PAPER – 4:
COST AND MANAGEMENT ACCOUNTING

QUESTIONS

PART I - Case Scenario based MCQs

Integrated

1. Mr. Linde is a German national, who came to India again on 1st April, 2024. He represents his company and wants to start business in India as well. His company expertise in the manufacturing of Industrial machines. Recently launched "Make in India" movement has motivated Mr. Linde thinks that this might be the perfect opportunity for his company to establish his company in India.

   Last, Mr. Linde came to India on 1st April, 2012. He purchased a land for ₹ 50,00,000 and constructed a building by spending ₹ 16,00,000. After that he opened a Private limited company in that building. He spent another ₹ 2,80,000 for this. He also employed 3 people for survey and to understand the need of Indian customers and spent ₹ 1,50,000 in salaries.

   He was disappointed in the response of market, who were importing everything from China back then. He closed the office & went back to Germany. All these years the office was closed and only an amount of ₹ 12,500 per month was paid to a guard and property tax was also paid. Property tax was paid on an average of ₹ 18,000 per year.

   Now when Mr. Linde is back, he opens the office and starts to plan on how this time he will capture the Indian market.

   Expenses started to incur as soon as the office opened:

- Salaries of staff ₹ 2,50,000 per month.
- Electricity, water, & maintenance of office at ₹ 50,000 per month.
- Security staff at ₹ 15,000 per month.

Linde plans to purchase a land in Manesar which will be used for the factory. After a search he found an appropriate land and purchased a land for ₹ 1.50 crores. He handed over the land to a SPV company of a REIT to build a state of the art facility for their factory. Factory will be built in 2 years. They will spend ₹ 85 lacs each year for this construction.

Linde, back in the Noida office, made 3 departments:

(1) Office and administration

(2) Sales and marketing

(3) Account and Finance

Expenses for these departments (except for salaries) are expected to be:-

- Office and administration = ₹ 95,000 per year
- Sales and marketing = ₹ 1,12,000 per year
- Accounts and Finance = ₹ 88,000 per year

Office overheads are to be bifurcated in these departments on the basis of their individual spending ratio.

Technology is developed in Germany but at present its execution is not required. Therefore, they do not require any expert as of now and also because the factory is not ready.

Mr. Linde, being the only person representing his company and lone German in the Indian office feels difficult to manage everything as he finds Indian corporate environment very challenging. He asked his company to deploy another German manager to India. This will cost the company additional two million Indian national rupee per year to relocate this additional manager in India. The German management is divided on this decision. The ones who disagree say "Mr. Linde is competent enough to run a small extension of our company in India. We will allocate more resources to Indian subsidiary when actual operations will start, till then everything can be managed by Mr. Linde alone. Right

Indian Company is itself a cost centre and we are already paying him 3.5 million INR annually, therefore we are not ready to invest until it starts generating revenue".

Linde has another opportunity to relocate the head office, also, to Manesar, where the factory building is being constructed. The distance between head office and factory will reduce greatly, which will be highly beneficial when the factory will become operative. He will have to sale the old office in Noida, which will be sold at ₹ 2.50 crores and purchase a ready-made building in Manesar for ₹ 3.75 crores. This new building will have larger space that can accommodate the future needs for space, when company will grow. It seems to be like perfect investment opportunity to Linde.

Expenses in this new building are expected to be:-

- Salaries of staff ₹ 3,00,000 per month
- Electricity, water, & maintenance of office at ₹ 80,000 per month.
- Security at ₹ 30,000 per month.

Indexed cost of building in Noida is ₹ 2.25 crores and tax on long-term capital gain is 12.5%.

On the basis of above information, answer the following 5 MCQs:

i. Find out an avoidable cost till the factory becomes operative. What is its value?

(a) 20,00,000

(b) 49,20,000

(c) 98,40,000

(d) 40,00,000

ii. Find out the total of Sunk and shut down cost in the given case study. Select the correct option from below.

(a) 4,30,000

(b) 70,30,000

(c) 24,46,000

(d) 90,46,000

iii. What is total out-of-pocket cost for the company in Noida branch, after factory land in Manesar is purchased, till the factory operation begins?

(a) 3,21,50,000

(b) 1,51,50,000

(c) 81,50,000

(d) 40,75,000

iv. What will be out of pocket expenses incurred in relocation of Head office to Manesar?

(a) 3,75,00,000

(b) 1,28,12,500

(c) 1,25,00,000

(d) 4,24,20,000

v. How much is the unexpired cost of the Noida office as on 1st October, 2024, if salaries to all the employees are paid till 31st March, 2025?

(a) 33,40,000

(b) 30,00,000

(c) 15,90,000

(d) 15,00,000

Activity based Costing

2. The HomeMart is the latest trending brand offering home improvement appliances with broadest selection of products with highly competitive prices. The sale is increasing year by year with huge multiples. Current year also the sales reached triple the last year. The reason being company having good customer support where it provides after sales assistance over phone per item sold. Though it costs only Re. 1 per item sold to the company, it enhanced to ₹ 49,15,200 last year making a huge impact on the total support cost.

All the company's appliances have been majorly categorised into three product lines namely Fancy fans, Home decors, Assembled furniture. During the current year, the company's revenue as generated is ₹ 3,80,88,000, ₹ 10,08,28,800 and ₹ 5,80,75,200 respectively. However, the cost of god sold is ₹ 2,88,00,000, ₹ 7,20,00,000 and ₹ 4,32,00,000 respectively.

In business, there's a saying "The packaging sells the product the first time, but what's inside sells the product a second time". Following the saying, the company has the policy of taking back the cartons of the products sold relating to Fancy fans to reduce the packaging cost. However, for smooth returning of cartons, the company has to incur certain carrier cost on its own which is ₹ 5,76,000 for the current year and allocating the same directly to the said product.

Some other information relating to each of the product lines is provided below:

	Fancy fans	Home decors	Assembled furniture
Items sold	12,09,600	1,05,98,400	29,37,600
Number of deliveries received	600	4,380	1,320
Number of purchase orders placed	720	1,680	720
Hours of shelf-stocking time	1,080	10,800	5,400

The company also provides the following basis of cost allocation:

Activity	Description of activity	Total Cost	Cost-allocation base
Delivery	Physical delivery and receipt of products	1,20,96,000	6,300 deliveries
Ordering	Placing of orders for purchases	74,88,000	3,120 purchase orders

Shelf stocking	Stocking of products in warehouse	82,94,400	17,280 hours of shelf-stocking time

The company wants you to FIGURE OUT the following to ascertain which of the product line is more profitable:

i. The total support cost and its percentage to the cost of goods sold would be:

(a) ₹ 3,33,69,600 and 23.17%

(b) ₹ 4,32,00,000 and 30%

(c) ₹ 3,33,69,600 and 30%

(d) ₹ 4,32,00,000 and 23.17%

ii. Operating income as a percentage of revenues of each product line, namely Fancy fans, Home decors, Assembled furniture, when all the support costs are allocated on the basis of cost of goods sold would be:

A. 6.87%, 12.05% and 8.38% respectively

B. 12.05%, 6.87% and 8.38% respectively

C. 1.70%, 7.17% and 3.30% respectively

D. 7.17%, 3.30% and 1.70% respectively

iii. The cost driver rate relating to Delivery, Ordering, Shelf stocking and Customer support would be:

(a) Delivery- ₹ 1,920 per delivery, Ordering- ₹ 2,400 per purchase order, Shelf stocking- ₹ 480 per stocking hour and Customer support- Re. 1 per item sold

(b) Delivery- ₹ 2,400 per delivery, Ordering- ₹ 1,920 per purchase order, Shelf stocking- ₹ 480 per stocking hour and Customer support- Re. 1 per item sold

(c) Delivery- ₹ 1,920 per delivery, Ordering- ₹ 2,400 per purchase order, Shelf stocking- ₹ 480 per stocking hour and Customer support- ₹ 3 per item sold

(d) Delivery- ₹ 480 per delivery, Ordering- ₹ 2,400 per purchase order, Shelf stocking- ₹1,920 per stocking hour and Customer support- ₹ 3 per item sold

iv. Operating income of each product line, namely Fancy fans, Home decors, Assembled furniture, when all the support costs are allocated using an activity-based costing system would be:

(a) ₹ 16,84,800, ₹ -2,05,92,000 and ₹ -7,92,000 respectively

(b) ₹ 3,64,03,200, ₹ 12,14,20,800 and ₹ 5,88,67,200 respectively

(c) ₹ 92,88,000, ₹ 2,88,28,800 and ₹ 1,48,75,200 respectively

(d) ₹ 41,04,000, ₹ 6,04,800 and ₹ 50,83,200 respectively

v. Operating income as a percentage of revenues of each product line, namely Fancy fans, Home decors, Assembled furniture, when all the support costs are allocated using an activity-based costing system would be:

(a) 4.42%, -20.42% and -1.36% respectively

(b) 10.78%, 0.60% and 8.75% respectively

(c) 24.39%, 28.59% and 25.61% respectively

(d) 4.39%, 8.59% and -1.36% respectively

Employee Cost and Direct Expenses

3. Mr. A works in a manufacturing company where he is paid bonus according to the Halsey 50% plan, besides the normal wages. The relevant data is as below:

Time Rate (per hour)	₹ 100
Time allowed	10 hours
Time taken	5 hours
Time saved	5 hours

Mr. A believes that his bonus under Halsey system is getting reduced by 50%, thus intending to shift towards Rowan Premium Plan.

You are required to CALCULATE the total earnings of Mr. A as per Halsey plan and Rowan Premium plan & ENUMERATE the reason for difference in both the earnings.

