in ₹)
Opening work-in-progress cost	
Material cost	29,500
Processing cost	14,750
Material input cost	3,34,500
Processing cost	2,53,100

Normal process loss may be estimated to be 10% of material input. It has no realizable value. Any loss over and above normal loss is considered to be 100% complete in material and processing.

The Company transfers 60,000 kgs. of output (Chemical G) from Process I to Process II for producing Chemical 'GK'. Further materials are added in Process II which yield 1.20 kg. of Chemical 'GK' for every kg. of Chemical 'G' introduced. The chemicals transferred to Process II for further processing are then sold as Chemical 'GK' for ₹ 10 per kg. Any quantity of output completed in Process I, are sold as Chemical 'G' @ ₹ 9 per kg.

The monthly costs incurred in Process II (other than the cost of Chemical 'G') are:

Input 60,000 kg. of Chemical 'G'

Materials Cost	₹ 85,000
Processing Costs	₹ 50,000

You are required:

(i) Prepare and determine the cost per kg. of Chemical 'G' in Process I using the weighted average cost method.

(ii) Prepare a statement showing cost of Chemical 'G' transferred to Process II, cost of abnormal loss and cost of closing work-in progress.

(iii) STG is considering the option to sell 60,000 kg. of Chemical 'G' of Process I without processing it further in Process-II. Will it be beneficial for the company over the current pattern of processing 60,000 kg in process-II?

(Note: You are not required to prepare Process Accounts) *(PYP 10 Marks, May'22)*

Answer 25

(i) Statement of Equivalent Production

Particulars	Input quantity	Particulars	Total	Material		Processing Cost	
				%	Units	%	Units
Opening WIP	9,500	Units completed	83,000	100%	83,000	100%	83,000
Material Input	1,05,000	Normal loss (10% of 1,05,000)	10,500	-	-	-	-
		Abnormal loss (Bal. fig.)	4,500	100%	4,500	100%	4,500
		Closing WIP	16,500	100%	16,500	60%	9,900
	1,14,500		1,14,500		1,04,000		97,400

Statement of Cost for each element

Particulars	Material	Processing	Total cost
	(₹)	(₹)	(₹)
Cost of opening WIP	29,500	14,750	44,250
Cost incurred during the month	3,34,500	2,53,100	5,87,600
Total cost (A)	3,64,000	2,67,850	6,31,850
Equivalent production (B)	1,04,000	97,400	
Cost per kg of Chemical 'G' (A/B)	**3.5**	**2.75**	6.25

Alternative Presentation

Statement showing cost per kg of each statement

	(₹)	(₹)
Material	$\frac{29,500+3,34,000}{1,04,000}$	3.5

Processing cost	$\frac{14,750+2,53,100}{1,04,000}$	2.75
Total Cost per kg		6.25

(ii) Statement showing cost of Chemical 'G' transferred to Process II, cost of abnormal loss and Cost of closing work-in- progress

	(₹)
Units transferred (60,000 × 6.25)	**3,75,000**
Abnormal loss (4,500 × 6.25)	**28,125**
Closing work in progress:	
Material (16,500 × 3.5)	**57,750**
Processing cost (9,900 × 2.75)	**27,225**
	84,975

(iii) Calculation of Incremental Profit / Loss after further processing

Particulars	**(₹)**	**(₹)**
Sales if further processed (A) (60,000 x 1.20 x ₹ 10)	7,20,000	
Calculation of cost in Process II		
Chemical transferred from Process I	3,75,000	
Add: Material cost	85,000	
Add: Process cost	50,000	
Total cost of finished stock (B)	5,10,000	
Profit, if further processed (C = A – B)		2,10,000
If sold without further processing then,		
Sales (60,000 x ₹ 9)	5,40,000	
Less: Cost of input without further processing	3,75,000	
Profit without further processing (D)		1,65,000
Incremental Profit after further processing (C – D)		45,000
Additional net profit on further processing in Process II is 45,000. Therefore, it is advisable to process further chemical 'G'.		

Alternative Presentation

Calculation of Incremental Profit / Loss after further processing

	(₹)
If 60,000 units are sold @ ₹ 9	5,40,000
If 60,000 units are processed in process II (60,000 × 1.2 × ₹ 10)	7,20,000
Incremental Revenue (A)	**1,80,000**
Incremental Cost: (B)	
Material Cost	85,000
Processing Cost	50,000
	1,35,000
Incremental Profit (A-B)	45,000

Additional net profit on further processing in Process II is 45,000. Therefore, itis advisable to process further chemical 'G'.

Exam Insights: This numerical question was based on the topic Process costing for calculating equivalent units, cost for transferred units to Process-II, cost of abnormal loss, cost of closing work-in-progress and decision for processing in Process-II or sell after first process. Some of examinees faced hardship in the calculation of equivalent units; hence, the performance of the examinees was average.

Question 26 LDR

Navyug Ltd. manufactures chemical solutions for the food processing industry. The manufacturing takes place in a number of processes and the company uses a FIFO process costing system to value work-in-process and finished goods. At the end of the last month, a fire occurred in the factory and destroyed some of the paper files containing records of the process operations for the month.

Navyug Ltd. needs your help to prepare the process accounts for the month during which the fire occurred. You have been able to gather some information about the month's operating activities but some of the information could not be retrieved due to the damage. The following information was salvaged:

- Opening work-in-process at the beginning of the month was 900 litres, 70% complete for labour and 60% complete for overheads. Opening work-in-process was valued at ₹ 29,970.
- Closing work-in-process at the end of the month was 160 litres, 30% complete for labour and 20% complete for overheads.
- Normal loss is 10% of input and total losses during the month were 1,800 litres partly due to the fire damage.
- Output sent to finished goods warehouse was 4,200 litres.
- Losses have a scrap value of ₹ 20 per litre.
- All raw materials are added at the commencement of the process.
- The cost per equivalent unit (litre) is ₹39 for the month made up as follows:

	(₹)
Raw Material	23
Labour	7
Overheads	9
	39

REQUIRED:

(i) Calculate the quantity (in litres) of raw material inputs during the month.

(ii) Calculate the quantity (in litres) of normal loss expected from the process and the quantity (in litres) of abnormal loss / gain experienced in the month.

(iii) Calculate the values of raw material, labour and overheads added to the process during the month.

(iv) Prepare the process account for the month.

(MTP 10 Marks, Oct'21, RTP May'18) (Same concept different figures RTP May'20)

Answer 26

(i) Calculation of Raw Material inputs during the month:

Quantities Entering Process	Litres	Quantities Leaving Process	Litres
Opening WIP	900	Transfer to Finished Goods	4,200
Raw material input (balancing figure)	5,260	Process Losses	1,800
		Closing WIP	160
	6,160		6,160

(ii) Calculation of Normal Loss and Abnormal Loss/Gain

Particulars	Litres
Total process losses for month	1,800
Normal Loss (10% input)	526
Abnormal Loss (balancing figure)	1,274

(iii) Calculation of values of Raw Material, Labour and Overheads added to the process:

	Material	Labour	Overheads
Cost per equivalent unit	₹ 23.00	₹ 7.00	₹ 9.00
Equivalent units (litre) (refer the working note)	4,734	4,892	4,966
Cost of equivalent units	₹ 1,08,882	₹ 34,244	₹ 44,694
Add: Scrap value of normal loss (526 units × ₹ 20)	₹ 10,520	--	--
Total value added	₹ 1,19,402	₹ 34,244	₹ 44,694

Workings:

Statement of Equivalent Units (litre):

Input Details	Units	Output details	Units	Equivalent Production					
				Material		Labour		Overheads	
				Units	(%)	Units	(%)	Units	(%)
Opening WIP	900	Units completed:							
Units introduced	5,260	- Opening WIP	900	--	--	270	30	360	40
		- Fresh inputs	3,300	3,300	100	3,300	100	3,300	100

		Normal loss	526	--	--	--	--	--	--
		Abnormal loss	1,274	1,274	100	1,274	100	1,274	100
		Closing WIP	160	160	100	48	30	32	20
	6,160		6,160	4,734		4,892		4,966	

(iv) Process Account for Month

	Litres	Amount (₹)		Litres	Amount (₹)
To Opening WIP	900	29,970	By Finished goods	4,200	1,63,800
To Raw Materials	5,260	1,19,402	By Normal loss	526	10,520
To Wages	--	34,244	By Abnormal loss	1,274	49,686
To Overheads	--	44,694	By Closing WIP	160	4,304
	6,160	2,28,310		6,160	2,28,310

CHAPTER 11: JOINT PRODUCTS AND BY PRODUCTS

CONCEPTS OF THIS CHAPTER	
• Joint products and by-products: meaning. • Difference between joint products and by-products. • Methods of apportionment of joint costs. • Treatment of by-product costs in cost accounting.	LDR Questions Q 18 Q 19 Q 23

Questions & Answers

Theory Questions

Question 18 LDR

ABC Company produces a Product 'X' that passes through three processes: R, S and T. Three types of raw materials, viz., J, K, and L are used in the ratio of 40:40:20 in process R. The output of each process is transferred to next process. Process loss is 10% of total input in each process. At the stage of output in process T, a by-product 'Z' is emerging and the ratio of the main product 'X' to the by-product 'Z' is 80:20. The selling price of product 'X' is ₹60 per kg.

The company produced 14,580 kgs of product 'X'

Material price : Material J @ ₹ 15 per kg; Material K @ ₹ 9 per kg.

Material L@ ₹ 7 per kg Process costs are as follows:

Process	Variable cost per kg (₹)	Fixed cost of Input (₹)
R	5.00	42,000
S	4.50	5,000
T	3.40	4,800

The by-product 'Z' cannot be processed further and can be sold at ₹ 30 per kg at the splitoff stage. There is no realizable value of process losses at any stage.

Required:

Present a statement showing the apportionment of joint costs on the basis of the sales value of product 'X' and by-product 'Z' at the split- off point and the profitability of product 'X' and by-product 'Z'.

(PYP 10 Marks, May'23)

Answer 18

Working Notes:

1. Calculation of Input of Raw Material

Let assume total raw material in Process R be 100%

∴ Output of Process T will be equal to:

Input R	100%
10% Normal Loss	₹ 10
Input S	90%
10% Normal loss	₹ 9
Input T	81%
10% Normal loss	₹ 8.1
Output of T	72.9
Actual output of X	14,580 units
Which is 80% of the total output	
∴ Output of Process T	

$= \frac{14,580}{80\ \%} = 18,225$

∴ Input of Process R = $\frac{18225}{72.9\%}$ = 25,000 kgs

Alternative presentation for Calculation of Input in Process R, S and T

Working notes:

Process T (Kg.)			
To Input (Transfer from process S)	20,250	By Normal loss	2,025
		By Output Product X	14,580
		By output of by-product Z	3,645
	20,250		20,250
Process S (kg.)			
To Input (Transfer from process S)	22,500	By Normal loss (10%)	2,250
		By Transfer to process T	20,250
	22,500		22,500

Process R (kg.)			
To Input	25,000	By Normal loss (10%)	2,500
		By Transfer to process S	22,500
	25,000		25,000

2. Calculation of Joint Cost

Process	Inputs	Variable cost per kg	Variable cost	Fixed Cost	Total Cost
		₹	₹	₹	₹
R	25,000	5	1,25,000	42,000	1,67,000
S	25,000	4.5	1,01,250	5,000	1,06,250
T	25,000	3.4	68,850	4,800	73,650
					3,46,900
Raw material J	10000 x 15				₹ 1,50,000
K	10000 x 9				₹ 90,000
L	5000 x 7				₹ 35,000
					2,75,000
Add: Processing cost (as above)					₹ 3,46,900
Total Joint Cost					₹ 6,21,900

i) Statement showing apportionment of Joint Cost

Particulars	Product X	By-Product Z	Total
Units	14,580	3,645	
Selling price (₹)	60	30	
Sales Value (₹)	8,74,800	1,09,350	9,84,150
(₹ 6,21,900 to apportioned in ratio of sales value at split off point)	5,52,800	69,100	6,21,900

ii) Statement of Profitability

Particulars	Product X	By-Product Z	Total

Exam Insights: This numerical question was based on Joint and By- Product Costing. Examinees were asked to apportion the joint costs. The performance of most of the examinees was poor as they were not able to calculate the correct input of processes after adjustment for normal loss.

