Material Cost

Case Scenario

The purchase committee of A Ltd. has been entrusted to review the material procurement policy of the company. The chief marketing manager has appraised the committee that the company at present produces a single product X by using two raw materials A and B in the ratio of 3:2. Material A is perishable in nature and has to be used within 10 days from Goods received note (GRN) date otherwise material becomes obsolete. Material B is durable in nature and can be used even after one year. Material A is purchased from the local market withing 1 to 2 days of placing order. Material B, on the other hand, is purchased from neighboring state and it takes 2 to 4 days to receive the material in the store.

The purchase price of per kilogram of raw material A and B is ₹ 30 and ₹ 44 respectively exclusive of taxes. To place an order, the company has to incur an administrative cost of ₹ 1,200. Carrying cost for material A and B is 15% and 5% respectively. At present material A is purchased in a lot of 15,000 kg to avail 10% discount on market price. GST applicable for both the materials is 18% and the input tax credit is availed.

The sales department has provided an estimate that the company could sell 30,000 kg in January 2024 and also projected the same trend for the entire year.

The ratio of input and output is 5:3. Company works for 25 days in a month and production is carried out evenly.

The following queries/ calculations to be kept ready for purchase committees' reference:

Question – 1

For the month of January 2024, what would be the quantity of the materials to be requisitioned for both material A and B:

(a) 9,000 kg & 6,000 kg respectively
(b) 18,000 kg & 12,000 kg respectively
(c) 27,000 kg & 18,000 kg respectively
(d) 30,000 kg & 20,000 kg respectively

Question – 2

The economic order quantity (EOQ) for both the material A & B:

(a) 13,856 kg & 16,181 kg respectively
(b) 16,197 kg & 17,327 kg respectively
(c) 16,181 kg & 17,165 kg respectively
(d) 13,197 kg & 171,65 kg respectively

Question – 3

What would be the maximum stock level for material A:

(a) 18,200 kg
(b) 12,000 kg
(c) 16,000 kg
(d) 16,200 kg

Question – 4

Calculate saving/loss in purchase of material A if the purchase order quantity is equal to EOQ.

(a) Profit of ₹ 3,21,201
(b) Loss of ₹ 3,21,201
(c) Profit of ₹ 2,52,500
(d) Loss of ₹ 2,52,500

Question – 5

What would be the minimum stock level for material A:

(a) 1,800 kg
(b) 1,200 kg
(c) 600 kg
(d) 2,400 kg

Question

Purchase price	₹ 10,00,000
Custom duty	₹ 2,00,000
GST (input credit available)	@12% on purchase price
Octroi	₹ 5,000
Carriage inward	₹ 12,000
Demurrage charges	₹ 16,100
Commission on purchase	₹ 10,000
Stock of raw material:	
Opening	₹ 1,00,000
Closing	₹ 2,00,000

Raw material consumed will be:

(a) ₹ 11,27,000
(b) ₹ 11,43,100
(c) ₹ 12,63,100
(d) ₹ 12,58,100

Question

Monthly demand of product X – 1500 units
Requirement of component to produce 1 unit of product X: 5 units
Ordering, receiving and handling cost: ₹ 10 per order
Trucking costs: ₹ 5 per order
Deterioration and obsolescence cost: ₹ 10 per unit p.a.
Interest rate: 15% p.a.
Storage cost: ₹ 4,50,000 for 90,000 units
Purchase price of a component: ₹ 100
Calculate Economic Order Quantity

(a) 600 units
(b) 500 units
(c) 400 units
(d) 300 units

Employee Cost

Case Scenario

The board of the J Ltd. has been appraised by the General Manager (HR) that the employee attrition rate int eh company ahs increased. The following facts has been presented by the GM (HR):

(1) Training period of the new recruits is 50,000 hours. During this period their productivity is 60% of the experienced workers. Time required by an experienced worker is 10 hours per unit.

(2) 20% of the output during training period was defective. Cost of rectification of a defective unit was ₹ 25.