(a) Total earnings as per Halsey plan- ₹ 500 and as per Rowan Premium plan- ₹ 750. Earnings under Halsey Plan is lower than that of Rowan Premium plan as the bonus is getting reduced by 50%.

(b) Total earnings as per Halsey plan- ₹ 750 and as per Rowan Premium plan- ₹ 500. Earnings under Rowan Premium plan is lower than that of Halsey plan as the actual time taken is 50% of the time allowed.

(c) Total earnings as per Halsey plan- ₹ 750 and as per Rowan Premium plan- ₹ 750. When the actual time taken is 50% of the time allowed, the earnings under Halsey and Rowan Plans are equal.

(d) Total earnings as per Halsey plan- ₹ 250 and as per Rowan Premium plan- ₹ 250. Total earnings under both the Plans are equal as the time taken under both the plans are same.

Cost Accounting Systems

4. WHICH of the following is the correct journal entry as would appear in the cost books when Material (Direct) is issued to production?

(a)	Store Ledger Control A/c	Dr.	xxx	
	To Work-in-Process Control A/c			xxx
(b)	Store Ledger Control A/c	Dr.	xxx	
	To Production Overhead Control A/c			xxx
(c)	Production Overhead Control A/c	Dr.	xxx	
	To Store Ledger Control A/c			xxx
(d)	Work-in-Process Control A/c	Dr.	xxx	
	To Store Ledger Control A/c			xxx

Process & Operation Costing

5. A product passes through two processes. The output of Process-I is treated as the raw material of Process-II. The cost incurred at Process- II is as follows:

Particulars	Process-II (₹)
Transferred from Process-I A/c	27,85,700
Materials issued	10,00,000
Labour	2,00,000
Manufacturing overhead	5,00,000

The output of each process is as under:

Process	Output	Normal Loss
Process-I	48,750 units	2%
Process-II	47,000 units	5%

No stock of materials or of work-in-process was left at the end.

You are required to CALCULATE the value of Abnormal Gain/Loss in Process-II A/c.

(a) Abnormal Gain of ₹ 66,626

(b) Abnormal Loss of ₹ 66,626

(c) Abnormal Gain of ₹ 72,776

(d) Abnormal Loss of ₹ 72,776

Joint Products and By products

6. Sterling Industries manages various manufacturing processes. In process I, joint products P1 and P2 are produced in the ratio of 6:4 in units from the raw material input. A normal loss of 2% of the raw material input is expected in this process, with losses having a realizable value of ₹ 12.5 per kg. The company has no work in progress. The joint costs are apportioned between the joint products using the physical measure basis.

The following information relates to process I for last month:

Raw materials input	75,000 kg (at a cost of ₹ 4,76,250)
Direct labour	₹ 2,25,000
Direct expenses	₹ 67,500
Production Overheads	110% of direct labour cost
Abnormal gain	1,250 kg

You are required to CALCULATE the number of unit and its value of the Normal loss, Abnormal gain and joint products P1 & P2.

(a) Normal loss: 1,500 units ₹ 16,964; Abnormal gain: 1,250 units ₹ 18,750; Product P1: 44,850 units ₹ 6,08,678 and Product P2: 29,900 units ₹ 4,05,786.

(b) Normal loss: 1,250 units ₹ 18,750; Abnormal gain: 1,500 units ₹ 16,964; Product P1: 44,850 units ₹ 6,08,678 and Product P2: 29,900 units ₹ 4,05,786.

(c) Normal loss: 1,500 units ₹ 18,750; Abnormal gain: 1,250 units ₹ 16,964; Product P1: 44,850 units ₹ 6,08,678 and Product P2: 29,900 units ₹ 4,05,786.

(d) Normal loss: 1,500 units ₹ 18,750; Abnormal gain: 1,250 units ₹ 16,964; Product P1: 44,850 units ₹ 4,05,786 and Product P2: 29,900 units ₹ 6,08,678.

Marginal Costing

7. PR Ltd. sells two types of pen, ball pen and gel pen. Currently, the company is expecting to sell 6,000 units of ball pen along with 3,600 units of gel pen in the coming month. Other information as forecasted is provided below:

Particulars	Ball pen	Gel pen
Selling price (per unit)	₹ 150	₹ 100
Variable cost (per unit)	₹ 90	₹ 60
Contribution (per unit)	₹ 60	₹ 40
Fixed Costs		₹ 3,36,000

You are required to CALCULATE the Composite Break-even Batch and individual break-even of the pens (in units).

(a) Composite Break-even Batch- 6,400 batches, Break-even units of Ball pen- 4,000 units, Break-even units of Gel pen- 2,400 units.

(b) Composite Break-even Batch- 800 batches, Break-even units of Ball pen- 500 units, Break-even units of Gel pen- 300 units.

(c) Composite Break-even Batch- 800 batches, Break-even units of Ball pen- 4,000 units, Break-even units of Gel pen- 2,400 units.

(d) Composite Break-even Batch- 6,400 batches, Break-even units of Ball pen- 500 units, Break-even units of Gel pen- 300 units.

PART-II Descriptive Questions

Material Cost

8. Catalist Ltd. is a distributor of industrial chemicals, providing the chemical in drum packaging.

Each drum of the chemical costs ₹ 200 from a supplier and the company sells it for ₹ 240.

Annual demand is estimated to be for 2,50,000 drums.

The cost of delivery is estimated at ₹ 100 per order and the annual variable holding cost per drum at ₹ 180 plus 10% of purchase cost.

Based on above data, the managing director calculates the economic order quantity and suggests that it should serve as the foundation for purchasing decisions in upcoming periods.

However, the purchasing manager states that the managing director has ignored his share of bonus of 10% of the amount by which total annual inventory holding and order costs (before such remuneration) are below ₹ 2,00,000. He further points out that the suppliers also offer quantity discounts on purchase orders, i.e. if the order size is 1,000 drums or above, the price per drum is only ₹ 199.60, compared to ₹ 200 when an order is between 500 and 999 drums.

You are required to:

(i) CALCULATE the economic order quantity as calculated by the company's managing director.

(ii) COMMENT whether Catalist Ltd. can look forward to the quantity discount offered for purchasing 1,000 drums, after CALCULATING total cost considering purchasing manager's bonus along with supplier quantity discounts.

Employee Cost and Direct Expenses

9. Pi and Qu are part of a manufacturing team that handles multiple jobs within the production process. Detailed description of their respective monthly wages is provided below:

The standard working hours for the month are 210. Overtime is compensated at twice the sum of basic wages and dearness allowance. The employer's contributions to State Insurance and the Provident Fund are equal to the employees' contributions. Employees Pi and Qu were assigned to jobs A, S, and D in the following proportions:

Particulars	Pi	Qu
(i) Basic Wages (₹)	12,000	15,000
(ii) Dearness Allowance	50%	50%
(iii) Contribution to provident Fund (on basic wages)	10%	10%
(iv) Contribution to Employee's State Insurance (on basic wages)	1.75%	1.75%
(v) Overtime (Hours)	8	--

Jobs	A	S	D
Worker Pi	30%	30%	40%
Worker Qu	30%	50%	20%

Overtime was done on job S.

You are required to CALCULATE the earnings of Pi and Qu and allocate the employee cost to each job A, S, and D.

Overheads- Absorption Costing Method

10. X Corp. produces two products, X and Y. The production division is made up of two manufacturing departments, P1 and P2, along with two support departments, S1 and S2.

Pre-determined Overhead Rates are applied in the production departments to allocate factory overhead costs to the products. The rate for Department P1 is determined by direct machine hours, while Department P2's rate is based on direct labor hours.

A technical assessment of the apportionment of expenses of service departments is as under:

	Production Department	
	P_1	P_2
Service Dept. 'S_1' (ratio)	3	3
Service Dept. 'S_2' (ratio)	30	15

Following budgeted data is available:

Factory overheads for the year:

Production Departments		Service Departments	
P_1	P_2	S_1	S_2
₹ 2,80,50,000	₹ 2,39,25,000	₹ 66,00,000	₹ 49,50,000

Details relating to production of the Products X and Y is as follows:

	Products	
	X	Y
Budgeted output (units)	1,00,000	60,000
Budgeted raw-material cost per unit (All materials are used in Department P_1 only.)	₹ 660	₹ 825

Budgeted time required for production per unit	P_1: 1.5 machine hours P_2: 2 Direct labour hours	P_1: 1.0 machine hours P_2: 2.5 Direct labour hours
Average wage rate budgeted in Department P_2	₹ 396 per hour	₹ 412.50 per hour

Following actual data is available (for the month of December, 2024):

	Products	
	X	**Y**
Actual output (units)	8,000	6,000
Actual hours worked for production	P_1: 12,200 machine hours P_2: 16,400 Direct labour hours	P_1: 8,300 machine hours P_2: 14,800 Direct labour hours
Raw materials cost	₹ 53,79,000	₹ 50,16,000
Wages paid	₹ 65,10,900	₹ 60,72,000

Actual factory overheads incurred is as follows:

Production Departments		**Service Departments**	
P_1	**P_2**	**S_1**	**S_2**
₹ 25,41,000	₹ 22,44,000	₹ 6,60,000	₹ 5,28,000

You are required to:

(i) COMPUTE the pre-determined overhead rate for department P1 and P2.

(ii) PREPARE a comparative statement reflecting Budgeted cost and Actual cost for production of the Products X and Y during the month of December, 2024.