Sales Value	8,74,800	1,09,350	9,84,150
Joint Cost (As apportioned above)	(5,52,800)	(69,100)	(6,21,900)
Profit	3,22,000	40,250	3,62,250

Question 19 LDR

Wivitsu Limited manufactures three joint products A, B and C from a joint process. Product B is sold at split off point whereas product A and C are sold after further processing. 10% of the quantity of product A is lost in further processing. Data regarding these products for the year ending 31st March,2023 are as follows:

	A	B	C
Number of units produced and sold	**3,60,000**	**2,10,000**	**4,50,000**
Selling price per unit at split off point	**-**	**₹ 6**	**-**
Selling price per unit after further processing	**₹ 9.50**	**-**	**₹ 12**
Further processing costs	**₹ 8,60,000**	**-**	**₹10,40,000**

The joint production cost up-to the split off point at which A, B and C become separable products is ₹ 57,26,000.

Required:

(i) Prepare a statement showing apportionment of joint cost to the products using Net realizable value method.

(ii) Assume Wivitsu Limited has received an offer from D Limited to purchase product 'A' at the split off point at ₹ 7 per unit and another company PQR Limited has offered to purchase product 'C' at split off point at 9 per unit.

Advise whether these offers should be accepted or not? ***(PYP 5 Marks, Nov'23)***

Answer 19

(i) Statement showing apportionment of joint cost to the products using NRV method

Particulars	Product A (₹)	Product B (₹)	Product C (₹)
Sales value	34,20,000 (3,60,000 x ₹ 9.5)	12,60,000 (2,10,000 x ₹ 6)	54,00,000 (4,50,000 x ₹ 12)
Less: Further processing cost	8,60,000	-	10,40,000
Net Realisable Value	25,60,000	12,60,000	43,60,000
Apportionment of Joint cost of ₹ 57,26,000 in the ratio of 256:126:436	17,92,000	8,82,000	30,52,000

(ii) Decision whether to Process further or not

Particulars	Product A (₹)	Product C (₹)
Incremental Revenue	9,00,000 (₹ 9.5-₹ 7) x 3,60,000	13,50,000 (₹ 12- ₹ 9) x 4,50,000
Less: Further processing cost	8,60,000	10,40,000
Less: wastage if further processed	2,80,000 ₹ 7 x (3,60,000*10%/90%)	-
Incremental profit/(loss)	**(2,40,000)**	**3,10,000**

On comparing incremental sales revenue with further processing cost, there is net loss of ₹ 2,40,000 in case of product A and profit of ₹ 3,10,000 in case of product C. Hence **offer of D Ltd should be accepted and Product A should be sold at split off point** Whereas product C should be **sold after further processing.**

The solution can also be presented in following way:

Profit from further processing

Particulars	Product A (₹)	Product C (₹)
Sales Revenue	34,20,000 (3,60,000 x 9.5)	54,00,000 (4,50,000 x 12)
Less: Joint cost	17,92,000	30,52,000
Less: Further processing cost	8,60,000	10,40,000
(i) Profit/(loss)	**7,68,000**	**13,08,000**

Profit from Accepting offer (Sale at separation point)

Particulars	Product A (₹)	Product C (₹)
Sales Revenue	28,00,000	40,50,000

	(3,60,000/0.90) x 7	(4,50,000 x 9)
Less: Joint cost	17,92,000	30,52,000
(ii) Profit/(loss)	**10,08,000**	9,98,000
Incremental profit (loss) (i)-(ii)	**(2,40,000)**	**3,10,000**

On comparing profit at separation point with further processing profit, there is net loss of ₹ 2,40,000 in case of product A and profit of ₹ 3,10,000 in case of product C. Hence **offer of D Ltd should be accepted and Product A should be sold at split off point** Whereas product C should be **sold after further processing.**

Exam Insights: Question on joint products and by products requiring apportionment of joint cost to the products using Net realizable value method and evaluating and advising on whether to sell the products at split off point or after further processing based on the da ta given in the question. Most of the examinees did not take the correct sales quantity figure for calculation of net realizable value of one of the products 'As', which resulted in wrong calculation of NRV. This in turn resulted in wrong apportioning of joint cost. Overall performance was below average.

Question 23 LDR

A company processes a raw material in its Department 1 to produce three products, viz. A, B and X at the same split-off stage. During a period 1,80,000 kgs of raw materials were processed in Department 1 at a total cost of ₹ 12,88,000 and the resultant output of A, B and X were 18,000 kgs, 10,000 kgs and 54,000 kgs respectively. A and B were further processed in Department 2 at a cost of ₹ 1,80,000 and ₹ 1,50,000 respectively.

X was further processed in Department 3 at a cost of ₹ 1,08,000. There is no waste in further processing. The details of sales affected during the period were as under:

	A	B	X
Quantity Sold (kgs.)	17,000	5,000	44,000
Sales Value (Rs.)	12,24,000	2,50,000	7,92,000

There were no opening stocks. If these products were sold at split-off stage, the selling prices of A, B and X would have been ₹ 50, ₹ 40 and ₹ 10 per kg respectively.

Required:

(i) Prepare a statement showing the apportionment of joint costs to A, B and X.

(ii) Present a statement showing the cost per kg of each product indicating joint cost and further processing cost and total cost separately.

(iii) Prepare a statement showing the product wise and total profit for the period.

(iv) State with supporting calculations as to whether any or all the products should be further processed or not. ***(RTP May'18, RTP May'19 MTP 10 Marks Sep '23)***

Answer 23

(i) Statement showing the apportionment of joint costs to A, B and X

Products	A	B	X	Total
Output (kg)	18,000	10,000	54,000	
Sales value at the point of split off (Rs.)	9,00,000 (Rs. 50 x 18,000)	4,00,000 (Rs. 40 x 10,000)	5,40,000 (Rs. 10 x 54,000)	18,40,000
Joint cost apportionment on the basis of sales value at the point of split off (Rs.)	6,30,000 $\left(\frac{Rs.12,88,000}{Rs.18,40,000} \times Rs.\,9,00,000\right)$	2,80,000 $\left(\frac{Rs.12,88,000}{Rs.18,40,000} \times Rs.\,4,00,000\right)$	3,78,000 $\left(\frac{Rs.12,88,000}{Rs.18,40,000} \times Rs.\,5,40,000\right)$	12,88,000

(ii) Statement showing the cost per kg. of each product (indicating joint cost; further processing cost and total cost separately)

Products	A	B	X
Joint costs apportioned (Rs.) : (I)	6,30,000	2,80,000	3,78,000
Production (kg) : (II)	18,000	10,000	54,000
Joint cost per kg (Rs.): (I ÷ II)	35	28	7

Further processing Cost per kg. (Rs.)	10 $\left(\frac{Rs.1,80,000}{18,000kg}\right)$	15 $\left(\frac{Rs.1,50,000}{10,000kg}\right)$	2 $\left(\frac{Rs.1,08,000}{54,000kg}\right)$
Total cost per kg (Rs.)	45	43	9

(iii) Statement showing the product wise and total profit for the period

Products	A	B	X	Total
Sales value (Rs.)	12,24,000	2,50,000	7,92,000	
Add: Closing stock value (Rs.) (Refer to Working note 2)	45,000	2,15,000	90,000	
Value of production (Rs.)	12,69,000	4,65,000	8,82,000	26,16,000
Apportionment of joint cost (Rs.)	6,30,000	2,80,000	3,78,000	
Add: Further processing cost (Rs.)	1,80,000	1,50,000	1,08,000	
Total cost (Rs.)	8,10,000	4,30,000	4,86,000	17,26,000
Profit (Rs.)	4,59,000	35,000	3,96,000	8,90,000

Working Notes

1.

Products	A	B	X
Sales value (Rs.)	12,24,000	2,50,000	7,92,000
Quantity sold (Kgs.)	17,000	5,000	44,000
Selling price Rs./kg	72 $\left(\frac{Rs.12,24,000}{17,000kg}\right)$	50 $\left(\frac{Rs.2,50,000}{5,000kg}\right)$	18 $\left(\frac{Rs.7,92,000}{44,000kg}\right)$

2. Valuation of closing stock:

Since the selling price per kg of products A, B and X is more than their total costs, therefore closing stock will be valued at cost.

Products	A	B	X	Total
Closing stock (kgs.)	1,000	5,000	10,000	
Cost per kg (Rs.)	45	43	9	
Closing stock value (Rs.)	45,000 (Rs. 45 x 1,000 kg)	2,15,000 (Rs. 43 x 5,000 kg)	90,000 (Rs.9x10,000 kg)	3,50,000

(iv) Calculations for processing decision

Products	A	B	X
Selling price per kg at the point of split off (Rs.)	50	40	10
Selling price per kg after further processing (Rs.) (Refer to working Note 1)	72	50	18
Incremental selling price per kg (Rs.)	22	10	8
Less: Further processing cost per kg (Rs.)	(10)	(15)	(2)
Incremental profit (loss) per kg (Rs.)	12	(5)	6

Product A and X has an incremental profit per unit after further processing, hence, these two products may be further processed. However, further processing of product B is not profitable hence, product B shall be sold at split off point.

CHAPTER 12: SERVICE COSTING

CONCEPTS OF THIS CHAPTER	
• Cost accounting method for service sectors. • Units used in different service sectors. • KPIs used in service sectors. • Calculate costs for different service industries.	LDR Questions Q19 Q21 Q24 Q31

Questions & Answers

Theory Questions

Question 19 LDR

A LMV Pvt. Ltd, operates cab/ car rental service in Delhi/NCR. It provides its service to the offices of Noida, Gurugram and Faridabad. At present it operates CNG fuelled cars but it is also considering to upgrade these into Electric vehicle (EV). The following details related with the owning of CNG & EV propelled cars are as tabulated below:

Particulars	CNG Car	EV Car
Car purchase price (₹)	9,20,000	15,20,000
Govt. subsidy on purchase of car (₹)	--	1,50,000
Life of the car	15 years	10 years
Residual value (₹)	95,000	1,70,000
Mileage	20 km/kg	240 km per charge
Electricity consumption per full charge	--	30 Kwh
CNG cost per Kg (₹)	60	--
Power cost per Kwh (₹)	--	7.60
Annual Maintenance cost (₹)	8,000	5,200
Annual insurance cost (₹)	7,600	14,600
Tyre replacement cost in every 5 -year (₹)	16,000	16,000
Battery replacement cost in every 8- year (₹)	12,000	5,40,000

Apart from the above, the following are the additional information:

Particulars	
Average distance covered by a car in a month	1,500 km
Driver's salary (₹)	20,000 p.m
Garage rent per car (₹)	4,500 p.m
Share of Office & Administration cost per car (₹)	1,500 p.m

You have been approached by the management of A LMV Pvt. Ltd. for consultation on the two options of operating the cab service.

CALCULATE the operating cost of vehicle per month per car for both CNG & EV options.