(3) Potential productive hours lost due to delay in recruitment were 1,00,000 hours.

(4) Selling price per unit is ₹ 180 and P/V ratio is 20%.

(5) Settlement cost of the workers leaving the organization was ₹ 1,83,480

(6) Recruitment cost was ₹ 1,56,340

(7) Training cost was ₹ 1,13,180

You being an associate finance to GM (HR), has been asked the following questions:

Question – 1

How much quantity of output is lost due to labour turnover?

(a) 10,000 units

(b) 8,000 units

(c) 12,000 units

(d) 12,600 units

Question – 2

How much loss in the form of contribution, the company incurred due to labour turnover?

(a) ₹ 4,32,000

(b) ₹ 4,20,000

(c) ₹ 4,36,000

(d) ₹ 4,28,000

Question – 3

What is the cost of repairing defective units.

(a) ₹ 75,000

(b) ₹ 15,000

(c) ₹ 50,00

(d) ₹ 25,000

Question – 4

Calculate the profit lost by the company due to increased labour turnover.

(a) ₹ 7,50,000

(b) ₹ 15,00,000
(c) ₹ 5,00,000
(d) ₹ 9,00,000

Question – 5

How much quantity of output is lost due to inexperience of the new worker?

(a) 1,000 units
(b) 2,600 units
(c) 2,000 units
(d) 12,600 units

Question

The following data is available:
Labour turnover rates are 25%, 12% and 10% respectively under Flux method, Replacement method and Separation method. No. of workers replaced is 72. Calculate average workers on roll.

(a) 600
(b) 580
(c) 400
(d) 640

Question

If the amount of wages under Halsey plan is ₹ 420, total time allowed is 8 hours and the guaranteed time rate is ₹ 60 per hour. What is the total time saved by the worker?

(a) 2 hours
(b) 3 hours
(c) 6 hours
(d) 3.5 hours

Overheads

Case Scenario

Litto Limited is a manufacturing company which has as a machine shop cost center that contains three machines of equal capacities. To operate these three machines nine operators are required i.e. three operators on each machine. Operators are paid ₹ 20 per hour. The factory works for forty eight hours in a week which includes 4 hours set up time. The work is jointly done by operators. The operators are paid fully for the forty eight hours. In additions they are paid a bonus of 10 percent of productive time. Costs are reported for this company on the basis of thirteen four-weekly period.

The company for the purpose of computing machine hour rate includes the direct wages of the operator and also recoups the factory overheads allocated to the machines. The following details of factory overheads applicable to the cost centre are available:

- Depreciation 10% per annum on original cost of the machine. Original cos tof each machine is ₹ 52,000.
- Maintenance and repair per week per machine is ₹ 60.
- Consumbale stores per week per machine are ₹ 75
- Power: 20 units per hour per machine at the rate of 80 paise per unit. No power is used during the set-up hours.
- Apportionment to the cost centre: Rent per annum ₹ 5,400, Heat and Light per annum ₹ 9,720, foreman's salary per annum ₹ 12,960 and other miscellaneous expenditure per annum ₹ 18,000.

Question – 1

What is the effective machine hour for four-week period?

(a) 170 hours
(b) 176 hours
(c) 189 hours
(d) 192 hours

Question – 2

What is the bonus charges and power expenses for four-week period?

(a) ₹ 1,056 and ₹ 2,816
(b) ₹ 1,562 and ₹ 3,560
(c) ₹ 1,240 and ₹ 3,325
(d) ₹ 860 and ₹ 2,450

Question – 3

What is the standing charges for four-week period?

(a) ₹ 12,357

(b) ₹ 10,450
(c) ₹ 13,757
(d) ₹ 14,226

Question – 4

What is the machine expenses for four-week period?

(a) ₹ 2,500
(b) ₹ 3,450
(c) ₹ 3,986
(d) ₹ 3,756

Question – 5

What is the machine hour rate?