(iii) CALCULATE the amount of under/ over-absorption of production overheads

Cost Sheet

11. (a) The figures listed below are derived from the Trial Balance of EVS & Co. as of 31st March:

	Dr. (₹)	Cr. (₹)
Opening Inventories:		
Finished Stock	10,96,000	
Raw Materials	19,18,000	
Work-in-Process	27,40,000	
Office Appliances	2,38,380	
Plant & Machinery	63,08,850	
Building	27,40,000	
Sales		1,35,21,600
Sales Return and Rebates	1,91,800	
Cash discount allowed on sales	1,17,820	
Materials Purchased	43,84,000	
Freight incurred on Materials	2,19,200	
Purchase Returns		65,760
Direct employee cost	21,92,000	
Indirect employee cost	2,46,600	
Drawing and Designing cost	1,37,000	
Repairs and maintenance of factory	1,91,800	
Heat, Light and Power expenses	8,90,500	
Pollution Control Expenses	2,56,190	
Sales Commission	4,60,320	
Sales Promotion	3,08,250	
Distribution Deptt. - Salaries and Expenses	2,46,600	
Office - Salaries and Expenses	1,17,820	
Packing Cost to make the product marketable	3,15,100	

Printing and Stationery expenses	89,050	
Bank Charges paid	8,220	

Further details are available as follows:

(i)	**Closing Inventories:**	
	Finished Goods	₹ 15,75,500
	Raw Materials	₹ 24,66,000
	Work-in-Process	₹ 26,30,400
(ii)	Outstanding direct employee cost	₹ 1,09,600
(iii)	Depreciation to be provided on:	
	Office Appliances	15%
	Plant and Machinery	40%
	Buildings	10%
(iv)	70% of the Heat, Light and Power expenses is related to the Factory and the remaining 30% is equally shared between the Office and Selling Department.	
	Depreciation on Buildings is to be distributed at a similar percentage between the Factory, Office and the Selling Department as that of the Heat, Light and Power.	

With the help of the above information, you are required to PREPARE a condensed Profit and Loss Statement of EVS & Co. for the year ended 31st March along with the following schedules:

(i) Cost of Sales (showing Prime Cost, Gross Works Cost, Cost of production, Cost of Goods Sold and Cost of Sales)

(ii) Selling and Distribution Expenses.

(iii) Administration Expenses

Cost Accounting Systems

12. Amy Ltd. uses a batch costing system that is fully integrated with its financial accounts. Balances at the beginning of the period is provided below:

Particulars	(₹)
Stores Ledger Control Account	4,83,250
Work-in-Process Control Account	3,86,600
Finished Goods Control Account	6,76,550

Other information is as under:

Particulars	
Materials purchased during the period	14,49,750
Materials issued to production	5,79,900
Total wages paid (1/6th being indirect)	5,79,900
Direct wages charged to batches	3,86,600
Payment for non-productive time of direct workers	1/5th of direct wages paid
Production Overheads incurred	2,31,960
Sales	19,33,000
Cost of Finished Goods Sold	15,46,400
Cost of Goods completed and transferred into finished goods during the period	12,56,450
Physical value of Work-in-Process at the end of the period	7,73,200
Production overhead absorption rate	130% of direct wages charged to Work-in-Process

You are required to PREPARE the following accounts:

(i) Stores Ledger Control Account.

(ii) Wages Control Account.

(iii) Production Overhead Control Account.

(iv) Work-in-Process Control Account.

(v) Finished Goods Control Account.

(vi) Costing Profit and Loss Account.

Job and Batch Costing

13. X Ltd. provides the following cost details for calculating the selling price of Job No. X2X:

Particulars	Per unit (₹)
Materials	1,330
Direct wages 18 hours @ ₹ 47.50 (Deptt. X: 8 hours; Deptt. Y: 6 hours; Deptt. Z: 4 hours)	855
Chargeable expenses	95
	2,280
Add: 1/3rd for expenses cost	760
	3,040

Analysis of the Profit/Loss Account

(for the current financial year)

			(₹)		(₹)
Materials used			28,50,000	Sales	47,50,000
Direct wages:					
	Deptt. X	1,90,000			
	Deptt. Y	2,28,000			
	Deptt. Z	1,52,000	5,70,000		
Special stores items			76,000		
Overheads:					
	Deptt. X	95,000			
	Deptt. Y	1,71,000			
	Deptt. Z	38,000	3,04,000		
Works cost			38,00,000		
Gross profit c/d			9,50,000		
			47,50,000		47,50,000
Selling expenses			3,80,000	Gross profit b/d	9,50,000

Net profit			5,70,000 9,50,000		9,50,000

It is also noted that average hourly rates for the three Departments X, Y and Z are similar.

You are required to prepare a job cost sheet to DETERMINE the selling price by calculating the entire revised cost using above figures as the base and adding 20% to the total cost.

Process & Operation Costing

14. Following data are available for a product for the month of July, 2024:

Particulars	Process- I (₹)	Process- II (₹)
Opening work-in- progress	Nil	Nil
Costs incurred during the month:		
- Direct materials	6,00,000	
- Labour	1,20,000	1,60,000
- Factory overheads	2,40,000	2,00,000
Units of production:		
Received in process	40,000	36,000
Completed and transferred	36,000	32,000
Closing work-in-progress	2,000	?
Normal loss in process	2,000	1,500

Production remaining in process has to be valued as follows:

Materials 100% Labour 50% Overheads 50%

There has been no abnormal loss in Process- II.

The company follows weighted average method for valuing inventory.

PREPARE Process Accounts after working out the missing figures and with detailed workings.

Joint Products and By products

15. JB Ltd. manufactures three chemical products, XR, YS, and ZT. It processes input material in common plant facility to generate two

intermediate products, X and Y, in 4:1 proportion after a normal loss of 1/12th of the input material. There is no market for these two intermediate products. Thus, X is processed further through separate finishing process R to yield the product XR and Y is converted into product YS by a process S. The S finishing process also produces a waste material, Z, which has no market value. Thus, the company converts Z, after additional processing through process T, into a saleable by-product, ZT.

11,40,000 kg of the common input material are processed each month in common plant facility. And after the separate finishing processes (all losses are normal losses), proportions of XR, YS and ZT emerge as follows:

Product	Quantity (kg)	Market price per kg (₹)
XR	7,60,000	38.80
YS	1,90,000	72.00
ZT	19,000	24.00

The material and processing costs are as follows:

Particulars	Common plant facility (₹)	Separate finishing processes		
		R (₹)	S (₹)	T (₹)
Direct material	97,28,000	33,44,000	4,56,000	30,400
Direct labour	45,60,000	68,40,000	27,36,000	1,67,200
Factory overhead	24,32,000	22,80,000	9,12,000	1,06,400
Total	1,67,20,000	1,24,64,000	41,04,000	3,04,000

You are required to CALCULATE the cost per unit and total operating profit/loss attributed to both the products XR and YS considering all joint costs are allocated based on net realisable value method.

Service Costing

16. Mr. Intell newly sets up a Home Stay in Hanle, Ladakh offering two types of room, single and double. The expected occupancy percentage for the rooms is provided below:

Type of rooms	Number	Occupancy percentage
Single	20	100%
Double	10	80%

The details of the expenses as forecasted are provided below:

Particulars	(₹)
Staff salaries	30,20,000
Food and beverage costs	20,16,000
Lighting and power	8,60,000
Repairs and renovation	4,94,000
Laundry charges	3,22,000
Building rent	14,40,000
Miscellaneous expenses	6,12,000

Room attendants to be paid @ ₹ 125 per room day.

Mr. Intell knowing about the power cut during nights at Hanle to preserve the natural light for astronomical research, sets up emergency power backup, being charged from the customers separately @ ₹ 200 per room, if requested.

The rent of the double room is to be fixed at 1.5 times the single room.

In the month of June, Mr. Matrix along with his family visited Hanle Dark Sky Reserve to experience the breathtaking view of the stars. For one night stay at the place, he approached Mr. Intell to book a double bedroom and also requested for emergency power backup at night.

You are required to CALCULATE the rent to be charged from Mr. Matrix, considering the profit @ 25% on total taking.

(Assume 360 days in a year for calculation purpose.)

Standard Costing

17. COMPUTE the missing data indicated by the question marks from the following:

Particulars	A	B
Standard Price/ unit	₹ 12	₹ 15
Actual Price/ unit	₹ 15	₹ 20
Standard Input (kgs.)	50	?
Actual Input (kgs.)	?	70
Material Price Variance	?	?
Material Usage Variance	?	₹ 300 Adverse
Material Cost Variance	?	?

Material mix variance for both products together was ₹ 45 Adverse.

Marginal Costing

18. Gourmet Food Products is a new entrant in the market for chocolates. It has introduced a new product—Sweetee. This is a small rectangular chocolate bar. The bars are wrapped in aluminium foil and packed in attractive cartons containing 50 bars. A carton, is therefore, considered the basic sales unit. Although management had made detailed estimates of costs and volumes prior to undertaking this venture, new projections based on actual cost experience are now required.

Income Statements for the last two quarters are each thought to be representative of the costs and productive efficiency we can expected in the next few quarter. There were virtually no inventories on hand at the end of each quarter. The income statements reveal the following:–

	First Quarter (₹)	Second Quarter (₹)
Sales :		
50,000 × ₹ 24	12,00,000	—
70,000 × ₹ 24	—	16,80,000
Less: Cost of Goods Sold	7,00,000	8,80,000

Gross Margin	5,00,000	8,00,000
Less: Selling and Administration	6,50,000	6,90,000
Net Income / (Loss) before Taxes	(1,50,000)	1,10,000
Less: Tax	(60,000)	44,000
Net Income / (Loss)	(90,000)	66,000

The firm's overall marginal and average income tax rate is 40%. This 40% figure has been used to estimate the tax liability arising from the chocolate operations.