(MTP 10 Marks, Apr'23, RTP May'24 & May '22)

Answer 19

Workings:

1. Calculation of Depreciation per month:

	Particulars	CNG Car	EV Car
(A)	Car purchase price (₹)	9,20,000	15,20,000
(B)	Less: Govt. subsidy (₹)	--	(1,50,000)

(C)	Less: Residual value (₹)	(95,000)	(1,70,000)
(D)	Depreciable value of car (₹) [A-B-C]	8,25,000	12,00,000
(E)	Life of the car	15 years	10 years
(F)	Annual depreciation (₹) [D÷E]	55,000	1,20,000
(G)	**Depreciation per month (₹) [F÷12]**	**4,583.33**	**10,000**

2. Fuel/ Electricity consumption cost per month:

	Particulars	**CNG Car**	**EV Car**
(A)	Average distance covered in a month (KM)	1,500	1,500
(B)	Mileage (KM)	20	240
(C)	Qty. of CNG/ Full charge required [A÷B]	75 kg.	6.25
(D)	Electricity Consumption [C×30kwh]	-	187.5
(E)	Cost of CNG per kg (₹)	60	-
(F)	Power cost per Kwh (₹)	-	7.60
(G)	**CNG Cost per month (₹) [C×E]**	**4,500**	**-**
(H)	**Power cost per month (₹) [D×F]**	**-**	**1,425**

3. Amortized cost of Tyre replacement:

	Particulars	**CNG Car**	**EV Car**
(A)	Life of vehicle	15 years	10 years
(B)	Replacement interval	5 years	5 years
(C)	No. of time replacement required	2 times	1 time
(D)	Cost of tyres for each replacement (₹)	16,000	16,000
(E)	Total replacement cost (₹) [C×D]	32,000	16,000
(F)	Amortized cost per year (₹) [E÷A]	2,133.33	1,600
(G)	**Cost per month (₹) [F÷12]**	**177.78**	**133.33**

4. Amortized cost of Battery replacement:

	Particulars	**CNG Car**	**EV Car**
(A)	Life of vehicle	15 years	10 years
(B)	Replacement interval	8 years	8 years
(C)	No. of time replacement required	1 time	1 time
(D)	Cost of battery for each replacement (₹)	12,000	5,40,000
(E)	Total replacement cost (₹) [C×D]	12,000	5,40,000
(F)	Amortized cost per year (₹) [E÷A]	800	54,000
(G)	**Cost per month (₹) [F÷12]**	**66.67**	**4,500**

Calculation of Operating cost per month

	Particulars	**CNG Car (₹)**	**EV Car (₹)**
(A)	**Running cost:**		
	Fuel cost/ Power consumption cost [Refer WN-2]	4,500	1,425
(B)	**Maintenance cost:**		
	Annual Maintenance cost [Annual cost ÷12]	666.67	433.33
	Annual Insurance cost [Annual cost ÷12]	633.33	1,216.67
	Amortized cost of Tyre replacement [Refer WN-3]	177.78	133.33
	Amortized cost of Battery replacement[Refer WN-4]	66.67	4,500
		1,544.45	6,283.33
(C)	**Fixed cost:**		
	Depreciation [Refer WN-1]	4,583.33	10,000
	Driver's salary	20,000	20,000
	Garage rent	4,500	4,500
	Share of Office & Administration cost	1,500	1,500
		30,583.33	36,000
(D)	**Operating cost per month [A+B+C]**	**36,627.78**	**43,708.33**

Question 21 LDR

MKL Infrastructure built and operates 110 k.m. highway on the basis of Built-Operate- Transfer (BOT) for a period of 21 years. A traffic assessment has been carried out to estimate the traffic flow per day which shows the following figures:

Sr. No.	Type of vehicle	Daily traffic volume
1.	Two wheelers	44,500
2.	Car and SUVs	3,450
3.	Bus and LCV	1,800
4.	Heavy commercial vehicles	816

The following is the estimated cost of the project:

Sr. no.	Activities	Amount (₹ in lakh)
1	Site clearance	341.00
2	Land development and filling work	9,160.00
3	Sub base and base courses	10,520.00
4	Bituminous work	32,140.00
5	Bridge, flyovers, underpasses, Pedestrian subway, footbridge, etc.	28,110.00
6	Drainage and protection work	9,080.00
7	Traffic sign, marking and road appurtenance	8,810.00
8	Maintenance, repairing and rehabilitation	12,850.00
9	Environmental management	1,964.00
	Total Project cost	1,12,975.00

An average cost of ₹1,200 lakh has to be incurred on administration and toll plaza operation.

On the basis of the vehicle specifications (i.e. weight, size, time saving etc.), the following weights has been assigned to the passing vehicles:

Sr. No.	Type of vehicle	
1.	Two wheelers	5%
2.	Car and SUVs	20%
3.	Bus and LCV	30%
4.	Heavy commercial vehicles	45%

Required:

(i) CALCULATE the total project cost per day of concession period.

(ii) COMPUTE toll fee to be charged for per vehicle of each type, if the company wants earn a profit of 15% on total cost.

[Note: Concession period is a period for which an infrastructure is allowed to operate and recover its investment] *(MTP 10 Marks, Nov'21) (Same concept different figures MTP 10 Marks Oct'19, SM RTP Sep'24)*

Answer 21

(i) Calculation of total project cost per day of concession period:

Activities	Amount (₹ in lakh)
Site clearance	341.00
Land development and filling work	9,160.00
Sub base and base courses	10,520.00
Bituminous work	32,140.00
Bridge, flyovers, underpasses, Pedestrian subway, footbridge, etc	28,110.00
Drainage and protection work	9,080.00
Traffic sign, marking and road appurtenance	8,810.00
Maintenance, repairing and rehabilitation	12,850.00
Environmental management	1,964.00
Total Project cost	**1,12,975.00**
Administration and toll plaza operation cost	1,200.00
Total Cost	1,14,175.00
Concession period in days (21 years × 365 days)	7,665
Cost per day of concession period (₹ in lakh)	**14.90**

(ii) Computation of toll fee:

Cost to be recovered per day = Cost per day of concession period + 15% profit on cost
= ₹ 14,90,000 + ₹ 2,23,500 = ₹ 17,13,500
Cost Per equivalent vehicle = ₹ 17,13,500 / 76,444 units (Refer working note)
= ₹ 22.42 per equivalent vehicle

(iii) Vehicle type-wise toll fee:

Sr. No.	Type of vehicle	Equivalent cost [A]	Weight [B]	Toll fee per vehicle [A×B]
1.	Two wheelers	₹22.42	1	**22.42**
2.	Car and SUVs	₹22.42	4	**89.68**
3.	Bus and LCV	₹22.42	6	**134.52**
4.	Heavy commercial vehicles	₹22.42	9	**201.78**

Working Note:

The cost per day has to be recovered from the daily traffic. The each type of vehicle is to be converted into equivalent unit. Let's convert all vehicle types equivalent to Two-wheelers..

Sr. No.	Type of vehicle	Daily traffic volume [A]	Weight	Ratio [B]	Equivalent Two- wheeler [A×B]
1.	Two wheelers	44,500	0.05	1	44,500
2.	Car and SUVs	3,450	0.20	4	13,800
3.	Bus and LCV	1,800	0.30	6	10,800
4.	Heavy commercial vehicles	816	0.45	9	7,344
	Total				**76,444**

Question 24 LDR

A lodging home is being run in a small hill station with 100 single rooms. The home offers concessional rates during six off- season (Winter)months in a year when numbers of visitor are limited. During this period, half of the full room rent is charged. The management's profit margin is targeted at 20% of the room rent. The following are the cost estimates and other details for the year ending on 31st March. [Assume a month to be of 30 days].

(i) Occupancy during the season is 80% while in the off- season it is 40% only.

(ii) Total investment in the home is ₹ 200 lakhs of which 80% relate to buildings and balance for furniture and equipment.

(iii) Expenses:

- **Staff salary [Excluding room attendants] : ₹ 5,50,000**
- **Repairs to building : ₹ 2,61,000**
- **Laundry charges : ₹ 80,000**
- **Interior : ₹ 1,75,000**
- **Miscellaneous expenses : ₹ 1,90,800**

(iv) Annual depreciation is to be provided for buildings @ 5% and on furniture and equipment @ 15% on straight-line basis.

(v) Room attendants are paid ₹ 10 per room day on the basis of occupancy of the rooms in a month.

(vi) Monthly lighting charges are ₹ 120 per room, except in four months in winter when it is ₹ 30 per room.

You are required to WORK OUT the room rent chargeable per day both during the season and the off-season months on the basis of the foregoing information.

(SM Same concept different figures MTP 10 Marks, Oct '21, PYP 10 Marks Nov'19)

Answer 24

Working Notes:

(i) Total

Season	Occupancy (Room-days)	Equivalent Full Room charge days
Season – 80% Occupancy	100 Rooms × 80% × 6 months × 30 days in a month = 14,400 Room Days	14,400 Room Days × 100% = 14,400
Off-season – 40% Occupancy	100 Rooms × 40% × 6 months × 30 days in a month = 7,200 Room Days	7,200 Room Days × 50% = 3,600

Total Room Days	14,400 + 7,200 = 21,600 Room Days	18,000 Full Room days

(ii) Lighting Charges:

It is given in the question that lighting charges for 8 months is ₹120 per month and during winter season of 4 months it is ₹30 per month. Further it is also given that peak season is 6 months and off season is 6 months.

It should be noted that – being Hill station, winter season is to be considered as part of Off season. Hence, the non-winter season of 8 months include – Peak season of 6 months and Off season of 2 months.

Accordingly, the lighting charges are calculated as follows:

Season	Occupancy (Room-days)
Season & Non-winter – 80% Occupancy	100 Rooms × 80% × 6 months × ₹120 per month = ₹ 57,600
Off- season & Non-winter – 40% Occupancy (8 – 6 months)	100 Rooms × 40% × 2 months × ₹120 per month = ₹ 9,600
Off- season & -winter – 40% Occupancy months)	100 Rooms × 40% × 4 months × ₹ 30 per month = ₹ 4,800
Total Lighting charges	₹ 57,600+ 9,600 + 4,800 = ₹ 72,000

Statement of total cost:

	(₹)
Staff salary	5,50,000
Repairs to building	2,61,000
Laundry & Linen	80,000
Interior	1,75,000
Sundries Expenses	1,90,800
Depreciation on Building (₹ 200 Lakhs × 80% × 5%)	8,00,000
Depreciation on Furniture & Equipment (₹ 200 Lakhs × 20% × 15%)	6,00,000
Room attendant's wages (₹ 10 per Room Day for 21,600 Room Days)	2,16,000
Lighting charges	72,000
Total cost	29,44,800
Add: Profit Margin (20% on Room rent or 25% on Cost)	7,36,200
Total Rent to be charged	36,81,000

Calculation of Room Rent per day:

Total Cost / Equivalent Full Room days = ₹ 36,81,000/ 18,000 = ₹204.50

Room Rent during Season – ₹204.50

Room Rent During Off Season = ₹ 204.50 × 50% = ₹ 102.25

Question 31 LDR

Secure lifeline Ltd. operates in life insurance business. It launched a new insurance policy 'Total secure'. The company has incurred the following expenditures during the last year for the policy:

	₹
Cost of marketing of the policy	**74,58,000**
Sales support expenses	**18,89,250**
Policy issuance cost	**16,59,735**
Claims management cost	**2,07,240**
Policy development cost	**18,56,250**
Postage and logistics	**16,91,250**
Facilities cost	**25,14,600**
Policy servicing cost	**58,09,155**
Employees cost	**9,24,000**
IT cost	**1,22,62,800**
Office administration cost	**26,73,660**

Number of policies sold- 844.

Total insured value of policies - ₹ 1,640 crore.

Required:

(i) CALCULATE total cost for Professionals Protection Plus' policy segregating the costs into four main activities namely (a) Marketing and Sales support, (b) Operations, (c) IT and (d) Support functions.

(ii) CALCULATE cost per policy.