(a) ₹ 99.51
(b) ₹ 92.25
(c) ₹ 105.22
(d) ₹ 86.90

Case Scenario

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 payments made:

Paid as per court's order	₹ 4,50,000
Expenses of previous year booked in current year	₹ 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
Work-in-progress	80,000 units
(50% complete in every respect)	
Sale:	
Finished goods	90,000 units

Machine hours work during the period was 3,000 hours.

At the time 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 following for the performance appraisal of the departmental heads:

Question – 1

How much was the budgeted machine hour rate used to recover overhead?

(a) ₹ 760
(b) ₹ 820
(c) ₹ 780
(d) ₹ 840

Question – 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

Question – 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

Question – 4

What is the supplementary rate for apportionment of over 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

Question – 5

What is the amount of over absorbed overheads apportioned to work in progress?

(a) ₹ 9,440
(b) ₹ 42,480
(c) ₹ 18,880
(d) ₹ 70,800

Question

Based on the data below, what is the amount of the overhead under/over absorbed?

Budgeted overhead = ₹ 5,25,000

Budgeted machine hours = 17,500

Actual machine hours = 17,040

Actual overheads = ₹ 5,20,000

(a) ₹ 5,000 under absorbed

(b) ₹ 8,800 under absorbed

(c) ₹ 8,800 over absorbed

(d) ₹ 5,000 over absorbed

Activity Based Costing

Case Scenario

'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 method.

The bank wants to know the product wise total cost per unit for the selected activities, so that price may be fixed accordingly. The following information is made available to formulate the budget:

Activity	Present Cost (₹)	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 replenishment cost	1,00,000	Expected to double during budget
	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 budgeted period. (This activity is driven by telephone minutes)

The activity drivers and their budgeted quantities 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.

Question – 1

The budgeted rate for ATM service activity is:

(a) ₹ 4
(b) ₹ 2
(c) ₹ 1
(d) ₹ 0.50

Question – 2

The budgeted rate for computer processing activity is:

(a) ₹ 4
(b) ₹ 2
(c) ₹ 1
(d) ₹ 0.50

Question – 3

The budgeted rate for issuing statement activity is:

(a) ₹ 4
(b) ₹ 2
(c) ₹ 1
(d) ₹ 0.50

Question – 4

The budgeted rate for computer inquiries activity is:

(a) ₹ 4
(b) ₹ 2
(c) ₹ 1
(d) ₹ 0.50

Question – 5

Total cost for credit cards as per activity based costing is:

(a) ₹ 3,90,000
(b) ₹ 8,40,000
(c) ₹ 15,60,000
(d) ₹ 29,30,000

Question

From the following information, calculate the total cost of Product A and B using the ABC analysis:

	Product A	Product B
Units	5,000	5,000
Number of purchase orders placed	100	220
Number of deliveries received	70	200
Ordering cost	₹ 4,00,000	
Delivery cost	₹ 1,35,000	

Calculate the total cost of Product A and B using the ABC Analysis:

(a) A = ₹ 47,500; B = ₹ 1,27,500

(b) A = ₹ 2,67,500; B = ₹ 2,67,500

(c) A = ₹ 1,60,000; B = ₹ 3,75,000

(d) A = 1,47,500; B = 1,47,500

Question

MNP Ltd. manufactures three products with total production overheads of ₹ 22,00,000. The cost of production scheduling/ machine set-ups is ₹ 10,00,000 for which cost driver is number of setups.

Details on the three products are as follows:

	L	M	N
Production (units)	10,000	15,000	20,000
Number of set-ups	140	160	200

What is the charge our rate for production scheduling/machine set ups is?

(a) ₹ 1,500

(b) ₹ 2,000

(c) ₹ 500

(d) ₹ 1,000

Cost Sheet

Case Scenario

M Ltd. is producing a single product and may expand into product diversification in next one to two years. M Ltd. is amongst a labour-intensive company where majority of processes are done manually. Employee cost is a major cost element in the total cost of the company. The company conventionally uses performance parameters Earnings per manshift (EMS) to measure cost paid to an employee for a shift of 8 hours, and Output per manshift (OMS) to measure an employee's output in a shift of 8 hours.