REQUIRED:

(a) Management would like to know the breakeven point in terms of quarterly carton sales for the chocolates.

(b) Management estimates that there is an investment of ₹ 30,00,000 in this product line. What quarterly carton sales and total revenue are required in each quarter to earn an after tax return of 20% per annum on investment?

(c) The firm's marketing people predict that if the selling price is reduced by ₹ 1.50 per carton (₹ 0.03 off per chocolate bar) and a ₹ 1,50,000 advertising campaign among school children is mounted, sales will increase by 20% over the second quarter sales. Should the plan be implemented?

Budgets and budgetary control

19. The budgets for activity and cost of PQR Ltd. for the first three quarters of operation are shown below:

Period Covered	**Budgets Quarters I – III**		
	Q – I	**Q – II**	**Q – III**
Months	**1 – 3**	**4 – 6**	**7 – 9**
	('000)	**('000)**	**('000)**
Activity :			
Sales (Units)	9	17	15
Production (Units)	10	20	15

Costs (₹) :			
Direct Material			
A	60	120	90
B	50	100	75
Production Labour	180	285	230
Manufacturing Overheads Excluding Depreciation	90	120	105
Depreciation of Production Machinery	20	20	20
Administration Expenses	25	25	25
Selling & Distribution Expenses	38	54	50

The figures shown above represent the costs structure of PQR Ltd., which have the following major features:

(i) Fixed element of any cost is completely independent of activity levels.

(ii) Any variable element of each cost displays a linear relationship with activity level, except that the variable labour cost become 50% higher for activity in excess of 19,000 units per quarter due to the necessity for overtime working.

(iii) The variable element of selling and distribution expenses is a function of sales. All other costs with a variable element are a function of production volume.

Activity for each quarter is spread evenly throughout that quarter.

In Quarter IV Production level will be set equal to sales level. Production and sales in this quarter is expected to range between 15,000 units and 21,000 units. The most likely volume is 18,000 units. In month 9 it will be possible to accurately estimate the sales for Quarter IV.

Cost structure will remain the same as in Quarters I to III except the following:

(i) Labour cost will rise by 12½%.

(ii) Variable labour input per unit of output will decrease, due to learning curve effect, such that 80% of the previous labour input per unit of output will be required in Quarter IV. The threshold for overtime working remains at 19,000 units per quarter.

(iii) Fixed factory overheads and the fixed element of selling and distribution costs will each rise by 20% (The variable element of selling and distribution costs will be unaltered.)

Required

(i) PREPARE a Statement to show, under each cost classification given in the budgets, the variable cost per unit and fixed costs which will be effective in Quarter IV.

(ii) PREPARE a flexible budget of production costs for the Quarter IV.

Miscellaneous

20. (a) DEFINE Product costs. Describe three different purposes for computing product costs.

(b) WHAT do you understand by Operating Costs? DESCRIBE its essential features and state where it can be usefully implemented?

(c) How apportionment of joint costs upto the point of separation amongst the joint products using market value at the point of separation and net realizable value method is done? DISCUSS.

(d) EXPLAIN:

(i) Pre-production Costs

(ii) Research and Development Costs

(iii) Training Costs

SUGGESTED ANSWERS

1. i. (d) Only avoidable cost is a new managers salary for 2 years

= ₹ 20,00,000 x 2 = ₹ 40,00,000

ii. (d) Shut down cost is the cost spent when the company was shut down for 12 years in India

= 12,500 x 12 x 12 + 18,000 x 12 = ₹ 20,16,000

Sunk cost are all the costs that was spent in 2012

= 50,00,000+16,00,000+2,80,000+1,50,000

= ₹ 70,30,000

Total = ₹ 90,46,000

iii. (a) Calculation

Particulars		Amount (₹)
Salary	2,50,000 x 12 x 2	60,00,000
Electricity, etc	50,000 x 12 x 2	12,00,000
Security	15,000 x 12months x 2 years	3,60,000
O&A	95,000 x 2 years	1,90,000
Sales	1,12,000 x 2 years	2,24,000
Accounts	88,000 x 2 years	1,76,000
Salary of linde	35,00,000 x 2	70,00,000
Construction	85,00,000 x 2	1,70,00,000
Total		**3,21,50,000**

iv. (b) Cost of new office = ₹ 3,75,00,000

Money received from sale of Noida office

= 2,50,00,000 – (2,50,00,000 – 2,25,00,000) x 12.5%

= ₹ 2,46,87,500

Out of pocket expenses for relocation of head office

= 3,75,00,000 – 2,46,87,500 = ₹ 1,28,12,500

v. (a) Unexpired cost = advance salary paid till march of next year

= (2,50,000+15,000) x 6months + 35,00,000/2 = ₹ 33,40,000

2. i. (b)

Total support cost	**(₹)**
Cartons returned	5,76,000
Delivery	1,20,96,000
Ordering	74,88,000
Shelf stocking	82,94,400
Customer support (₹ 49,15,200 x 3)	1,47,45,600
Total support cost	4,32,00,000
	(₹)
Fancy fans	2,88,00,000
Home decors	7,20,00,000
Assembled furniture	4,32,00,000
Total cost of goods sold (COGS)	14,40,00,000

Percentage of support cost to the cost of goods sold (COGS):

$$= \frac{\text{Total support cost}}{\text{Total cost of goods sold (COGS)}} \times 100$$

$$= \frac{4,32,00,000}{14,40,00,000} \times 100 = 30\%$$

ii. (c)

Particulars	**Fancy Fans (₹)**	**Home decors (₹)**	**Assembled furniture (₹)**
Revenue: (A)	3,80,88,000	10,08,28,800	5,80,75,200
Cost of Goods sold (COGS): (B)	2,88,00,000	7,20,00,000	4,32,00,000
Support cost (30% of COGS): (C) (as calculated in i. above)	86,40,000	2,16,00,000	1,29,60,000
Total cost: (D) = {(B) + (C)}	3,74,40,000	9,36,00,000	5,61,60,000

Operating income: E= {(A)-(D)}	6,48,000	72,28,800	19,15,200
Operating income as a percentage of revenues: (E/A) × 100)	**1.70%**	**7.17%**	**3.30%**

iii. (a)

Activity (1)	Total cost (₹) (2)	Cost allocation base (3)	Cost driver rate (4) = [(2) ÷ (3)]
Delivery	1,20,96,000	6,300 deliveries	₹ 1,920 per delivery
Ordering	74,88,000	3,120 purchase orders	₹ 2,400 per purchase order
Shelf-stocking	82,94,400	17,280 hours of shelf-stocking time	₹ 480 per stocking hour
Customer support	1,47,45,600	1,47,45,600 items sold	Re. 1 per item sold (given)

iv. (d)

	Fancy Fans (₹)	Home decors (₹)	Assembled furniture (₹)
Revenues: (A)	3,80,88,000	10,08,28,800	5,80,75,200
Cost & Goods sold	2,88,00,000	7,20,00,000	4,32,00,000
Carton return costs (Directly attributable to Fancy fans)	5,76,000	0	0
Delivery cost (₹ 1,920 per delivery)	11,52,000 (600 x ₹ 1,920)	84,09,600 (4,380 x ₹ 1,920)	25,34,400 (1,320 x ₹ 1,920)
Ordering cost (₹ 2,400 per purchase order)	17,28,000 (720 x ₹ 2,400)	40,32,000 (1,680 x ₹ 2,400)	17,28,000 (720 x ₹ 2,400)

Shelf stocking cost (₹ 480 per stocking hour)	5,18,400 (1,080 x ₹ 480)	51,84,000 (10,800 x ₹ 480)	25,92,000 (5,400 x ₹ 480)
Customer Support cost (₹ 1 per item sold)	12,09,600 (12,09,600 x ₹ 1)	1,05,98,400 (1,05,98,400 x ₹ 1)	29,37,600 (29,37,600 x ₹ 1)
Total Cost: (B)	3,39,84,000	10,02,24,000	5,29,92,000
Operating income: (C) = (A) - (B)	**41,04,000**	**6,04,800**	**50,83,200**

v. (b)

	Fancy Fans (₹)	**Home decors (₹)**	**Assembled furniture (₹)**
Operating income (from iv. Above) (A)	41,04,000	6,04,800	50,83,200
Revenues (B)	3,80,88,000	10,08,28,800	5,80,75,200
Operating income as a percentage of revenues: (A/B) × 100)	**10.78%**	**0.60%**	**8.75%**

3. (c) Calculation of total earnings:

As per Halsey 50% plan

= Time taken × Time rate + (50% of Time saved × Time rate)

= 5 hrs. × ₹ 100 + [1/2 × (5 hrs. × ₹ 100)]

= ₹ 500 + ₹ 250 **= ₹ 750**

As per Rowan Premium plan

$$=\text{Time taken} \times \text{Rate per hour} + \left(\frac{\text{Time Saved}}{\text{Time Allowed}} \times \text{Time taken} \times \text{Rate per hour}\right)$$

$$= 5 \text{ hours} \times ₹\ 100 + \left[\left(\frac{5 \text{ Hours}}{10 \text{ Hours}}\right) \times 5 \text{ hours} \times ₹\ 100\right]$$

= ₹ 500 + ₹ 250 **= ₹ 750**

When the actual time taken is 50% of the time allowed, the earnings under Halsey and Rowan Plans are equal.