(iii) CALCULATE cost per rupee of insured value. *(MTP 5 Marks, Mar'23, SM, RTP Nov'18, PYP 5 Marks Jul'21)*

Answer 31

(i) Calculation of total cost for 'Professionals Protection Plus' policy

	Particulars	Amount (₹)	Amount (₹)
1.	**Marketing and Sales support:**		
	- Policy development cost	18,56,250	
	- Cost of marketing	74,58,000	
	- Sales support expenses	18,89,250	1,12,03,500
2.	**Operations:**		
	- Policy issuance cost	16,59,735	
	- Policy servicing cost	58,09,155	
	- Claims management cost	2,07,240	76,76,130
3.	**IT Cost**		1,22,62,800
4.	**Support functions**		
	- Postage and logistics	16,91,250	
	- Facilities cost	25,14,600	
	- Employees cost	9,24,000	
	- Office administration cost	26,73,660	78,03,510
	Total Cost		**3,89,45,940**

(ii) Calculation of Cost per policy $\frac{\text{Total Cost}}{\text{Number of policies}} = \frac{3,89,45,940}{844}$ = Rs. 46,144.48

(iii) Cost per rupee of insured value $\frac{\text{Total Cost}}{\text{Total insured value}} = \frac{3,89,45,940}{1,640 \text{ crore}}$ = Rs. 0.0024

CHAPTER 13: STANDARD COSTING

CONCEPTS OF THIS CHAPTER

- Meaning of standard cost and variances.
- Difference between controllable and uncontrollable variances.
- Analyse and compute variances for material, labour, and overheads.

LDR Questions
Q7 Q10
Q 13 Q18
Q 23

Questions & Answers

Theory Questions

Question 7 LDR

Banku manufacturing Ltd. is engaged in producing a item named 'ABC'. It produces 'ABC' in a batch of 100 kgs. Standard material inputs required for 100 kgs. of 'ABC' are as below:

Material	Quantity (in kgs.)	Rate per kg. (in ₹)
A	50	110
B	30	320
C	30	460

During the month of April, 2024, actual production was 50,000 kgs. of 'ABC' for which the actual quantities of material used for a batch and the prices paid thereof are as under:

Material	Quantity (in kgs.)	Rate per kg. (in ₹)
A	60	115
B	25	330
C	20	405

You are required to CALCULATE the following variances based on the above given information for the month of April, 2024 for Banku manufacturing Ltd.:

(i) Material Cost Variance;
(ii) Material Price Variance;
(iii) Material Usage Variance;
(iv) Material Mix Variance;
(v) Material Yield Variance. ***(RTP Jan'25)***

Answer 7

Material	SQ* × SP (₹)	AQ** × SP (₹)	AQ** × AP (₹)	RSQ*** × SP (₹)
A	27,50,000	33,00,000	34,50,000	26,24,600
	(25,000 kg. × ₹110)	(30,000 kg. × ₹110)	(30,000 kg. × ₹115)	(23,860 kg. × ₹110)
B	48,00,000	40,00,000	41,25,000	45,82,400
	(15,000 kg. × ₹320)	(12,500 kg. × ₹320)	(12,500 kg. × ₹320)	(14,320 kg. × ₹320)
C	69,00,000	46,00,000	40,50,000	65,87,200
	(15,000 kg. × ₹460)	(10,000 kg. × ₹460)	(10,000 kg. × ₹405)	(14,320 kg. × ₹460)
Total	1,44,50,000	1,19,00,000	1,16,25,000	1,37,94,200

* Standard Quantity of materials for actual output:

A	$= \frac{50 \text{ Kgs.}}{100 \text{ Kgs}} \times 50{,}000 \text{ kgs.} = 25{,}000 \text{ Kgs.}$

B	$= \frac{30 \text{ Kgs.}}{100 \text{ Kgs}} \times 50{,}000 \text{ kgs.} = 15{,}000 \text{ Kgs.}$
C	$= \frac{30 \text{ Kgs.}}{100 \text{ Kgs}} \times 50{,}000 \text{ kgs.} = 15{,}000 \text{ Kgs.}$

** Actual Quantity of Material used for actual output:

A	$= \frac{60 \text{ Kgs.}}{100 \text{ Kgs}} \times 50{,}000 \text{ kgs.} = 30{,}000 \text{ Kgs.}$
B	$= \frac{25 \text{ Kgs.}}{100 \text{ Kgs}} \times 50{,}000 \text{ kgs.} = 12{,}500 \text{ Kgs.}$
C	$= \frac{20 \text{ Kgs.}}{100 \text{ Kgs}} \times 50{,}000 \text{ kgs.} = 10{,}000 \text{ Kgs.}$

***Revised Standard Quantity (RSQ):

A	$= \frac{50 \text{ Kgs.}}{110 \text{ Kgs}} \times 52{,}500 \text{ kgs.} = 23{,}860 \text{ Kgs.}$
B	$= \frac{30 \text{ Kgs.}}{110 \text{ Kgs}} \times 52{,}500 \text{ kgs.} = 14{,}320 \text{ Kgs.}$
C	$= \frac{30 \text{ Kgs.}}{110 \text{ Kgs}} \times 52{,}500 \text{ kgs.} = 14{,}320 \text{ Kgs.}$

(i) Material cost variance = (Std. Qty. × Std. Price) – (Actual Qty. × Actual Price)
Or = (SQ × SP) – (AQ × AP)

A	= ₹27,50,000 - ₹34,50,000	= ₹7,00,000 (A)
B	= ₹48,00,000 - ₹41,25,000	= ₹6,75,000 (F)
C	= ₹69,00,000 - ₹40,50,000	= ₹28,50,000 (F)
		= ₹28,25,000 (F)

(ii) Material Price Variance = Actual Quantity (Std. Price – Actual Price)
= (AQ × SP) – (AQ × AP)

A	= ₹33,00,000 - ₹34,50,000	= ₹1,50,000 (A)
B	= ₹40,00,000 - ₹41,25,000	= ₹1,25,000 (A)
C	= ₹46,00,000 - ₹40,50,000	= ₹5,50,000 (F)
		= ₹2,75,000 (F)

(iii) Material Usage Variance = Std. Price (Std. Qty. – Actual Qty.)
Or = (SQ × SP) – (AQ × SP)

A	= ₹27,50,000 - ₹33,00,000	= ₹5,50,000 (A)
B	= ₹48,00,000 - ₹40,00,000	= ₹8,00,000 (F)
C	= ₹69,00,000 - ₹46,00,000	= ₹23,00,000 (F)
		= ₹25,50,000 (F)

(iv) Material Mix Variance = Std. Price (Revised Std. Qty. – Actual Qty.)
Or = (RSQ × SP) – (AQ × SP)

A	= ₹26,24,600 - ₹33,00,000	= ₹6,75,400 (A)
B	= ₹45,82,400 - ₹40,00,000	= ₹5,82,400 (F)
C	= ₹65,87,200 - ₹46,00,000	= ₹19,87,200 (F)
		= ₹18,94,200 (F)

(v) Material Yield Variance = Std. Price (Std. Qty. – Revised Std. Qty.)
Or = (SQ × SP) – (RSQ × SP)

A	= ₹27,50,000 - ₹26,24,600	= ₹1,25,400 (F)
B	= ₹48,00,000 - ₹45,82,400	= ₹2,17,600 (F)
C	= ₹69,00,000 - ₹65,87,200	= ₹3,12,800 (F)

Question 10 LDR

The standard output of a Product 'D' is 50 units per hour in manufacturing department of a Company employing 100 workers. In a 40 hours week, the department produced 1,920 units of product 'D' despite 5% of the time paid was lost due to an abnormal reason. The hourly wage rates actually paid were ₹ 12.40, ₹

12.00 and ₹ 11.40 respectively to Group 'A' consisting 10 workers, Group 'B' consisting 30 workers and Group 'C' consisting 60 workers. The standard wage rate per labour is same for all the workers. Labour Efficiency Variance is given ₹ 480 (F).

You are required to COMPUTE:

(i) Total Labour Cost Variance.

(ii) Total Labour Rate Variance.

(iii) Total Labour Gang Variance.

(iv) Total Labour Yield Variance, and

(v) Total Labour Idle Time Variance.*(RTP May'22, PYP 10 Marks Jul'21)*

Answer 10

Working Notes:

1. Calculation of Standard Man hours

When 100 workers work for 1 hour, the standard output is 50 units.

Standard man hours per unit = $\frac{100 \text{ hours}}{50 \text{ Units}}$ = **2 hours per unit**

2. Calculation of standard man hours for actual output:

= 1,920units x 2 hours **= 3,840 hours.**

3. Calculation of actual cost

Type of Workers	No of Workers	Actual Hours Paid	Rate (₹)	Amount (₹)	Idle Hours (5% of hours paid)	Actual hours Worked
Group 'A'	10	400	12.40	4,960	20	380
Group 'B'	30	1,200	12	14,400	60	1,140
Group 'C'	60	2,400	11.40	27,360	120	2,280
	100	**4,000**		**46,720**	**200**	**3,800**

4. Calculation of Standard wage Rate:

Labour Efficiency Variance	= 480F
(Standard hours for Actual production – Actual Hours) x SR	= 480F
(3,840 – 3,800) x SR	= 480
Standard Rate (SR)	**= ₹ 12 per hour**

(i) Total Labour Cost Variance

= (Standard hours x Standard Rate) – (Actual Hours x Actual rate)

= (3,840 x 12) – 46,720 **= 640A**

(ii) Total Labour Rate Variance

= (Standard Rate – Actual Rate) x Actual Hours

Group 'A' = (12 - 12.40) 400	=	160A
Group 'B' = (12 - 12) 1,200	=	0
Group 'C' = (12 – 11.40) 2,400	=	1,440F
		1,280F

(iii) Total Labour Gang Variance

= Total Actual Time Worked (hours) × {Average Standard Rate per hour of Standard Gang - Average Standard Rate per hour of Actual Gang*

*on the basis of hours worked

= 3,800 × (12- 3,840 X 12 / 3,800)

= **0**

[Note: As the number of workers in standard and actual is the same, there is no difference in mix ratio, so labour gang variance will be NIL]

(iv) Total Labour Yield Variance

= Average Standard Rate per hour of Standard Gang × {Total Standard Time (hours) - Total Actual Time worked (hours)}

= 12 x (3,840 – 3,800)

= 480F

(v) Total Labour idle time variance

= Total Idle hours x standard rate per hour

= 200 hours x 12

= 2,400A

EXAM INSIGHTS: This practical problem tested the basic knowledge of examinees on the topic of standard costing requiring computation of various labor variances. Most of the examinees had just written the formula of different variances. They did not understand how to calculate standard hours for actual output. Performance of the examinees was poor.

Question 13 LDR

PQR Alloys Ltd. uses a standard costing system. Budgeted information for the year:

Budgeted output	**84,000 units**
Variable Factory Overhead per unit	**₹ 16**
Standard time for one unit of output	**0.80 machine hour**
Fixed factory overheads	**₹ 6,72,000**
Actual results for the year:	
Actual output	**87,600 units**
Variable Overhead efficiency variance	**₹ 67,200 (A)**
Actual Fixed factory overheads	**₹ 7,05,000**
Actual variable factory overheads	**₹ 14,37,000**

Required:

Calculate the following variances clearly indicating Adverse(A) or Favorable (F):

(i) Variable factory overhead expenditure variance.

(ii) Fixed factory overhead expenditure variance.

(iii) Fixed factory overhead efficiency variance.

(iv) Fixed factory overhead capacity variance. ***(PYP 10 Marks, Nov'23)***

Answer 13

Calculation of actual hours

Standard rate per hour = $\frac{\text{Variable factory overhead per unit}}{\text{Standard time for one unit of output}} = \frac{₹16}{0.8}$ = ₹ 20

Variable Overhead Efficiency Variance:

(Standard hours for actual production – Actual hours) × Standard rate per hour

Let actual hours be x

[(87,600 × 0.8) – x] ×20 = -67,200

(70,080 – x) × 20 = -67,200

x = 73,440

(i) Variable Factory Overhead Expenditure Variance:

(Variable overhead at actual hours – Actual variable overheads)

$\left[\left(\frac{13,44,000}{67,200} \times 73,440\right) - 14,37,000\right]$

= 31,800 F

(ii) Fixed Factory Overhead Expenditure Variance:

Budgeted fixed overhead – Actual fixed overhead.