The Chief Manager (Finance) of the company has emailed you few information related to the last month. The email contains the following data related to the last month:

During the last month, the company has produced 2,34,000 tonnes of output. Expenditures for the last months are:

(i) Raw materials consumed ₹ 50,00,000

(ii) Power consumed 13,000 Kwh @ ₹ 8 per Kwh to run the machines for production.

(iii) Diesels consumed 2,000 litres @ ₹ 93 per litre to run power generator used as alternative or backup for power cuts.

(iv) Wages & salary paid – ₹ 6,40,00,000

(v) Gratuity & leave encashment paid – ₹ 64,20,000

(vi) Hiring charges paid for HEMM- ₹ 30,00,000. HEMM are directly used in production.

(vii) Hiring charges paid for cars used for official purpose – ₹ 66,000

(viii) Reimbursement of diesel cost for the cars – ₹ 22,000

(ix) The hiring of cars attracts GST under RCM @5% without credit.

(x) Maintenance cost paid for weighing bridge (used for weighing of final goods at the time of dispatch) – ₹ 12,000

(xi) AMC cost of CCTV installed at weighing bridge (used for weighing of final goods at the time of dispatch) and factory premises is ₹ 8,000 and ₹ 18,000 per month respectively.

(xii) TA/ DA and hotel bill paid for sales manager- ₹ 36,000

(xiii) The company has 1,800 employees works for 26 days in a month.

You are asked to calculate the followings:

Question – 1

What is the amount of prime cost incurred during the last month:

(a) ₹ 7,54,20,000
(b) ₹ 7,57,10,000
(c) ₹ 7,56,06,000
(d) ₹ 7,87,10,000

Question – 2

What is the total and per shift cost of production for last month:
(a) ₹ 7,87,10,000 and ₹ 336.37 respectively
(b) ₹ 7,87,10,000 and ₹ 1,681.84 respectively
(c) ₹ 7,87,28,000 and ₹ 1,682.22 respectively
(d) ₹ 7,87,28,000 and ₹ 336.44 respectively

Question – 3

What is the value of administrative cost incurred during the last month:
(a) ₹ 92,400
(b) ₹ 88,000
(c) ₹ 1,48,400
(d) ₹ 1,44,000

Question – 4

What is the value of selling and distribution cost and total cost of sales:
(a) ₹ 36,000 & ₹ 7,88,76,400 respectively
(b) ₹ 56,000 & ₹ 7,88,76,400 respectively
(c) ₹ 36,000 & ₹ 7,88,72,000 respectively
(d) ₹ 56,000 & ₹ 7,88,72,000 respectively

Question – 5

What is the value EMS and OMS for the last month:
(a) ₹ 1,504.70 & 5 tonnes respectively
(b) ₹ 1,367.52 & 5 tonnes respectively
(c) ₹ 1,504.70 & 4.37 tonnes respectively
(d) ₹ 1,367.52 & 4.37 tonnes respectively

Case Scenario

P Ltd. has gathered cost information from ledgers and other sources for the year ended 31st December 2023. The information are tabulated below:

Particulars	**Amount (₹)**	**Amount (₹)**
Raw material purchased		5,00,00,000
Freight inward		9,20,600
Wages paid to factory workers		25,20,000

Royalty paid for production		1,80,000
Amount paid for power & fuel		3,50,000
Job charges paid to job worders		3,10,000
Stores and spares consumed		1,10,000
Depreciation on office building		50,000
Repairs & maintenance paid for:		
- Plant & Machinery	40,000	
- Sales office building	20,000	60,000
Insurance premium paid for:		
- Plant & Machinery	28,200	
- Factory building	18,800	47,000
Expenses paid for quality control check		18,000
Research & Development cost paid for improvement in production process		20,000
Expenses paid for pollution control and engineering & maintenance		36,000
Salary paid to Sales & marketing managers		5,60,000
Salary paid to General Manager		6,40,000
Packing cost paid for:		
- Primary packing necessary to maintain quality	46,000	
- For re-distribution of finished goods	80,000	1,26,000
Fee paid to independent directors		1,20,000
Performance bonus paid to sales staffs		1,20,000
Value of stock as on 1st April of last year:		
- Raw materials	10,00,000	
- Work-in-process	8,60,000	
- Finished goods	12,00,000	30,60,000
Value of stock as on 31st March of current year:		
- Raw materials	8,40,000	
- Work-in-process	6,60,000	
- Finished goods	10,50,000	25,50,000