4. (d) Work-in-Process Control A/c Dr. xxx

To Store Ledger Control A/c xxx

5. (a)

Dr.		Process-II Account					Cr.
	Particulars	**Units**	**Total (₹)**		**Particulars**	**Units**	**Total (₹)**
To	Process-I A/c	48,750	27,85,700	By	Normal Loss A/c (5% of 48,750 units)	2,438	--
"	Material	--	10,00,000	"	Output (₹ 96.858 × 47,000 units)	47,000	45,52,326
"	Labour	--	2,00,000				
"	Manufacturing OH	--	5,00,000				
"	Abnormal Gain A/c (₹ 96.858 × 688 units)	688	**66,626** (round off)				
		49,438	45,52,326			49,438	45,52,326

Cost per unit of completed units and abnormal gain:

$$= \left(\frac{\text{Total Cost}}{\text{Input units - Normal Loss}}\right)$$

$$= \left(\frac{₹\ 44,85,700}{48,750 \text{ units} - 2,438 \text{ units}}\right)$$

= ₹ 96.858

6. (c) **Process- I Account**

Particulars	Units	(₹)	Particulars	Units	(₹)
To Raw material	75,000	4,76,250	By Normal loss (W.N. (ii))	**1,500**	**18,750**

To Direct labour		2,25,000	By Output (W.N. (iii))		
To Direct expenses		67,500	P1 (W.N. (iv))	**44,850**	**6,08,678**
To Production overheads (W.N.(i))		2,47,500	P2 (W.N. (iv))	**29,900**	**4,05,786**
To Abnormal gain (W.N. (iv))	**1,250**	**16,964**			
	76,250	10,33,214		76,250	10,33,214

Working Note Working Notes (W.N.):

(i) Production overheads = 110% x 2,25,000

= ₹ 2,47,500

(ii) Normal loss = 2% x 75,000 = 1,500 kg at ₹ 12.5

= ₹ 18,750

(iii) Total output = 75,000 input + 1,250 abnormal gain - 1,500 normal loss

= 74,750 kg

P1 and P2 is produced in the ratio 6:4

P1 $= \left(\frac{6}{10}\right)$ x 74,750 = 44,850 kg

P2 $= \left(\frac{4}{10}\right)$ x 74,750 = 29,900 kg

(iv) Value of Abnormal Gain:

$$= \left(\frac{\text{Total Cost - Realisable value of normal loss}}{\text{Total input units - Normal Loss units}} \text{ x Abnormal Gain units}\right)$$

$$= \left(\frac{₹\ 4,76,250 + ₹\ 2,25,000 + ₹\ 67,500 + ₹\ 2,47,500 - ₹\ 18,750}{75,000 - 1,500 \text{ units}} \text{ x } 1,250 \text{ units}\right)$$

= ₹ 16,964

Value of Joint Products:

$$= \left(\frac{\text{Total Cost - Realisable value of normal loss}}{\text{Total input units - Normal Loss units}} \text{ x Output units}\right)$$

$$P1 = \left(\frac{₹\ 4,76,250 + ₹\ 2,25,000 + ₹\ 67,500 + ₹\ 2,47,500 - ₹\ 18,750}{75,000 - 1,500 \text{ units}} \text{ x } 44,850 \text{ units}\right)$$

= ₹ 6,08,679

$$P2 = \left(\frac{₹\ 4,76,250 + ₹\ 2,25,000 + ₹\ 67,500 + ₹\ 2,47,500 - ₹\ 18,750}{75,000 - 1,500 \text{ units}} \times 29,900 \text{ units}\right)$$

= ₹ 4,05,786

7. (c) PR Ltd. is expecting to sell 6,000 units of ball pen along with 3,600 units of gel pen, resulting in a sales mix of 5:3 per batch.

Thus, composite contribution per batch = (₹ 60 x 5 ball pens) + (₹ 40 x 3 gel pens)

= ₹ 420

$$\text{Composite Break-even Batch} = \left(\frac{\text{Commom fixed costs}}{\text{Composite contribution per batch}}\right)$$

$$= \left(\frac{₹\ 3,36,000}{₹\ 420}\right)$$

= 800 batches

Break-even units of Ball pen = 800 x 5= 4,000 units

Break-even units of Gel pen = 800 x 3= 2,400 units

8. (i) Economic order quantity (EOQ) as calculated by the company's managing director

$$\textbf{EOQ} = \sqrt{\frac{2AO}{C}}$$

where A = annual inventory requirement,

O = ordering cost per order and

C = carrying cost per unit per annum

$$= \sqrt{\frac{2 \times 2,50,000 \text{ drums} \times ₹\ 100}{[₹\ 180 + (10\% \text{ of } ₹\ 200)]}}$$

= 500 units

(ii) Comparison of total cost considering purchasing manager's bonus and supplier quantity discounts

Particulars		At EOQ of 500 units (₹)	If considered quantity discount at 1000 units (₹)
Ordering Cost	[(2,50,000 units/500 units) × ₹ 100]	50,000	
	[(2,50,000 units/1000 units) × ₹ 100]		25,000
Carrying Cost	{500 units/ 2 x [(₹ 180 + (10% of ₹ 200)]}	50,000	
	{1,000 units/ 2 x [(₹ 180 + (10% of ₹ 199.60)]}		99,980
		1,00,000	1,24,980
Purchasing manager's bonus	10% of (₹ 2,00,000 - ₹ 1,00,000)	10,000	
	10% of (₹ 2,00,000 - ₹ 1,24,980)		7,502
Annual inventory cost	2,50,000 units x ₹ 200	5,00,00,000	
	2,50,000 units x ₹ 199.60		4,99,00,000
Total Cost		**5,01,10,000**	**5,00,32,482**

In above comparison, the potential savings from purchasing in bulk outweigh the higher carrying costs associated with holding more inventory. Thus, Catalist Ltd. may look forward to the quantity discount offered at 1,000 units.

9. Statement showing Earnings of Workers Pi and Qu

	Pi (₹)	Qu (₹)
Basic wages	12,000	15,000
Dearness Allowance (50% of Basic Wages)	6,000	7,500
Overtime wages (Refer to Working Note)	1,371	--
Gross wages earned	19,371	22,500

Less: Contribution to Provident fund	(1,200)	(1,500)
Less: Contribution to ESI	(210)	(263)
Net wages earned	**17,961**	**20,737**

Statement of Employee Cost:

	Pi (₹)	Qu (₹)
Gross Wages (excluding overtime)	18,000	22,500
Add: Employer's contribution to PF	1,200	1,500
Add: Employer's contribution to ESI	210	263
Gross wages earned	19,410	24,263

Statement Showing Allocation of Wages to Jobs

	Total Wages (₹)	Jobs		
		A (₹)	S (₹)	D (₹)
Worker Pi:				
- Ordinary Wages (3: 3 : 4)	19,410	5,823	5,823	7,764
- Overtime	1,371	--	1,371	--
Worker Qu:				
- Ordinary Wages (3 : 5 : 2)	24,263	7,279	12,131	4,853
	45,044	13,102	19,325	12,617

Working Note:

$$\text{Over time} = 2 \times \left(\frac{\text{Basic wage + DA}}{210 \text{ hours}}\right) \times 8 \text{ hours}$$

$$= 2 \times \left(\frac{₹\ 18,000}{210 \text{ hours}}\right) \times 8 \text{ hours}$$

$$= ₹\ 1,371$$

10. (i) Computation of predetermined overhead rate for each production departments from budgeted data

	Production Department		Service Department	
	P_1	P_2	S_1	S_2
Budgeted factory overheads for the year (₹)	2,80,50,000	2,39,25,000	66,00,000	49,50,000
Allocation of service department S_1's costs to production departments P_1 and P_2 equally (₹)	33,00,000	33,00,000	(66,00,000)	—
Allocation of service department S_2's costs to production departments P_1 and P_2 in the ratio of 2:1 (₹)	33,00,000	16,50,000	—	(49,50,000)
Total	3,46,50,000	2,88,75,000	—	—
Budgeted machine hours in department P_1 (working note 1)	2,10,000	—		
Budgeted labour hours in department P_2 (working note 1)	—	3,50,000		
Budgeted machine/ labour hour rate (₹)	165	82.50		

(ii) Comparative statement reflecting Budgeted cost and Actual cost for production of the Products X and Y during the month of December, 2024

(When 8,000 and 6,000 units of products X and Y respectively were actually produced)

	Budgeted (₹)	Actual (₹)
Raw materials used in Dept. P_1:		
X : 8,000 units × ₹ 660	52,80,000	53,79,000

Y : 6,000 units × ₹ 825	49,50,000	50,16,000
Direct labour cost (on the basis of labour hours worked in department P_2)		
X : 8,000 units × 2 hrs. × ₹ 396	63,36,000	65,10,900
Y : 6,000 units × 2.5 hrs. × ₹ 412.50	61,87,500	60,72,000
Overhead absorbed on machine hour basis in Dept. P_1:		
X : 8,000 units × 1.5 hrs. × ₹ 165	19,80,000	19,18,084*
Y : 6,000 units × 1 hr. × ₹ 165	9,90,000	13,04,926*
Overhead absorbed on labour hour basis in Dept. P_2:		
X : 8,000 units × 2 hrs. × ₹ 82.50	13,20,000	14,45,496**
Y : 6,000 units × 2.5 hrs. × ₹ 82.50	12,37,500	13,04,472**

* (Refer to working note 4)

**(Refer to working note 5)

(iii) Amount of under/ over-absorption of production overheads

	Overhead absorbed	Overhead actually incurred	Overhead under/ over-absorbed
Overhead in Dept. P_1			
Product X	19,80,000	19,18,084	**₹ 61,916 over-absorbed**
Product Y	9,90,000	13,04,926	**₹ 3,14,926 under-absorbed**
Overhead in Dept. P_2			
Product X	13,20,000	14,45,496	**₹ 1,25,496 under-absorbed**
Product Y	12,37,500	13,04,472	**₹ 66,972 under-absorbed**

Working notes:

1.