(6,72,000 – 7,05,000)= 33,000 A

(iii) Fixed Factory Overhead Efficiency Variance:

(Standard hours for actual production – Actual hours) × Standard rate per hour

(70,080 – 73,440) × 10 = 33,600 A

(iv) Fixed Overhead Capacity Variance:

(Actual hours - Budgeted hours) × Standard rate per hour

(73,440 - 67,200) ×10 = 62,400 F

The solution can also be presented in following way based on Quantity (units)

Calculation of standard quantity for actual hours:

Variable standard rate per unit (SR) = ₹ 16

Variable Overhead Efficiency Variance:

(SR x AQ) – (SR x standard quantity for Actual hours worked)

-67,200 = (16 x 87,600) – 16 x

-67200 = 14,01,600- 16 x
x = 14,68,800 / 16 = **91,800** (SQ for actual hours worked)

(i) **Variable Factory Overhead Expenditure Variance:**
(SR x SQ for actual hour worked – Actual variable overheads)
16 x 91,800 – 14,37,000 or 14,68,800 – 14,37,000 = 31,800 F

(ii) **Fixed Factory Overhead Expenditure Variance:**
Budgeted fixed overhead – Actual fixed overhead.
(6,72,000 – 7,05,000) = 33,000 A

(iii) **Fixed Factory Overhead Efficiency Variance:**
Standard rate per unit (SR) = 6,72,000 / 84,000 = ₹ 8 per unit
(SR x AQ) – (SR x standard quantity for Actual hours)
(8 x 87,600) – (8 x 91,800)
(7,00,800 – 7,34,400) = 33,600 A

(iv) **Fixed Overhead Capacity Variance:**
(SR x standard quantity for Actual hours - Budgeted fixed overheads)
(8 x 91800) – (6,72,000)
(7,34,400 – 6,72,000) = 62,400 F

EXAM INSIGHTS: Numerical question which tested the basic knowledge of examinees on the topic of standard costing. The examinees were required to calculate variable factory overhead expenditure variance and fixed overhead variances. Most of the examinees could calculate Fixed overhead expenditure variance correctly, however they could not calculate the actual hours worked during the year based on the data given in the question and hence could not proceed correctly with the other required variances. Overall performance of the examinees was below average.

Question 18

LDR

Ahaan Limited operates a system of standard costing in respect of one of its products 'AH1' which is manufactured within a single cost centre. Details of standard per unit are as follows:

- **The standard material input is 20 kilograms at a standard price of ₹ 24 per kilogram.**
- **The standard wage rate is ₹ 72 per hour and 5 hours are allowed to produce one unit.**
- **Fixed production overhead is absorbed at the rate of 100% of wages cost.**

During the month of April 2022, the following was incurred:

- **Actual price paid for material purchased @ ₹ 22 per kilogram.**
- **Total direct wages cost was ₹ 43,92,000**
- **Fixed production overhead cost incurred was ₹ 45,00,000**

Analysis of variances was as follows:

Variances	Favourable	Adverse
Direct material price	₹ 4,80,000	-
Direct material usage	₹ 48,000	
Direct labour rate	-	₹ 69,120
Direct labour efficiency	₹ 33,120	-
Fixed production overhead expenditure		₹ 1,80,000

You are required to CALCULATE the following for the month of April, 2022

(i) **Material cost variance**
(ii) **Budgeted output (in units)**
(iii) **Quantity of raw materials purchased (in kilograms)**
(iv) **Actual output (in units)**
(v) **Actual hours worked**
(vi) **Actual wage rate per labour hour**
(vii) **Labour cost variance**
(viii) **Production overhead cost variance *(RTP Nov'22)***

Answer 18

i. Direct Material Cost Variance
= Direct Material Price Variance + Direct Material Usage Variance
= ₹ 4,80,000 F + ₹ 48,000 F = ₹ 5,28,000 F

ii. Budgeted Output (units)

Fixed Production Overhead Expenditure Variance

= Budgeted Fixed Overhead - Actual Fixed Overheads

= Budgeted Output x Standard Overhead Rate - Actual Fixed Overheads

₹ 1,80,000 A = Budgeted Output x ₹ 360 (5 hrs @₹ 72) - ₹ 45,00,000

Budgeted Output = $\frac{₹45,00,000 - ₹1,80,000}{₹360}$ = **12,000 units**

iii. Quantity of Materials purchased (in kilograms)

Material Price Variance = Actual Usage (Standard Price per kg - Actual price per kg)

₹ 4,80,000 F = Actual Usage (₹ 24 - ₹ 22)

Actual usage in kgs = $\frac{₹4,80,000 - ₹1,80,000}{2}$ = 2,40,000 kgs

iv. Actual Output (units)

Actual Direct Wages	₹ 43,92,000
Direct labour rate variance	₹ 69,120 A
Direct labour efficiency variance	₹ 33,120 F
Standard labour cost for actual output	₹ 43,56,000

Actual Output = $\frac{\text{Standard labour cost for actual output}}{\text{Standard wage rate per unit}}$

= $\frac{₹4,3,56,000 - ₹1,80,000}{₹\ 360\ (72\ x\ 5)}$ = 12,100 units

Alternatively, let X be the actual quantity of output

Then, Standard Quantity of input for actual output 'X'

20X	= SQ
Material cost variance	= (SQ x SP) - (AQ x AP)
₹ 5,28,000	= (20 X x ₹ 24) - (2,40,000 kgs x ₹ 22)
480X	= ₹ 52,80,000 + ₹ 5,28,000
480X	= ₹ 58,08,000
X	= $\frac{₹\ 58,08,000}{480}$ = **12,100 units**

v. Actual hours worked

Labour Efficiency Variance	= Standard Labour Rate (Standard time for actual output - Actual time)
₹ 33,120 F	= ₹ 72 (5 hours x 12100 units - Actual time)
460 hours	= 60,500 hours - Actual time
Actual time	= 60,500 - 460 = 60,040 hours

vi. Actual wage rate per hour

Actual Wages paid	= ₹ 43,92,000
Actual hours worked	= 60,040 hours
Actual Wage rate per hour	= $\frac{₹\ 43,92,000}{60,040\ \text{hours}}$ = **₹ 73.15 per hour**

vii. Labour cost variance

= Labour rate variance + Labour efficiency variance

= ₹ 69,120 A + ₹ 33,120 F

= **₹ 36,000 A**

viii. Production Overhead Cost Variance

= Actual Output x Standard overhead rate - Actual Overheads Incurred

= 12,100 units x₹ 360 - ₹ 45,00,000

= ₹ 43,56,000 - ₹ 45,00,000

= ₹ 1,44,000 A

Question 23 LDR

Baby Moon Ltd. uses standard costing system in manufacturing one of its product 'Baby Cap'. The details are as follows:

Direct Material 1 Meter @ ₹ 60 per meter	**₹ 60**

Direct Labour 2 hour @ ₹ 20 per hour	₹ 40
Variable overhead 2 hour @ ₹ 10 per hour	₹ 20
Total	₹ 120

During the month of August, 10,000 units of 'Baby Cap' were manufactured. Details are as follows:

Direct material consumed	11,400 meters	@	₹ 58 per meter	
Direct labour Hours	?	@	?	₹ 4,48,800
Variable overhead incurred				₹ 2,24,400

Variable overhead efficiency variance is ₹ 4,000 A. Variable overheads are based on Direct Labour Hours.

You are required to CALCULATE the following Variances:

(a) Material Variances- Material Cost Variance, Material Price Variance and Material Usage Variance.

(b) Variable Overheads variances- Variable overhead Cost Variance, Variable overhead Efficiency Variance and Variable overhead Expenditure Variance.

(c) Labour variances- Labour Cost Variance, Labour Rate Variance and Labour Efficiency Variance.

(RTP Nov'21) (Same concept different figures MTP 10 Marks Aug'18, SM)

Answer 23

(i) Material Variances

Budget			Std. for actual			Actual		
Quantity (Meter)	Price (₹)	Amount (₹)	Quantity (Meter)	Price (₹)	Amount (₹)	Quantity (Meter)	Price (₹)	Amount (₹)
1	60	60	10,000	60	6,00,000	11,400	58	6,61,200

Material Cost Variance	**= (SQ × SP – AQ × AP)**
= 6,00,000 – 6,61,200	= ₹ 61,200 (A)
Material Price Variance	**= (SP – AP) AQ**
= (60 - 58) 11,400	= ₹ 22,800 (F)
Material Usage Variance	**= (SQ – AQ) SP**
= (10,000 – 11,400) 60	= ₹ 84,000 (A)

(ii) Variable Overheads Variances

Variable overhead cost Variance

= Standard variable overhead – Actual Variable Overhead

= (10,000 units × 2 hours × ₹ 10) – 2,24,400 = ₹ 24,400 (A)

Variable overhead Efficiency Variance

= (Standard Hours – Actual Hours) × Standard Rate per Hour

Let Actual Hours be 'X', then:

(20,000 – X) × 10	= 4,000 (A)
2,00,000 – 10X	= - 4,000
X	= 2,04,000 ÷ 10
Therefore, Actual Hours (X)	= 20,400

Variable overhead Expenditure Variance

= Variable Overhead at Actual Hours - Actual Variable Overheads

= 20,400 × ₹ 10 – 2,24,400 = ₹ 20,400 (A)

(ii) Labour variances

Budget			Std. for actual			Actual		
Hours	Rate (₹)	Amount (₹)	Hours	Rate (₹)	Amount (₹)	Hours	Rate (₹)	Amount (₹)
2	20	40	20,000	20	4,00,000	20,400	22*	4,48,800

*Actual Rate = ₹ 4,48,800 ÷ 20,400 hours = ₹ 22

Labour Cost Variance = (SH × SR) – (AH × AR)

= 4,00,000 – 4,48,800 = ₹ 48,800 (A)

Labour Rate Variance = (SR – AR) × AH

= (20 – 22) × 20,400 = ₹ 40,800 (A)

Labour Efficiency Variance = (SH – AH) × SR

= (20,000 – 20,400) × 20 = ₹ 8,000 (A)

CHAPTER 14: MARGINAL COSTING

CONCEPTS OF THIS CHAPTER	
• Meaning and characteristics of Marginal Costing. • Meaning of CVP Analysis and its use in short-term decisions. • Application of Break-even point, Margin of safety, and Angle of incidence. • Calculation of various formulae in CVP analysis. • Apply marginal costing and CVP in short-term decisions. • Difference between Marginal Costing and Absorption Costing.	LDR Questions Q 25 Q 30 Q 32

Questions & Answers

Question 25 LDR

A Limited manufactures three different products and the following information has been collected from the books of accounts:

	Products		
	S	T	U
Sales Mix	25%	35%	40%
Selling Price	₹ 600	₹ 800	₹ 400
Variable Cost	₹ 300	₹ 400	₹ 240
Total Fixed Costs			₹ 36,00,000
Total Sales			₹ 1,20,00,000

The company has currently under discussion, a proposal to discontinue the manufacture of Product U and replace it with Product M, when the following results are anticipated:

	Products		
	S	T	M
Sales Mix	40%	35%	25%
Selling Price	₹ 600	₹800	₹600
Variable Cost	₹ 300	₹400	₹300
Total Fixed Costs			₹ 36,00,000
Total Sales			₹1,28,00,000

Required

(i) Compute the PV ratio, total contribution, profit and Break-even sales for the existing product mix.

(ii) Compute the PV ratio, total contribution, profit and Break-even sales for the proposed product mix.