Amount realized by selling of scrap and waste generated during manufacturing process - ₹ 48,000.

The board meeting is scheduled to be held in next week and you being an associate to the chief cost controller of the company, has been asked to be prepared with the following figures:

Question – 1

How much is the prime cost of the company?

(a) ₹ 5,10,80,600
(b) ₹ 5,44,40,600
(c) 15,36,00,600
(d) ₹ 5,19,20,600

Question – 2

How much is the cost of production?

(a) ₹ 5,49,09,600
(b) ₹ 5,50,59,600
(c) ₹ 5,48,73,600
(d) ₹ 5,50,59,000

Question – 3

What is the value of cost of goods sold?

(a) ₹ 5,49,09,600
(b) ₹ 5,50,59,600
(c) ₹ 5,48,73,600
(d) ₹ 5,50,59,000

Question – 4

How much is the factory cost?

(a) ₹ 5,49,09,600
(b) ₹ 5,50,59,600
(c) ₹ 5,48,73,600
(d) ₹ 5,50,59,000

Question – 5

What is the value of cost of sales?

(a) ₹ 5,66,49,600
(b) ₹ 5,50,59,600
(c) ₹ 5,48,73,600
(d) ₹ 5,50,59,000

Question

What would be price cost from below information?

Direct material purchased	:	₹ 75,000
Direct labour	:	₹ 45,000
Direct expenses	:	₹ 15,000
Manufacturing overhead	:	₹ 22,500
Direct materials consumed	:	₹ 67,500

What would be the prime cost?

(a) ₹ 1,35,000
(b) ₹ ,127500
(c) ₹ 1,57,500
(d) ₹ 1,50,000

Question

Calculate value of closing stock from the following:

Opening stock of finished goods (500 units) : ₹ 2,000
Cost of production (10000 units) : ₹ 50,000
Closing stock (1000 units):?

(a) ₹ 4,000
(b) ₹ 4,800
(c) ₹ 5,000
(d) ₹ 6,000

Batch Costing

Case Scenario

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 hours 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 product a litre of beverage, 14 litres of raw material–W and 25 ml 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 the product:

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

The following information has been sought from you the purpose of performance review meeting:

Question – 1

Number of large size bottles that can be processed in a batch?

(a) 5,000 bottles
(b) 1,666 bottles
(c) 3,333 bottles
(d) 8,333 bottles

Question – 2

Total number of batches to be run to process medium size bottles

(a) 180
(b) 225
(c) 240
(d) 645

Question – 3

Material-W required for small size bottles.

(a) 1,26,000 litres
(b) 1,68,000 litres
(c) 1,57,500 litres
(d) 1,51,50,000 litres

Question – 4

Profit/loss per batch:

(a) 7,72,17,370
(b) 5,52,54,550
(c) 2,82,17,370
(d) 4,50,25,225

Question – 5

What is the Economic Batch Quantity (EBQ) small bottles?

(a) 1,34,234 bottles
(b) 2,12,243 bottles
(c) 3,46,592 bottles
(d) 4,12,268 bottles

Question

A customer has been ordering 80,000 caps during the year. It is estimated that it costs ₹ 1 as inventory holding cost per cap per month and that the set-up cost per run of cap manufacture is ₹ 3,500. What is optimum run size of cap manufacture?