	Product X	Product Y	Total
Budgeted output (in units)	1,00,000	60,000	
Budgeted machine hours in Dept. P_1	1,50,000 (1,00,000×1.5 hrs.)	60,000 (60,000×1 hr.)	2,10,000
Budgeted labour hours in Dept. P_2	2,00,000 (1,00,000×2 hrs.)	1,50,000 (60,000×2.5 hrs.)	3,50,000

2.

	Product X	Product Y	Total
Actual output (in units)	8,000	6,000	
Actual machine hours utilized in Dept. P_1	12,200	8,300	20,500
Actual labour hours utilised in Dept. P_2	16,400	14,800	31,200

3. Computation of actual overhead rates

	Production Department		Service Department	
	P_1	P_2	S_1	S_2
Actual factory overheads for the month of December, 2024 (₹)	25,41,000	22,44,000	6,60,000	5,28,000
Allocation of service Dept. S_1's costs to production Dept. P_1 and P_2 equally (₹)	3,30,000	3,30,000	(6,60,000)	–
Allocation of service Dept. S_2's costs to production Dept. P_1 and P_2 in the ratio of 2:1 (₹)	3,52,000	1,76,000	–	(5,28,000)
Total	32,23,000	27,50,000	--	--
Actual machine hours in Dept. P_1 (working note 2)	20,500	--		
Actual labour hours in Dept. P_2 (working note 2)	--	31,200		
Actual machine/ labour hour rate (₹)	157.22	88.14		

4. Actual overheads absorbed in Department P_1 (based on machine hours)

X : 12,200 hrs × ₹ 157.22 = ₹ 19,18,084

Y : 8,300 hrs × ₹ 157.22 = ₹ 13,04,926

5. Actual overheads absorbed in Department P_2 (based on labour hours)

X : 16,400 hrs × ₹ 88.14 = ₹ 14,45,496

Y : 14,800 hrs × ₹ 88.14 = ₹ 13,04,472

11. Profit and Loss Statement of EVS & Co. for the year ended 31st March

Particulars	(₹)	(₹)
Gross Sales	1,35,21,600	
Less: Returns and rebates	(1,91,800)	1,33,29,800
Less: Cost of Sales [See Schedule (i)]		(**1,20,21,887**)
Net Operating Profit		13,07,913
Less: Cash discount allowed on sales		(1,17,820)
Net Profit		**11,90,093**

(i) Schedule of Cost of Sales

Particulars	(₹)	(₹)
Raw Material (Inventory opening balance)		19,18,000
Add: Material Purchased	43,84,000	
Add: Freight on Material	2,19,200	
Less: Purchase Returns	(65,760)	45,37,440
		64,55,440
Less: Closing Raw Material Inventory		(24,66,000)
Materials consumed in Production		39,89,440
Direct employee cost (₹ 21,92,000 + ₹ 1,09,600)		23,01,600

	Prime Cost		**62,91,040**
Factory Overheads:			
Indirect employee cost		2,46,600	
Drawing and Designing cost		1,37,000	
Repairs and maintenance of factory		1,91,800	
Heat, Light and Power (₹ 8,90,500 × 70%)		6,23,350	
Pollution Control Expenses		2,56,190	
Depreciation of Plant (40% of ₹ 63,08,850)		25,23,540	
Depreciation of Building (10% of ₹ 27,40,000 × 70%)		1,91,800	41,70,280
	Gross Works Cost		**1,04,61,320**
Add:	Opening Work-in-Process inventory		27,40,000
Less:	Closing Work-in-Process inventory		(26,30,400)
	Cost of production		**1,05,70,920**
Add:	Opening Finished Goods inventory		10,96,000
Less:	Closing Finished Goods inventory		(15,75,500)
	Cost of Goods Sold		**1,00,91,420**
Add:	Administration Expenses [See Schedule (iii)]		4,25,522
Add:	Selling and Distribution Expenses [See Schedule (ii)]		15,04,945
	Cost of Sales		**1,20,21,887**

Note: Cash discount allowed on sales will not form part of Cost Sheet.

(ii) Schedule of Selling and Distribution Expenses

Particulars	(₹)
Sales Commission	4,60,320
Sales Promotion	3,08,250
Distribution Deptt. - Salaries and Expenses	2,46,600
Heat, Light and Power (₹ 8,90,500 x 15%)	1,33,575
Depreciation of Building (10% of ₹ 27,40,000 × 15%)	41,100
Packing Cost to make the product marketable	3,15,100
	15,04,945

(iii) Schedule of Administration Expenses

Particulars	(₹)
Office Salaries and Expenses	1,17,820
Depreciation of Office Appliances (₹ 2,38,380 x 15%)	35,757
Depreciation of Building (10% of ₹ 27,40,000 × 15%)	41,100
Heat, Light and Power (₹ 8,90,500 x 15%)	1,33,575
Printing and Stationery expenses	89,050
Bank Charges paid	8,220
	4,25,522

12. (i) Stores Ledger Control Account

		(₹)			(₹)
To	Balance b/d	4,83,250	By	Work in Process Control A/c	5,79,900
"	Creditors/ Bank A/c	14,49,750	"	Balance c/d	13,53,100
		19,33,000			19,33,000

(ii) Wages Control Account

		(₹)			(₹)
To	Bank A/c	5,79,900	By	Work in Process Control A/c (Charged to batches)	3,86,600
			,,	Production Oh Control A/c (Indirect wages) (1/6th of ₹ 5,79,900)	96,650
			"	Production Oh Control A/c (Non-productive wages) [1/5th of (₹ 5,79,900 -₹ 96,650)]	96,650
		5,79,900			5,79,900

(iii) Production Overhead Control Account

		(₹)			(₹)
To	Bank A/c	2,31,960	By	Work-in-Process Control A/c (130% of ₹ 3,86,600)	5,02,580
"	Wages Control A/c (₹ 96,650 +₹ 96,650)	1,93,300			
"	Costing P&L A/c (Over-absorption, balancing figure)	77,320			
		5,02,580			5,02,580

(iv) Work-in-Process Control Account

		(₹)			(₹)
To	Balance b/d	3,86,600	By	Finished Goods Control A/c	12,56,450
"	Store Ledger Control A/c	5,79,900	"	Balance c/d (Physical value)	7,73,200
"	Wages Control A/c	3,86,600			
"	Production OH Control A/c	5,02,580			
"	Costing P&L A/c (Stock Gains)	1,73,970			
		20,29,650			20,29,650

(v) Finished Goods Control Account

		(₹)			(₹)
To	Balance b/d	6,76,550	By	Costing Profit & Loss A/c (Cost of Goods Sold)	15,46,400
"	Work-in-Process Control A/c	12,56,450	"	Balance c/d	3,86,600
		19,33,000			19,33,000

(vi) Costing Profit & Loss Account

		(₹)			(₹)
To	Finished Goods Control A/c	15,46,400	By	Sales A/c	19,33,000
"	Balance c/d	6,37,890	"	Production OH Control A/c	77,320
			"	Work-in-Process Control A/c (Stock gain)	1,73,970
		21,84,290			21,84,290

13. Job cost Sheet

Particulars	Amount (₹)
Direct materials	1,330.00
Direct wages:	
Deptt. X ₹ 47.50 × 8 hrs. = ₹ 380	
Deptt. Y ₹ 47.50 × 6 hrs. = ₹ 285	
Deptt. Z ₹ 47.50 × 4 hrs. = ₹ 190	855.00
Chargeable expenses	95.00
Prime cost	**2,280.00**
Overheads:	
Deptt. X = $\left(\frac{₹\ 95,000}{₹\ 1,90,000} \times 100\right)$ = 50% of ₹ 380 = ₹ 190.00	

Deptt. Y = $\left(\frac{₹\ 1,71,000}{₹\ 2,28,000} \times 100\right)$ = 75% of ₹ 285 = ₹ 213.75	
Deptt. Z = $\left(\frac{₹\ 38,000}{₹\ 1,52,000} \times 100\right)$ = 25% of ₹ 190 = ₹ 47.50	451.25
Works cost	**2,731.25**
Selling expenses= $\left(\frac{₹\ 3,80,000}{₹\ 38,00,000} \times 100\right)$ = 10% of work cost	**273.13**
Total cost	3,004.38
Profit (20% of total cost)	600.88
Selling price	**3,605.26**

14. Statement of Equivalent Units (Process- I)

Input (Units)	Particulars	Output (Units)	Equivalent Production			
			Materials		Labour and Overheads	
			Units	(%)	Units	(%)
40,000	Introduced and completed	36,000	36,000	100	36,000	100
	Normal loss	2,000	-	-	-	-
	Closing stock	2,000	2,000	100	1,000	50
40,000		40,000	38,000		37,000	

Computation of cost per Equivalent Unit for each element of cost (Process- I)

Elements of Cost	Total Cost (₹)	Equivalent units	Cost per Equivalent units (₹)
Direct Materials	6,00,000	38,000	15.7895
Labour	1,20,000	37,000	3.2432
Factory Overheads	2,40,000	37,000	6.4865