(MTP 10 Marks, Nov'21, RTP May '21 & May '22) (Same concept different figures SM)

Answer 25

(i) Computation of PV ratio, contribution and break-even sales for existing product mix

	Products			Total
	S	T	U	
Selling Price (₹)	600	800	400	
Less: Variable Cost (₹)	300	400	240	
Contribution per unit (₹)	300	400	160	
P/V Ratio (Contribution/Selling price)	50%	50%	40%	
Sales Mix	25%	35%	40%	

Contribution per rupee of sales (P/V Ratio × Sales Mix)	12.5%	17.5%	16%	46%
Present Total Contribution (₹ 1,20,00,000 × 46%)				₹55,20,000
Less: Fixed Costs				₹36,00,000
Present Profit				₹19,20,000
Present Break Even Sales (₹ 36,00,000/0.46)				₹ 78,26,087

(j) Computation of PV ratio, contribution and break-even sale for proposed product mix

	Products			
	S	T	M	Total
Selling Price (₹)	600	800	600	
Less: Variable Cost (₹)	300	400	300	
Contribution per unit (₹)	300	400	300	
P/V Ratio (Contribution/Selling price)	50%	50%	50%	
Sales Mix	40%	35%	25%	
Contribution per rupee of sales (P/V Ratio x Sales Mix)	20%	17.5%	12.5%	50%
Proposed Total Contribution (₹1,28,00,000 x 50%)				₹64,00,000
Less: Fixed Costs				₹36,00,000
Proposed Profit				₹28,00,000
Proposed Break Even Sales (₹36,00,000/0.50)				₹72,00,000

Question 30 LDR

An agriculture based company having 210 hectares of land is engaged in growing three different cereals namely, wheat, rice and maize annually. The yield of the different crops and their selling prices are given below:

	Wheat	Rice	Maize
Yield (in kgs per hectare)	2,000	500	100
Selling Price (₹ per kg)	20	40	250

The variable cost data of different crops are given below:

(All figures in ₹ per kg)

Crop	Labour charges	Packing Materials	Other variable expenses
Wheat	8	2	4
Rice	10	2	1
Maize	120	10	20

The company has a policy to produce and sell all the three kinds of crops. The maximum and minimum area to be cultivated for each crop is as follows:

Crop	Maximum Area (in hectares)	Minimum Area (in hectares)
Wheat	160	100
Rice	50	40
Maize	60	10

You are required to:

(i) Rank the crops on the basis of contribution per hectare.

(ii) Determine the optimum product mix considering that all the three cereals are to be produced.

(iii) Calculate the maximum profit which can be achieved if the total fixed cost per annum is ₹ ₹21,45,000.

(PYP 10 Marks, Nov'22) **(Assume that there are no other constraints applicable to this company)**

Answer 30

(i) Statement showing Ranking of crops on the basis of Contribution per hectare

Sr. No.	Particulars	Wheat	Rice	Maize
(i)	Sales price per kg (₹)	20	40	250
(ii)	Variable cost* per kg (₹)	14	13	150
(iii)	Contribution per kg (₹)	6	27	100

(iv)	Yield (in kgs per hectare)	2,000	500	100
(v)	Contribution per hectare (₹)	12,000	13,500	10,000
(vi)	Ranking	II	I	III

*Variable cost = Labour Charges +Packing Material+ Other Variable Expenses

Therefore, to maximize profits, the order of priority of production would be Rice, Wheat and Maize.

(ii) & (iii) Statement showing optimum product mix considering that all the three cereals are to be produced and maximum profit thereof

Sr. No.	Particulars	Wheat	Rice	Maize	Total
(i)	Minimum Area (in hectare)	100	40	10	150
(ii)	Remaining area (in hectare)				60
(iii)	Distribution of remaining area based on ranking considering Maximum area	50	10	-	60
(iv)	Optimum mix (in hectare)	150	50	10	210
(v)	Contribution per hectare (₹)	12,000	13,500	10,000	
(vi)	Total contribution (₹)	18,00,000	6,75,000	1,00,000	25,75,000
(vii)	Fixed cost (₹)				21,45,000
(viii)	Maximum Profit (₹)				4,30,000

Optimum Product Mix and calculation of maximum profit earned by company can also be presented as below

(ii) Optimum Product Mix:

Particular	Area (in hectares)	Yield (kg per hectare)	Total Production (in kgs)
(a) Maximum of Rice	50	500	25000
(b) Minimum of Maize	10	100	1000
(c) Balance of Wheat	150	2000	300000
	210		326000

(iii) Calculation of maximum profit earned by the company:

	Production (in kgs)	Contribution (₹ per kg)	Total contribution(₹)
(a) Rice	25,000	24	6,75,000
(b) Maize	1,000	100	1,00,000
(c) Wheat	3,00,000	6	18,00,000
Total contribution			25,75,000
Less: Total Fixed Cost per annum			(21,45,000)
Maximum profits earned by the company			4,30,000

Exam Insights: This Numerical question was based on marginal costing requiring ranking of crops based on contribution per hectare and thereafter determining optimum product mix and maximum profit that can be achieved. Many examinees calculated the contribution per hectare correctly but faltered in awarding ranks. A few examinees also made mistakes in calculating optimum product mix despite correctly calculating contribution and awarding ranks. Overall performance of the examinees was below average.

Question 32 LDR

The analysis of cost sheet of A Ltd. for the last financial year has revealed the following information for it's product R:

Elements of Cost	Variable Cost portion	Fixed Cost
Direct Material	30% of cost of goods sold	--
Direct Labour	15% of cost of goods sold	--
Factory Overhead	10% of cost of goods sold	₹ 2,30,000

General & Administration Overhead	2% of cost of goods sold	₹ 71,000
Selling & Distribution Overhead	4% of cost of sales	₹ 68,000

Last year 5,000 units were sold at ₹185 per unit.

You being an associate to cost controller of the A Ltd., CALCULATE:

(i) Break-even Sales (in rupees),

(ii) Profit earned during last year,

(iii) Margin of safety (in %) and

(iv) The profit if the sales were 10% less than the actual sales. ***(MTP 10 Marks, Oct'21, RTP May'24 & May'20)***

Answer 32

Workings:

Calculation of Cost of Goods Sold (COGS):

COGS	= {(DM- 0.3 COGS) + (DL- 0.15 COGS) + (FOH- 0.10 COGS + ₹ 2,30,000) + (G&AOH- 0.02 COGS +71,000)}
Or COGS	= 0.57 COGS + ₹ 3,01,000
Or COGS	$= \frac{₹\ 3,01,000}{0.43}$ = ₹ 7,00,000

Calculation of Cost of Sales (COS):

COS	= COGS + (S&DOH- 0.04 COS + ₹ 68,000)
Or COS	= ₹ 7,00,000 + (0.04 COS + ₹ 68,000)
	$= \frac{₹\ 7,68,000}{0.96}$ = ₹ 8,00,000

Calculation of total Fixed Costs:

Factory Overhead	₹ 2,30,000
General & Administration OH	₹ 71,000
Selling & Distribution OH	₹ 68,000
	₹ 3,69,000

Calculation of Variable Costs:

Direct Material	(0.3 × ₹ 7,00,000)	₹ 2,10,000
Direct Labour	(0.15 × ₹ 7,00,000)	₹ 1,05,000
Factory Overhead	(0.10 × ₹ 7,00,000)	₹ 70,000
General & Administration OH	(0.02 × ₹ 7,00,000)	₹ 14,000
Selling & Distribution OH	(0.04 × ₹ 8,00,000)	₹ 32,000
		₹ 4,31,000

Calculation of P/V Ratio:

P/V Ratio = $\frac{\text{Contribution}}{\text{Sales}} \times 100 = \frac{\text{Sales} - \text{variable costs}}{\text{Sales}} \times 100$

$= \frac{(₹\ 185\ \text{X}\ 5,000\ \text{units}) - ₹\ 4,31,000}{₹\ 185 \times 5,000\ \text{units}}$ x 100 = 53.41 %

(i) Break-Even Sales $= \frac{Fixed\ Costs}{P/v\ Ratio} = \frac{₹\ 3,69,000}{53.41\%}$ = ₹ 6,90,882

(ii) Profits earned during the last year
= (Sales – Total Variable Costs) – Total Fixed Costs
= (₹ 9,25,000 - ₹ 4,31,000) - ₹ 3,69,000
= ₹ 1,25,000

(iii) Margin of Safety (%) = $\frac{\text{Sales} - \text{Break even sales}}{\text{Sales}}$ X 100

$= \frac{₹\ 9,25,000 - ₹\ 6,90,882}{₹\ 9,25,000}$ X 100 = 25.31%

(iv) Profits if the sales were 10% less than the actual sales:
Profit = 90% (₹ 9,25,000 - ₹ 4,31,000) - ₹ 3,69,000
= ₹ 4,44,600 - ₹ 3,69,000 = ₹ 75,600

CHAPTER 15: BUDGET & BUDGETARY CONTROL

CONCEPTS OF THIS CHAPTER	
• Meaning of budget and budgetary control • Essentials of a budget • Objectives and importance of budget and control • Process of preparing budgets • Motivation in the budgeting process • Types of budgets • Difference between fixed and flexible budgets • Prepare fixed and flexible budgets	 **LDR Questions** **Q10 Q13** **Q16 Q26** **Q37**

Questions & Answers

Theory Questions

Question 10 — LDR

Define Budget Manual. What are the salient features of Budget Manual?
(PYP 5 Marks, Nov 22 RTP May '21 & Nov '19, MTP 5 Marks Nov'21, SM) (PYP 5 Marks Sep'24)

Answer 10

Budget Manual: The budget manual is a booklet specifying the objectives of an organisation in relation to its strategy. The budget is made to decide how much an organisation would earn and spend and in what manner. In the budget, the organisation sets its priorities too.

Effective budgetary planning relies on the provision of adequate information to the individuals involved in the planning process. Many of these information needs are contained in the budget manual. A budget manual is a collection of documents that contains key information for those involved in the planning process CIMA London defines budget manual as, 'A document which sets out the responsibilities of the persons engaged in, the routines of, and the forms and records required for, budgetary control'.

Contents of a budget manual: Typical budget manual may include the following:

(i) A statement regarding the objectives of the organisation and how they can be achieved through budgetary control;

(ii) A statement about the functions and responsibilities of each executive, both regarding preparation and execution of budgets;

(iii) Procedures to be followed for obtaining the necessary approval of budgets. The authority of granting approval should be stated in explicit terms. Whether, one two or more signatures are required on each document should be clearly stated;

(iv) A form of organisation chart to show who are responsible for the preparation of each functional budget and the way in which the budgets are interrelated.

(v) A timetable for the preparation of each budget.

(vi) The manner of scrutiny and the personnel to carry it out;

(vii) Reports, statements, forms and other record to be maintained.

(viii) The accounts classification to be employed. It is necessary that the framework within which the costs, revenue and other financial accounts are classified must be identical both in the accounts and budget department.

(ix) The reporting of the remedial action.

(x) The manner in which budgets, after acceptance and issuance, are to be revised or amended, these are

included in budgets and on which action can be taken only with the approval of top management

(xi) This will prevent the formation of a 'bottleneck' with the late preparation of one budget holding up the preparation of all others.

(xii) Copies of all forms to be completed by those responsible for preparing budgets, with explanations concerning their completion.

(xiii) A list of the organization's account codes, with full explanations of how to use them.

(xiv) Information concerning key assumptions to be made by managers in their budgets, for example the rate of inflation, key exchange rates, etc. (Any four points)

EXAM INSIGHTS: This theory question is on defining budget manual and its salient features. Most of the examinees were unable to answer it correctly. Performance of the examinees was poor.