(a) 12 runs
(b) 10 runs
(c) 15 runs
(d) 7 runs

Service Costing

Case Scenario

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 fueled cars but it is also considering to upgrade these into Electric vehicles (EV). The 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 charged	-	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 years (₹)	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 and 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. The expected questions that may be asked by the management are as follows:

Question - 1

What would be the depreciable value of CNG car and EV car respectively?

(a) ₹ 13,50,000 and ₹ 14,40,000
(b) ₹ 15,20,000 and ₹ 8,25,000
(c) ₹ 8,25,000 and ₹ 14,40,000
(d) ₹ 8,25,000 and ₹ 12,00,000

Question – 2

What would be the monthly cost of fuel and electricity for an CNG and EV care respectively?

(a) ₹ 4,500 and ₹ 1,425
(b) ₹ 1,500 and ₹ 4,500
(c) ₹ 1,525 and ₹ 1,450
(d) ₹ 1,525 and ₹ 1,425

Question – 3

What would be the total cost to be incurred for replacement of tyres for CNG and EV care respectively?

(a) ₹ 32,000 and ₹ 24,000
(b) ₹ 12,000 and ₹ 32,000
(c) ₹ 32,000 and ₹ 16,000
(d) ₹ 16,000 and ₹ 12,000

Question – 4

What would be the total cost to be incurred for replacement of battery for CNG and EV car respectively?

(a) ₹ 5,40,000 and ₹ 12,000
(b) ₹ 12,000 and ₹ 5,40,000
(c) ₹ 2,00,000 and ₹ 12,000
(d) ₹ 1,00,000 and ₹ 2,00,000

Question – 5

What would be the operating cost of vehicle per month per car for both CNG and EV options?

(a) ₹ 36,627.78 and ₹ 43,708.33
(b) ₹ 36,627.78 and ₹ 48,523.26
(c) ₹ 48,523.26 and ₹ 28,150.29
(d) ₹ 48,523.26 and ₹ 28,510.29

Question

Total passenger km run by APL logistic Ltd. was 43,80,480 for the year between Delhi and Manesar. The bus made 3 round trips per day. Seating capacity of the bus was 52 passengers and average daily occupancy was 75% and the bus runs on an average 26 days in a month. Calculate the distance between Delhi and Manesar.

(a) 55 km
(b) 720 km
(c) 65 km
(d) 60 km

Question

Find out the most appropriate unit cost from the following information of ZMD Transport Services Ltd. dealing in goods carriage:

Total cost = ₹ 5,25,000

Kms. Travelled = 8,75,000

Tonnes carries = 4,000

No. of Drivers = 25

No. of trucks = 20

Tonnes Km carried = 6,55,000

(a) ₹ 0.6

(b) ₹ 0.8

(c) ₹ 21,000

(d) ₹ 131.25

Process Costing

Case Scenario

Arnav Ltd. manufactures chemical solutions used in paint and adhesive products. Chemical solutions are produced in different processes. Some of the processes are hazardous in nature which may results in fire accidents.

At the end of the last month, one fire accident occurred in the factory. The fire destroyed some of the paper files containing records of the process operations for the month.

You being an associate to the Chief Manager (finance), are assigned to prepare the process accounts for the month during which the fire occurred. From the documents and files of other sources, following information could be retrieved:

Opening work-in-process at the beginning of the month was 500 litres, 80% complete for labour and 60% complete for overheads. Opening work-in-process was valued at ₹ 2,78,000.

Closing work-in-process at the end of the month was 100 litres, 20% complete for labour and 10% complete for overheads.

Normal loss is 10% of input(fresh) and total losses during the month were 800 litres partly due to the fire damage.

Output transferred to finished goods was 3,400 litres

Losses have a scrap value fo ₹ 20 per litre

All raw material are added at the commencement of the process.

The cost per equivalent unit is ₹ 660 for the month made up as follows:
Raw material ₹ 300; labour ₹ 200; Overheads ₹ 160.

The company uses FIFO method to value work-in-process and finished goods. The following information are required for managerial decisions:

Question – 1

How much quantity of raw material introduced during the month?