Statement of Apportionment of Cost

Items	Elements	Equivalent units	Cost per unit (₹)	Cost (₹)	Total (₹)
Units introduced and completed	Materials	36,000	15.7895	5,68,422.00	
	Labour	36,000	3.2432	1,16,755.20	
	Overheads	36,000	6.4865	2,33,514.00	9,18,691.20
Closing stock	Materials	2,000	15.7895	31,579.00	
	Labour	1,000	3.2432	3,243.20	
	Overheads	1,000	6.4865	6,486.50	41,308.70

Process- I Account

Particulars	Units	Amount (₹)	Particulars	Units	Amount (₹)
To Materials	40,000	6,00,000	By Normal loss	2,000	-
To Labour		1,20,000	By Process II	36,000	9,18,691
To Overheads		2,40,000	By Closing stock	2,000	41,309
	40,000	9,60,000		40,000	9,60,000

Statement of Equivalent Units (Process- II)

Input (Units)	Particulars	Output (Units)	Equivalent Production			
			Materials		Labour and Overheads	
			Units	(%)	Units	(%)
36,000	Units transferred from Process- I					
	Normal loss	1,500	-	-	-	-
	Completed	32,000	32,000	100	32,000	100
	Closing stock (balancing figure)	2,500	2,500	100	1,250	50
36,000		36,000	34,500		33,250	

Computation of cost per Equivalent Unit for each element of cost (Process- I)

Elements of Cost	Total Cost (₹)	Equivalent units	Cost per Equivalent units (₹)
Cost of 36,000 units transferred from Process- I	9,18,691	34,500	26.6287
Labour	1,60,000	33,250	4.8120
Factory Overheads	2,00,000	33,250	6.0150

Statement of Apportionment of Cost

Items	Elements	Equivalent units	Cost per unit (₹)	Cost (₹)	Total (₹)
Units introduced and completed	Materials	32,000	26.6287	8,52,118.40	
	Labour	32,000	4.8120	1,53,984.00	
	Overheads	32,000	6.0150	1,92,480.00	11,98,582.40
Closing stock	Materials	2,500	26.6287	66,571.75	
	Labour	1,250	4.8120	6,015.00	
	Overheads	1,250	6.0150	7,518.75	80,105.50

Process- II Account

Particulars	Units	Amount (₹)	Particulars	Units	Amount (₹)
To Units introduced	36,000	9,18,691	By Normal loss	1,500	-
To Labour		1,60,000	By Finished stock	32,000	11,98,582
To Overheads		2,00,000	By Closing stock	2,500	80,109*
	36,000	12,78,691		36,000	12,78,691

*Difference arose due to rounding-off has been adjusted.

15. Statement showing operating profit/loss by each product after further processing

	Product XR (7,60,000 kg)		Product YS (1,90,000 kg)	
	Total (₹)	**Cost per unit (₹)**	**Total (₹)**	**Cost per unit (₹)**
Joint costs (W.N.)	1,06,40,000	14.0	60,80,000	32.0
Further processing costs	1,24,64,000	16.40	41,04,000	21.60
By-product net revenues			(1,52,000)	(0.80)
Total cost	2,31,04,000	**30.40**	1,00,32,000	**52.80**
Sales	2,94,88,000	38.80	1,36,80,000	72.00
Operating profit	**63,84,000**	8.40	**36,48,000**	19.20

Working Note:

Calculation of joint costs using Net realisable value method:

Particulars	**Product XR (₹)**	**Product YS (₹)**
Sales Value	2,94,88,000 (₹ 38.80 × 7,60,000 kg)	1,36,80,000 (₹ 72.00 × 1,90,000 kg)
Add: By-product net revenue	-	1,52,000 [(₹ 24.00 x 19,000 kg) - ₹ 3,04,000]
Less: Post split-off cost (Further processing cost)	(1,24,64,000)	(41,04,000)
Net Realisable Value	1,70,24,000	97,28,000
Apportionment of Joint Cost of ₹ 1,67,20,000 in ratio of 1,70,24:97,28	**1,06,40,000**	**60,80,000**

16. Working Notes:

Total equivalent single rooms

Nature of room	Occupancy (Room-days)	Equivalent single rooms (Room-days)
Single room	7,200 (20 rooms × 360 days × 100%)	7,200 (7,200 × 1)
Double rooms	2,880 (10 rooms × 360 days × 80%)	4,320 (2,880 × 1.5)
	10,080	11,520

Statement of total cost

Particulars	(₹)
Staff salaries	30,20,000
Room attendant's wages (₹ 125 per Room Day for 10,080 Room Days)	12,60,000
Food and beverage costs	20,16,000
Lighting and power	8,60,000
Repairs and renovation	4,94,000
Laundry charges	3,22,000
Building rent	14,40,000
Miscellaneous expenses	6,12,000
Total cost	**1,00,24,000**

Profit is 25% on total taking

∴ Total taking = ₹ 1,00,24,000 + 25% of total taking

Let R be rent for single room

Then 11,520 R = 1,00,24,000 + (0.25 × 11,520 R)

Or, 8,640 R = 1,00,24,000

Or, R = ₹ 1,160 (approx.)

Rent to be charged for single room = ₹ 1,160

Rent for double room ₹ 1,160 × 1.5 = ₹ 1,740

Rent to be charged from Mr. Matrix

Double room rent	₹ 1,740
Add: Power backup charges	₹ 200
	₹ 1,940

17. (i) Standard input (kgs.) of Material- B:

Material usage variance = Std. Rate (Std. Quantity – Actual Quantity)

₹ 300 Adverse = ₹ 15 (SQ – 70)

Or, -300 = 15 SQ – 1,050

Or, SQ = 50 kgs.

(ii) Actual Input (kgs) of Material- A:

Let the actual input in for Material-A is X kgs.

Material Mix Variance = Std. Price (Actual Quantity in Std. mix – Actual Quantity)

Or, Material Mix Variance (A+B) = Material Mix Variance for Material - A + Material Mix Variance for Material -B

$$\text{Or, } -45 = [₹12\{(\frac{X+70}{2})-X\}]+[₹15\{(\frac{X+70}{2})-70\}]$$

$$\text{Or, } -45 = [₹12\{\frac{X+70-2X}{2}\}]+[₹15\{\frac{X+70-140}{2}\}]$$

$$\text{Or, } -45 = [₹12\{\frac{70-X}{2}\}]+[₹15\{\frac{X-70}{2}\}]$$

$$\text{Or, } -45 = [-6X+420]+[\frac{15X-1,050}{2}]$$

$$\text{Or, } -45 = [\frac{-12X+840+15X-1,050}{2}]$$

$$\text{Or, } -90 = 3X-210$$

Or, $X = \frac{120}{3} = 40 \text{kgs.}$

(iii) (a) Material Price Variance of A = Actual Quantity (Std. Rate – Actual Rate)

= 40 kg. (12–15) = ₹ 120 Adverse

(b) Material Price Variance of B = 70 kg. (15 – 20) = ₹ 350 Adverse

(iv) Material usage variance of A = Std. Rate (Std. Quantity – Actual Quantity)

= 12 (50 – 40) = ₹ 120 Favourable

(v) (a) Material Cost variance of A = Std. Cost – Actual Cost

= (50 kgs. @ ₹ 12) – (40 kgs. @ ₹ 15)

= 600 – 600 = Nil

(b) Material Cost variance of B = (50 kgs. @ ₹ 15) – (70 kgs. @ ₹ 20)

= 750 – 1,400 = ₹ 650 Adverse

18. (a) Estimation of the Fixed and Variable Costs.

Variable Manufacturing Cost per carton:

$$= \frac{\text{Change in Costs}}{\text{Change in Activity}}$$

$$= \frac{₹8,80,000 - ₹7,00,000}{70,000 - 50,000}$$

$$= \frac{₹1,80,000}{20,000}$$

= ₹ 9 per carton

Fixed Manufacturing Costs:

Costs of Goods Sold = Fixed Manufacturing Cost + Variable Manufacturing Cost

₹ 7,00,000 = Fixed Manufacturing Cost + (50,000 Cartons × ₹9)

Fixed Manufacturing Cost = ₹7,00,000 – ₹4,50,000

= ₹2,50,000

Variable Selling and Administration Cost per unit:

$$= \frac{₹6,90,000 - ₹6,50,000}{70,000 - 50,000}$$

$$= \frac{₹40,000}{20,000}$$

= ₹ 2 *per unit*

Fixed Selling & Administration Costs:

Total Selling & Admn. Costs = Fixed Selling & Admn. Cost + Variable Selling & Admn. Costs

₹6,50,000 = Fixed Selling & Admn. Costs + (50,000 Cartons × ₹ 2)

Fixed Selling & Admn. Cost = ₹6,50,000 – ₹1,00,000

= ₹5,50,000

So the Total Variable Costs *per unit* are ₹ 11 *per unit* (₹ 9 + ₹ 2).

Total Fixed Costs are ₹8,00,000 *per quarter* (₹ 2,50,000 + ₹ 5,50,000).

Given Sale Price of ₹24 *per carton* and Variable Costs of ₹ 11 *per carton*, the Contribution *per carton* is ₹ 13 (₹ 24 – ₹ 11).