Question 13 LDR

Following information is available for DK and Co.:

Standard working hours	**9 hours per day of 5 days per week**
Maximum capacity	**50 employees**
Actual working	**40 employees**
Actual hours expected to be worked per four week	**7,200 hours**
Std. hours expected to be earned per four weeks	**9,000 hours**
Actual hours worked in the four- week period	**6,750 hours**
Standard hours earned in the four- week period	**7,875 hours.**

The related period is of 4 weeks. In this period there was a one special day holiday due to national event.

You are required to CALCULATE the following ratios:

(i) Efficiency Ratio

(ii) Activity Ratio

(iii) Calendar Ratio

(iv) Standard Capacity Usage Ratio

(v) Actual Capacity Usage Ratio

(vi) Actual Usage of Budgeted Capacity Ratio *(RTP Nov'22, SM)*

Answer 13

Maximum Capacity in a budget period
= 50 Employees × 9 Hrs. × 5 Days × 4 Weeks = 9,000 Hrs.
Budgeted Hours
= 40 Employees × 9 Hrs. × 5 Days × 4 Weeks = 7,200 Hrs.
Actual Hrs.
= 6,750 Hrs
Standard Hrs. for Actual Output
= 7,875 Hrs.
Budget No. of Days
= 20 Days (4 Weeks x 5 Days)
Actual No. of Days
= 20 – 1 = 19 Days

(i) Efficiency Ratio = $\frac{\text{Standard Hrs}}{\text{Standard Hrs}} \times 100 = \frac{7{,}875 \text{ hours}}{6{,}750 \text{ hours}} \times 100 = 116.67\%$

(ii) Activity Ratio = $\frac{\text{Standard Hrs}}{\text{Budgeted Hrs}} \times 100 = \frac{7{,}875 \text{ hours}}{7{,}200 \text{ hours}} \times 100 = 109.375\%$

(iii) Calendar Ratio = $\frac{\text{Available working days}}{\text{Budgeted working days}} \times 100 = \frac{19 \text{ days}}{20 \text{ days}} \times 100 = 95\%$

(iv) Standard Capacity Usage Ratio = $\frac{\text{Budgeted Hours}}{\text{Max.possible hours in the budgeted period}} \times 100$

$$= \frac{7,200 \text{ hours}}{9,000 \text{ hours}} \times 100 = 80\%$$

(v) Actual Capacity Usage Ratio $= \frac{\text{Actual Hours worked}}{\text{max.possible working hours in a period}} \times 100$

$$= \frac{6,750 \text{ hours}}{9,000 \text{ hours}} \times 100 = 75\%$$

(vi) Actual Usage of Budgeted Capacity Ratio $= \frac{\text{Actual working Hours}}{\text{Budgeted Hours}} \times 100$

$$= \frac{6,750 \text{ hours}}{7,200 \text{ hours}} \times 100 = 93.75\%$$

Question 16 LDR

PQR Limited manufactures three products - Product X, Product Y and Product Z. The output for the current year is 2,50,000 units of Product X, 2,80,000 units of Product Y and 3,20,000 units of Product Z respectively. Selling price of Product X is 1.25 times of Product Z whereas Product Y can be sold at double the price at which product Z can be sold. Product Z can be sold at a profit of 20% on its marginal cost.

Other information are as follows:

	Product X	Product Y	Product Z
Direct Material Cost (Per unit)	₹ 20	₹ 20	₹ 20
Direct Wages Cost (per unit)	₹ 16	₹ 24	₹ 16

Raw material used for manufacturing all the three products is the same. Direct Wages are paid @ ₹ 4 per labour hour,

Total overhead cost of the company is ₹ 52,80,000 for the year, out of which ₹ 1 per labour hour is variable and the rest is fixed.

In the next year it is expected that sales of product X and product Z will increase by 12% and 15% respectively and sale of product Y will decline by 5%. The total overhead cost of the company for the next year is estimated at ₹ 55,08,000. The variable cost of ₹ 1 per labour hour remains unchanged.

It is anticipated that all other costs will remain same for the next year and there is opening and closing stock. Selling Price per unit of each product will remain unchanged in the next year.

Required:

Prepare a budget showing the current position and the position for the next year clearly indicating the total product-wise contribution and profit for the company as a whole. ***(PYP 10 Marks, May'23)***

Answer 16

i) Budget showing current position of total product wise contribution and profitability

	Particulars	Product X (₹)	Product Y (₹)	Product Z (₹)	Total (₹)
A	Direct material cost (per unit)	20	20	20	
B	Direct wages cost (per unit)	16	24	16	
C	Variable overhead per unit (Refer WN-1)	4	6	4	
D	Total variable cost/ Marginal cost per unit [A+B+C]	40	50	40	
E	Add: Profit [20% of D]	-	-	8	
F	Selling price unit [D+E]	-	-	48	
G	Price weight	1.25	2	1	

H	Selling price per unit [Selling price of Product Z × G]	60	96	48	
I	Contribution per unit [H-D]	20	46	8	
J	Quantity to be sold	2,50,000	2,80,000	3,20,000	
K	Total Contribution [J×I]	50,00,000	1,28,80,000	25,60,000	2,04,40,000
L	Fixed Overheads [Refer WN-1]				13,20,000
M	Profit				1,91,20,000

Working Notes:

1. Segregation of Overheads into variable and fixed in current year

	Particulars	Product X (₹)	Product Y (₹)	Product Z (₹)	Total (₹)
A	Total overhead cost	-	-	-	52,80,000
B	Labour hour per unit [Direct wages Cost ÷ Re.1]	4	6	4	
C	Quantity produced	2,50,000	2,80,000	3,20,000	
D	Total variable overhead cost [B×C]	10,00,000	16,80,000	12,80,000	39,60,000
E	Fixed overhead cost [A-D]				13,20,000

ii) Budget showing next year's position of total product wise contribution and profitability

	Particulars	Product X (₹)	Product Y (₹)	Product Z (₹)	Total (₹)
A	Selling price per unit	60	96	48	
B	Contribution per unit	20	46	8	
C	Quantity to be sold	2,80,000 [112% of 2,50,000]	2,66,000 [95% of 2,80,000]	3,68,000 [115% of 3,20,000]	
D	Total Contribution [B×C]	56,00,000	1,22,36,000	29,44,000	2,07,80,000
	Fixed Overheads [Refer WN-2]				13,20,000
	Profit				1,94,60,000

Working Notes:

2. Segregation of Overheads into variable and fixed in next year

	Particulars	Product X (₹)	Product Y (₹)	Product Z (₹)	Total (₹)
A	Total overhead cost	-	-	-	55,08,000
B	Labour hour per unit [Direct wages Cost ÷ Re.1]	4	6	4	
C	Quantity produced	2,80,000	2,66,000	3,68,000	
D	Total variable overhead cost [B×C]	11,20,000	15,96,000	14,72,000	41,88,000
E	Fixed overhead cost [A-D]				13,20,000

EXAM INSIGHTS: It is a numerical question based on Budgetary Control. Most of the examinees we're not able to segregate total overheads into fixed and variable overhead; hence, the remaining part of the question was not calculated correctly. The overall performance of the examinees were below average.

Question 26 LDR

M Ltd. is a public sector undertaking (PSU), produces a product A. The company is in process of preparing its

revenue budget for the year 2024. The company has the following information which can be useful in preparing the budget:

(i) **It has anticipated 12% growth in sales volume from the year 2023 of 4,20,000 tonnes.**

(ii) **The sales price of ₹ 23,000 per tonne will be increased by 10% provided Wholesale Price Index (WPI) increases by 5%.**

(iii) **To produce one tonne of product A, 2.3 tonnes of raw material are required. The raw material cost is ₹ 4,500 per tonne. The price of raw material will also increase by 10% if WPI increase by 5%.**

(iv) **The projected increase in WPI for 2024 is 4%**

(v) **A total of 6,000 employees works for the company. The company works 26 days in a month.**

(vi) **85% of employees of the company are permanent and getting salary as per 5- year wage agreement. The earnings per manshift (means an employee cost for a shift of 8 hours) is ₹ 3,000 (excluding terminal benefits). The new wage agreement will be implemented from 1st July 2024 and it is expected that a 15% increase in pay will be given.**

(vii) **The casual employees are getting a daily wage of ₹ 850. The wages in linked to Consumer Price Index (CPI). The present CPI is 165.17 points and it is expected to be 173.59 points in year 2024.**

(viii) **Power cost for the year 2023 is ₹ 42,00,000 for 7,00,000 units (1 unit = 1 Kwh). 60% of power is used for production purpose (directly related to production volume) and remaining are for employee quarters and administrative offices.**

(ix) **During the year 2023, the company has paid ₹ 60,00,000 for safety and maintenance works. The amount will increase in proportion to the volume of production.**

(x) **During the year 2023, the company has paid ₹ 1,20,000 for the purchase of diesel to be used in car hired for administrative purposes. The cost of diesel will increase by 15% in year 2024.**

(xi) **During the year 2023, the company has paid ₹ 6,00,000 for car hire charges (excluding fuel cost). In year 2024, the company has decided to reimburse the diesel cost to the car rental company. Doing this will attract 5% GST on Reverse Charge Mechanism (RCM) basis on which the company will not get GST input credit.**

(xii) **Depreciation on fixed assets for the year 2023 is ₹ 80,40,00,000 and it will be 15% lower in 2024.**

You being an associate to the budget controller of the company, PREPARE Revenue (Flexible) budget for the year 2024 and also show the budgeted profit/ loss for the year.*(RTP May'24 & May '22)*

Answer 26

Revenue Budget (Flexible Budget) of M Ltd. for the Year 2024

	Particulars	PY 2023	CY 2024
A	Sales Volume (Tonnes)	4,20,000	4,70,400 [112%×4,20,000]
B	Selling Price per tonne (₹)	23,000	23,000
		(₹ in lakh)	**(₹ in lakh)**
C	**Sales value [A×B]**	**96,600**	**1,08,192**
D	**Raw material Cost:**		
(i)	Qty. of Material [2.3 tonnes × A] (tonnes)	9,66,000	10,81,920
(ii)	Price per tonne (₹)	4,500	4,500
(iii)	**Total raw materialcost [(i)×(ii)]**	**43,470**	**48,686.40**
E	**Wages & Salary Cost:**		
(i)	Wages to casualemployees (15%×6,000 = 900 employees)	2,386.80 [900×26×12×₹850]	2,508.47 [900×26×12×₹893.33]
(ii)	Salary to permanentemployees (85%×6,000 = 5,100 employees)	47,736 [5100×26×12×₹3,000]	51,316.20 [(5100×26×6×₹3,000) + (5100×26×6×₹3,450)]
(iii)	**Total wages & salary[(i)+(ii)+(iii)]**	**50,122.80**	**53,824.67**
F	**Power cost:**		
(i)	For production (units)	4,20,000 [60%×7,00,000]	4,70,400 [112%×4,20,000]
(ii)	For employees & offices (units) [40%×7,00.000]	2,80,000	2,80,000

(iii)	Total Power consumption (units) [(i)+(ii)]	7,00,000	7,50,400
(iv)	Power rate per unit (₹) [₹42,00,000÷7,00,000]	6.00	6.00
(v)	Total power cost [(iii)×(iv)]	**42**	**45.024**
G	**Safety and maintenance Cost**	**60**	**67.20 [112%×4,20,000]**
H	**Diesel cost**	**1.2**	**-**
I	**Car Hire charge:**		
(i)	Car hire charge	6	6
(ii)	Fuel reimbursement cost	-	1.38 [115%×1.2]
(iii)	GST@5% on RCM basis [5%× (I +ii)]	-	0.369
(iv)	**Total Car hire charge cost [(i)+(ii)+(iii)]**	**6**	**7.749**
J	**Depreciation**	**8,040**	**6,834 [85%×8040]**
K	Total Cost [Sum of D to J]	1,01,742	1,09,465.043
L	**Profit/ (Loss) [C-L]**	**(5,142)**	**(1273.043)**

Question 37 LDR

V Ltd. produces and markets a very popular product called 'X'. The company is interested in presenting its budget for the second quarter of 2019.