(a) 4,300 litres
(b) 3,500 litres
(c) 4,200 litres
(d) 3,800 litres

Question – 2

The quantity of normal loss and abnormal loss are:

(a) Normal loss – 380 litres and abnormal loss – 420 litres

(b) Normal loss – 350 litres and abnormal loss – 450 litres

(c) Normal loss – 430 litres and abnormal loss – 370 litres

(d) Normal loss – 420 litres and abnormal loss – 380 litres

Question – 3

Value for raw material added to the process during the month is:

(a) ₹ 10,10,000

(b) ₹ 10,33,600

(c) ₹ 10,18,400

(d) ₹ 10,20,000

Question – 4

Value of labour and overhead in closing Work-in-process are:

(a) ₹ 4,000 & ₹ 1,600 respectively

(b) ₹ 20,000 & ₹ 16,000 respectively

(c) ₹ 16,000 & ₹ 9,000 respectively

(d) ₹ 13,200 & ₹ 6,600 respectively

Question – 5

Value of output transferred to finished goods is:

(a) ₹ 22,57,200

(b) ₹ 20,06,400

(c) ₹ 22,44,000

(d) ₹ 19,27,.200

Case Scenario

The following data are available in respect of Process-I for January 2024:

(1) Opening stock of work in process: 600 units at a total cost of ₹ 4,200

(2) Degree of completion of opening work in process:

Material	100%
Labour	60%
Overheads	60%

(3) Input of materials at a total cost of ₹ 55,200 for 9,200 units.

(4) Direct wages incurred ₹ 18,600

(5) Overheads ₹ 8,630

(6) Units scrapped 200 units. The stage of completion of these units was:

Materials	100%
Labour	80%

Overheads	80%

(7) Closing work in process: 700 units. The stage of completion of these units was:

Materials	100%
Labour	70%
Overheads	70%

(8) 8,900 units were completed and transferred to the next process

(9) Normal loss is 4% of the total input (opening stock plus units put in)

(10) Scrap value is ₹ 6 per unit

You are required to be ready with the following information:

Question – 1

What is the equivalent units for labour?

(a) 9,800 units

(b) 8,808 units

(c) 9,030 units

(d) 8,838 units

Question – 2

What is the total cost of per equivalent units?

(a) ₹ 9.08

(b) ₹ 10.10

(c) ₹ 8.08

(d) ₹ 8.68

Question – 3

What is the total cost of abnormal gain?

(a) ₹ 1,743.36

(b) ₹ 1,209.52

(c) ₹ 2,506.25

(d) ₹ 3,728.16

Question – 4

What is the total cost of closing work in process?

(a) ₹ 5,709.20

(b) ₹ 5,809.20

(c) ₹ 5,806.20

(d) ₹ 5,734.80

Question – 5

What is the cost of the units to be transferred to the next process using the FIFO method?

(a) ₹ 50,900.15

(b) ₹ 80,303.20

(c) ₹ 80,800.36
(d) ₹ 50,300.80

Question

A product passes through Process-I. Input raw material issued were 8,000 units. Normal loss anticipated was 10% of input with realisable value of ₹ 5 per unit. 7,600 units of output were produced and transferred to next process. If the total cost incurred under Process-I was ₹ 40,000, then amount of abnormal gain/(loss) is:

(a) ₹ 2,000
(b) (₹ 5,000)
(c) (₹ 2,500)
(d) ₹ 3,000

Joint & By-Product

Case Scenario

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. Joint Cost will be apportioned on the basis of sale value at split off point.

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 effected during the, period were as under:

	A	B	X
Quantity Sold (Kgs)	17,000	5,000	44,000
Sales Value (₹)	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.