Breakeven Point (in terms of carton units)

$$= \frac{\text{Fixed cost (per quarter)}}{\text{Contribution per Carton}}$$

$$= \frac{₹8,00,000}{₹13}$$

= 61,539 Cartons

(b) To earn an After Tax Return of 20% on ₹30,00,000, the Desired Annual After Tax Net Income is ₹6,00,000 (₹30,00,000 × 20%). The Quarterly After Tax Net Income will be ₹1,50,000. Given the Tax

Rate of 40%, the Pre-tax Return will be ₹ 2,50,000 (₹ 1,50,000 × 100/60).

$$\text{Quarterly Sales (units)} = \frac{\text{Fixed Cost + Desired Return}}{\text{Contribution per unit}}$$

$$= \frac{₹(8,00,000+2,50,000)}{₹13}$$

$$= \frac{₹10,50,000}{₹13}$$

= 80,769 Cartons

Quarterly Sales Revenue = ₹19,38,456 (80,769 Cartons × ₹ 24)

(c) The proposal involves reducing Selling Price from ₹24 *per carton* to ₹ 22.50 *per carton*. Hence the Contribution *per carton* will be ₹ 11.50 (₹22.50 – ₹11.00).

The increase in Advertising Costs will push Fixed Costs up by ₹1,50,000 to ₹9,50,000.

A 20% increase over second quarter's Sales would increase Sales form 70,000 cartons to 84,000 cartons.

The Expected Earnings Before Taxes will be ₹ 16,000 [(84,000 Cartons × ₹ 11.50) – ₹ 9,50,000].

After deducting Tax at 40%, the Net Income will be ₹9,600 (₹ 16,000 – ₹ 6,400).

Earning has reduced from ₹ 66,000 to ₹ 9,600, accordingly this plan should not be implemented.

19. (i) Statement of Variable Cost *per unit* and Fixed Costs under Given Cost Classification Effective for Quarter IV

Particulars	Total Fixed Cost (₹)	Variable Cost p.u. (₹)
Direct Materials (W.N.1)		
A	-----	6
B	-----	5

Production Labour (W.N.2)	90,000	9
Manufacturing Overhead Ex. Depreciation (W.N.3)	72,000	3
Depreciation of Production Machinery	20,000	-----
Administration Expenses	25,000	-----
Selling & Distribution Expenses (W.N.4)	24,000	2

(ii) Flexible Budget of Production Costs for the Quarter IV

Particulars	**15,000 units (₹)**	**18,000 units (₹)**	**21,000 units (₹)**
Direct Material			
A	90,000 (15,000 units × ₹ 6)	1,08,000 (18,000 units × ₹ 6)	1,26,000 (21,000 × ₹ 6)
B	75,000 (15,000 units × ₹ 5)	90,000 (18,000 × ₹ 5)	1,05,000 (21,000 units × ₹ 5)
Production Labour	2,25,000 (15,000 units × ₹ 9 + ₹ 90,000)	2,52,000 (18,000 units × ₹ 9 + ₹ 90,000	2,88,000*
Manufacturing	1,17,000	1,26,000	1,35,000
Overhead	(15,000 units × ₹ 3	(18,000 units × ₹ 3	(21,000 units × ₹ 3
	+ ₹ 72,000)	₹ 72,000)	+ ₹ 72,000)
Depreciation	20,000	20,000	20,000
Total Production Cost	5,27,000	5,96,000	6,74,000

* Production Labour (21,000 units level)

	₹
Variable Cost (21,000 units × ₹ 9)	1,89,000

Fixed Cost	90,000
Overtime (2,000 units × ₹ 9 × 0.50)	9,000
	2,88,000

Working Notes

1. Direct Material Cost:

$$A: \frac{₹\ 60,000}{10,000\ units} = ₹\ 6$$

$$B: \frac{₹\ 50,000}{10,000\ units} = ₹\ 5$$

Direct material cost (variable cost) for material A and B for all the quarters on computation comes to ₹ 6 /- and ₹ 5 /- for materials A and B respectively.

2. Fixed and Variable Cost Component of *production labour cost:*

Particulars	Quarter I	Quarter III	Change
Production (units)	10,000	15,000	5,000
Production labour (₹)	1,80,000	2,30,000	50,000

$$\text{Variable Cost (per unit)} = \frac{\text{Change in Production Labour Cost}}{\text{Change in Production Units}}$$

$$\text{Change in Production units} = \frac{₹\ 16,000}{8,000}$$

$$= \frac{₹\ 50,000}{5,000}$$

$$= ₹\ 10$$

$$\text{Fixed Cost} = ₹\ 1,80,000 - ₹\ 1,00,000$$

$$= ₹\ 80,000$$

For Quarter II (20,000 units):

	₹
Variable Cost of 20,000 units @ ₹ 10 p.u.	2,00,000

Fixed Cost	80,000
Overtime Premium on 1,000 @ ₹ 5 p.u.	5,000
Total Production Labour Cost	2,85,000

For Quarter IV (18,000 units):

	₹
Variable Cost of 18,000 units @ ₹ 9 p.u.	1,62,000
(₹ 10 × 1.125 × 0.80 = ₹ 9)	
Fixed Cost (₹ 80,000 × 1.125)	90,000
Total Production Labour Cost	2,52,000

3. Fixed and Variable Cost Component of *manufacturing overhead:*

	Quarter I	Quarter II	Change
Production (units)	10,000	20,000	10,000
Manufacturing Overhead (₹) (Excluding Depreciation)	90,000	1,20,000	30,000

Variable Cost Component of *manufacturing overhead:*

$$= \frac{\text{Change in Manufacturing Overhead Costs}}{\text{Change in Production Units}}$$

$$= \frac{₹\ 30,000}{10,000\ \text{units}}$$

= ₹ 3 p.u

Fixed Cost Component of *manufacturing overhead:*

= ₹ 1,20,000 – 20,000 units × ₹ 3

= ₹ 60,000

For Quarter IV:

		₹
Fixed Cost	=	60,000
Add: 20% Increase	=	12,000

Total Fixed Cost = 72,000

4. Fixed and Variable Cost Component of *selling and distribution expenses*

	Quarter I	Quarter II	Change
Sales (units)	9,000	17,000	8,000
Selling & Distribution Expenses	38,000	54,000	16,000

Variable Cost Component of *selling & distribution expenses:*

$$= \frac{\text{Change in selling \& Distribution expenses}}{\text{Change in sales units}}$$

$$= \frac{₹\,16,000}{8,000}$$

= ₹ 2 per unit

Fixed Cost Component of *selling & distribution expenses:*

= ₹ 54,000 – 17,000 units × ₹ 2

= ₹ 20,000

Fixed Cost Component for IV Quarter:

= ₹ 20,000 × 1.20

= ₹ 24,000

20. (a) Definition of product costs: Product costs are inventoriable costs. These are the costs, which are assigned to the product. Under marginal costing variable manufacturing costs and under absorption costing, total manufacturing costs constitute product costs.

Purposes for computing product costs:

The three different purposes for computing product costs are as follows:

(i) *Preparation of financial statements:* Here focus is on inventoriable costs.

(ii) *Product pricing:* It is an important purpose for which product costs are used. For this purpose, the cost of the areas along

with the value chain should be included to make the product available to the customer.

(iii) *Contracting with government agencies:* For this purpose government agencies may not allow the contractors to recover research and development and marketing costs under cost plus contracts.

(b) Operating Costs or Service Costing are the costs incurred by undertakings which do not manufacture any product but provide a service. Such undertakings for example are — Transport concerns, Gas agencies; Electricity Undertakings; Hospitals; Theatres etc. Because of the varied nature of activities carried out by the service undertakings, the cost system used is obviously different from that followed in manufacturing concerns.

The essential features of operating costs are as follows:

(1) The operating costs can be classified under three categories. For example in the case of transport undertaking these three categories are as follows:

(a) Operating and running charges: It includes expenses of variable nature. For example expenses on petrol, diesel, lubricating oil, and grease etc.

(b) Maintenance charges: These expenses are of semi-variable nature and includes the cost of tyres and tubes, repairs and maintenance, spares and accessories, overhaul, etc.

(c) Fixed or standing charges: These includes garage rent, insurance, road licence, depreciation, interest on capital, salary of operating manager, etc.

(2) The cost unit used is composite like passenger-mile; Kilowatt-hour, etc.

It can be implemented in all firms of transport, airlines, bus-service, etc., and by all firms of distribution undertakings.

(c) Apportionment of Joint Cost amongst Joint Products using:

Market value at the point of separation

This method is used for apportionment of joint costs to joint products upto the split off point. It is difficult to apply if the market value of the product at the point of separation is not available. It is useful method where further processing costs are incurred disproportionately.

Net realizable value Method

From the sales value of joint products (at finished stage) the followings are deducted:

- Estimated profit margins
- Selling & distribution expenses, if any
- Post split off costs.

The resultant figure so obtained is known as net realizable value of joint products. Joint costs are apportioned in the ratio of net realizable value.

(d) (i) Pre-production Costs: These costs forms the part of development cost, incurred in making a trial production run, preliminary to formal production. These costs are incurred when a new factory is in the process of establishment or a new project is undertaken or a new product line or product is taken up, but there is no established or formal production to which such costs may be charged.

(ii) Research and Development Costs: Research costs are the costs incurred for the original and planned investigation undertaken with a prospect of gaining new scientific or technical knowledge and understanding.

Development costs are the cost incurred in applying research findings or other knowledge to a plan or design for the production of new or substantially improved materials, devices, products, processes, systems or services prior to the commencement of commercial production or use.

(iii) **Training Costs:** Costs which are incurred in and in relation to providing training to the workers, apprentices, executives etc. Training cost consists of wages and salaries paid to new trainees, fees paid to trainers, cost of materials and properties used to train the trainees, costs associated with training centre, loss suffered due to lower production and extra spoilage etc. The total cost of training section is thereafter apportioned to production centers.