The following information are made available for this purpose:

(i) It expects to sell 50,000 bags of 'X' during the second quarter of 2019 at the selling price of ₹ 900 per bag.

(ii) Each bag of 'X' requires 2.5 kgs. of a raw – material called 'Y' and 7.5 kgs. of raw – material called 'Z'.

(iii) Stock levels are planned as follows:

Particulars	Beginning of Quarter	End of Quarter
Finished Bags of 'X' (Nos.)	15,000	11,000
Raw – Material 'Y' (Kgs.)	32,000	26,000
Raw – Material 'Z' (Kgs.)	57,000	47,000
Empty Bag (Nos.)	37,000	28,000

(iv) 'Y' cost Rs.120 per Kg., 'Z' costs Rs.20 per Kg. and 'Empty Bag' costs Rs.80 each.

(v) It requires 9 minutes of direct labour to produce and fill one bag of 'X'. Labour cost is Rs.50 per hour.

(vi) Variable manufacturing costs are Rs.45 per bag. Fixed manufacturing costs Rs.30,00,000 per quarter.

(vii) Variable selling and administration expenses are 5% of sales and fixed administration and selling expenses are Rs.20,50,000 per quarter.

Required

(i) PREPARE a production budget for the said quarter.

(ii) PREPARE a raw–material purchase budget for 'Y', 'Z' and 'Empty Bags' for the said quarter in quantity as well as in rupees.

(iii) COMPUTE the budgeted variable cost to produce one bag of 'X'.

(iv) PREPARE a statement of budgeted net income for the said quarter and show both per unit and total cost data. ***(MTP 10 Marks, Oct'19 & April '23) (Same concept different figures SM)***

Answer 37

(i) Production Budget of 'X' for the Second Quarter

Particulars	Bags (Nos.)
Budgeted Sales	50,000
Add: Desired Closing stock	11,000
Total Requirements	61,000
Less: Opening stock	15,000
Required Production	46,000

(ii) Raw–Materials Purchase Budget in Quantity as well as in Rs. for 46,000 Bags of 'X'

Particulars	'Y' Kgs.	'Z' Kgs.	Empty Bags Nos.
Production Requirements	2.5	7.5	1.0

Per bag of 'X'			
Requirement for Production	1,15,000 (46,000 × 2.5)	3,45,000 (46,000 × 7.5)	46,000 (46,000 × 1)
Add: Desired Closing Stock	26,000	47,000	28,000
Total Requirements	1,41,000	3,92,000	74,000
Less: Opening Stock	32,000	57,000	37,000
Quantity to be purchased	1,09,000	3,35,000	37,000
Cost per Kg./Bag	₹120	₹20	₹80
Cost of Purchase (₹)	1,30,80,000	67,00,000	29,60,000

(iii) Computation of Budgeted Variable Cost of Production of 1 Bag of 'X'

Particulars	**(₹)**
Raw – Material	
Y 2.5 Kg @120	300.00
Z 7.5 Kg. @20	150.00
Empty Bag	80.00
Direct Labour (Rs.50× 9 minutes / 60 minutes)	7.50
Variable Manufacturing Overheads	45.00
Variable Cost of Production per bag	582.50

(iv) Budgeted Net Income for the Second Quarter

Particulars	**Per Bag (₹)**	**Total (₹)**
Sales Value (50,000 Bags)	900.00	4,50,00,000
Less: Variable Cost:		
Production Cost	582.50	2,91,25,000
Admn. & Selling Expenses (5% of Sales Price)	45.00	22,50,000
Budgeted Contribution	272.50	1,36,25,000
Less: Fixed Expenses:		
Manufacturing		30,00,000
Admn. & Selling		20,50,000
Budgeted Net Income		85,75,000

CHAPTER 16: CASE SCENARIOS

LDR Questions
CS 3
CS 11
CS 18

CS 3 (RTP May'24) (Chapter 4- Overheads: Absorption Costing Method) LDR

During half year ending inter departmental review meeting of P Ltd., cost variance report was discussed and the performance of the departments were assessed. The following figures were presented.

For a period of first six months of the financial year, following information were extracted from the books:

Actual production overheads	₹ 34,08,000
The above amount is inclusive of the following paymentsmade:	
Paid as per court's order	₹ 4,50,000
Expenses of previous year booked in current year	₹ 1,00,000
Paid to workers for strike period under an award	₹ 4,20,000
Obsolete stores written off	₹ 36,000

Production and sales data for the six months are as under:

Production:	
Finished goods	1,10,000 units
Works-in-progress	
(50% complete in every respect)	80,000 units
Sale:	
Finished goods	90,000 units

Machine worked during the period was 3,000 hours.

At the of preparation of revenue budget, it was estimated that a total of ₹ 50,40,000 would be required for budgeted machine hours of 6,000 as production overheads for the entire year.

During the meeting, a data analytic report revealed that 40% of the over/under-absorption was due to defective production policies and the balance was attributable to increase in costs.

You were also present at the meeting; the chairperson of the meeting has asked you to be ready with the followings for the performance appraisal of the departmental heads:

1. How much was the budgeted machine hour rate used to recover overhead?

(a) ₹ 760 (b) ₹ 820
(c) ₹ 780 (d) ₹ 840

Ans: (d)

2. How much amount of production overhead has been recovered (absorbed) upto the end of half year end?

(a) ₹ 25,20,000
(b) ₹ 34,08,000
(c) ₹ 24,00,000
(d) ₹ 24,60,000

Ans: (a)

3. What is the amount of overhead under/ over absorbed?

(a) 1,18,000 over-absorbed
(b) 1,18,000 under- absorbed
(c) 18,000 over-absorbed
(d) 18,000 under-absorbed

Ans: (a)

4. **What is the supplementary rate for apportionment of over/under absorbed overheads over WIP, Finished goods and Cost of sales?**

(a) ₹ 0.315 per unit (b) ₹ 0.472 per unit

(c) ₹ 0.787 per unit (d) ₹ 1 per unit

Ans: (b)

5. **What is the amount of over/under absorbed overhead apportioned to Work in Progress?**

(a) ₹ 9,440

(b) ₹ 42,480

(c) ₹ 18,880

(d) ₹ 70,800

Ans: (c)

CS 11 (MTP 10 Marks July'24) (Chapter 14-Marginal Costing) LDR

XYZ Manufacturing Pvt. Ltd. is a prominent company in the electric appliances industry, known for producing a diverse range of high-quality products. The company has built a reputation for reliability and innovation in the manufacturing of household appliances, including fans, mixers, and heaters. XYZ Manufacturing Pvt. Ltd. is dedicated to delivering products that meet the needs of its customers while adhering to the highest standards of quality and performance.

The company operates a state-of-the-art factory that is fully equipped with advanced machinery and technology to ensure efficient and consistent production. The factory operates 25 days a month, running multiple shifts to meet the growing demand for its products. The company have spare capacity to additional orders. Each product type—fans, mixers, and heaters—undergoes a meticulous manufacturing process that includes assembly, quality testing, and packaging.

Cost Category	Amount (₹)
Fixed Costs (per month)	
Factory Rent	₹ 3,00,000
Depreciation	₹ 2,00,000
Administrative Expenses	₹ 1,00,000
Salaries	₹ 4,00,000
Total Fixed Costs	₹ 10,00,000
Number of units produced per month (Note: Last month there was an additional special order of 2000 units which resulted in higher production)	10,000 units
Selling price per unit	₹ 1,500

Additional Info: Raw Materials include Copper, Plastic, and Other Materials. The per unit cost of Copper is ₹ 80 more than the cost of Plastic, while the cost of Other Materials is twice that of Plastic. And the total Raw Material Cost per unit is ₹ 210 more than the combined cost of Copper & Plastic.

The Labour Hour Rate is ₹ 100 per hour. The total labour hours used in the last month were 36,000 Hours. The Utilities Cost per unit is ₹ 100, and the Packaging Cost per unit is ₹ 50. Being a finance manager of the company, you are required to answer the following:

1. **Calculate the contribution margin per unit.**

(a) ₹ 550 (b) ₹ 600

(c) ₹ 650 (d) ₹ 700

Ans:(a)

2. **Determine the break-even point in sales revenue.**

(a) ₹ 31,28,593 (b) ₹ 25,85,153

(c) ₹ 27,27,025 (d) ₹ 27,05,983

Ans: (c)

3. **If the company wants to achieve a target profit of ₹ 5,00,000, what should be the sales volume (in units)?**

(a) 2,000 units (b) 2,727 units

(c) 2,750 units (d) 3,000 units

Ans: (b)

4. What would be the impact on the break-even point if the variable cost per unit increases by 10%?

(a) 2,178 units (b) 2,198 units

(c) 2,248 units (d) 2,258 units

Ans: (b)

5. Calculate the margin of safety in percentage if the company sells 4,000 units if the variable cost per unit increases by 10%

(a) 44.85 % (b) 42.55 %

(c) 45.05 % (d) 45.75 %

Ans: (c)

CS 18 (MTP 10 Marks Nov'24) (Chapter 13- Standard Costing) LDR

XYZ Manufacturing Ltd. is a mid-sized enterprise that has established a strong reputation in the field of precision engineering. The company specializes in producing high-quality engineering components that meet the stringent requirements of various industries including automotive, aerospace, medical devices, and industrial machinery. With a commitment to precision and excellence, XYZ Manufacturing Ltd. has positioned itself as a reliable supplier of critical components that demand the highest levels of accuracy and durability. To maintain stringent control over its production costs and enhance cost efficiency, XYZ Manufacturing Ltd. operates under a standard costing system. This system plays a pivotal role in the company's financial and operational management. Standard costing involves setting predetermined costs for each production element, including materials, labor, and overheads. These predetermined costs, known as standard costs, serve as benchmarks against which actual production costs are measured.

Particulars	Budgeted Data	Actual Data
Units Produced	10,000 units	9,500 units
Fixed Overheads	₹ 20,00,000	₹ 19,50,000 + ₹ 1,00,000 (additional quality control cost for
		1,000 units chosen on sample basis)
Hours Worked	15,000 hours	14,250 hours
Variable Overhead Rate	₹ 50 per hour	₹ 50 per hour (first 10,000 hours) ₹ 60 per hour (additional hours)

Based on the given information, you are being required to answer the following questions (MCQs 1 to 5):

1. What is the Fixed Overhead Cost Variance for XYZ Manufacturing Ltd. in May 2024?

(a) ₹ 50,000 (A) (b) ₹ 1,00,000 (A)

(c) ₹ 1,50,000 (A) (d) ₹ 2,00,000 (A)

Ans: (c)

2. What is the Fixed Overhead Volume Variance for XYZ Manufacturing Ltd. in May 2024?

(a) ₹ 50,000 (F) (b) ₹ 50,000 (A)

(c) ₹ 1,00,000 (F) (d) ₹ 1,00,000 (A)

Ans: (d)

3. What is the Variable Overhead Efficiency Variance for XYZ Manufacturing Ltd. in May 2024?

(a) ₹ 37,500 (A) (b) ₹ 42,500 (A)

(c) ₹0 (d) ₹ 25,000 (A)

Ans: (c)

4. What is the Variable Overhead Expenditure Variance for XYZ Manufacturing Ltd. in May 2024?

(a) ₹ 40,000 (A) (b) ₹ 42,500 (A)

(c) ₹ 45,000 (A) (d) ₹ 45,030 (A)

Ans: (b)

5. What is the Fixed Overhead Expenditure Variance for XYZ Manufacturing Ltd. in May 2024?

(a) ₹ 50,000 (F) (b) ₹ 50,000 (A)

(c) ₹ 1,00,000 (F) (d) ₹ 1,00,000 (A)

Ans: (b)