Question – 1

The share of joint cost of product A is:

(a) ₹ 2,80,000
(b) ₹ 3,78,000
(c) ₹ 5,24,000
(d) ₹ 6,30,000

Question – 2

The share of joint cost of product B is:

(a) ₹ 2,80,000
(b) ₹ 3,78,000
(c) ₹ 5,24,000
(d) ₹ 6,30,000

Question – 3

The share of joint cost of product X is:

(a) ₹ 2,80,000
(b) ₹ 3,78,000
(c) ₹ 5,24,000
(d) ₹ 6,30,000

Question – 4

The profit of product A for the given period is:

(a) ₹ 35,000

(b) ₹ 3,96,000
(c) ₹ 4,59,000
(d) ₹ 5,41,000

Question – 5

The profit of product X for the given period is:

(a) ₹ 35,000
(b) ₹ 3,96,000
(c) ₹ 4,59,000
(d) ₹ 5,41,000

Question

In case of joint products, the main objective of accounting of the cost is to apportion the joint cost incurred up to the split off point. For cost apportionment one company has chosen Physical Quantity Method. Three joint products A, B and C are produced in the same process. Up to the point of split off the total production of A, B and C is 60,000 kg, out of which A produces 30,000 kg and joint costs are ₹ 3,60,000. Joint cost allocated to the product A is:

(a) ₹ 1,20,000
(b) ₹ 60,000
(c) ₹ 1,80,000
(d) ₹ 2,00,000

Marginal Costing

Case Scenario

A meeting of the heads of departments of the Arnav Ltd. has been called to review the operating performance of the company in the last financial year. The head of the production department appraised that during the last year the company could operate at 70% capacity level but in the coming financial year 95% capacity level can be achieved if an additional amount of ₹ 100 crore on capex and working capital is incurred.

The head of the finance department has presented that during the last financial year the company and a P/V ratio of 40%, margin of safety and the break-even were ₹ 50 crore and ₹ 200 crore respectively.

To the reply to the proposal of increasing the production capacity level to 95%, the head of the finance department has informed that this could be achieved if the selling price and variable cost are reduced by 8% and 5% of sales respectively. Fixed cost will also increase by ₹ 20 crore due to increased depreciation on additional assets. The additional capital will be arranged at a cost of 15% p.a. from a bank.

In the coming financial year, it has been aimed to achieve an additional profit of ₹ 10 crore over and above the last year's profit after adjusting the interest cost on the additional capital.

The following points is required to be calculated on urgent basis to put the same in the meeting. You being an assistant to the head of finance, has been asked the followings:

Question – 1

What will be the revised sales for the coming financial year?

(a) ₹ 322.22 crore
(b) ₹ 311.11 crore
(c) ₹ 300.00 crore
(d) ₹ 324.24 crore

Question – 2

What will be the revised break-even point for the coming financial year?

(a) ₹ 222.22 crore
(b) ₹ 252.22 crore
(c) ₹ 244.44 crore
(d) ₹ 255.56 crore

Question – 3

What will be the revised margin of safety for the coming financial year?

(a) ₹ 100 crore

(b) ₹ 58.89 crore

(c) ₹ 55.56 crore

(d) ₹ 66.66 crore

Question – 4

The profit of the last year and for the coming year are:

(a) ₹ 50 crore and ₹ 95 crore respectively

(b) ₹ 20 crore and ₹ 65 crore respectively

(c) ₹ 20 crore and ₹ 30 crore respectively

(d) ₹ 45 crore and ₹ 66.66 crore respectively

Question – 5

The total cost of the last year and for the coming year are:

(a) ₹ 230 crore and ₹ 292.22 crore

(b) ₹ 230 crore and ₹ 275 crore

(c) ₹ 220 crore and ₹ 282.22 crore

(d) ₹ 220 crore and ₹ 292.22 crore

Case Scenario

Miniso Pvt Ltd a company engaged in the business of manufacturing wireless Bluetooth earphones. The company wishes to track its operating profitability and the margin it needs to maintain to sustain profitability in the long run. Further the company has adopted the marginal costing technique and define operational levels. In this regard the company has provided the following information for the current year:

Opening stock of earphones	-	30,000 units
Selling price of the earphones	-	₹ 450 per unit
Variable costs incurred in manufacture	-	₹ 270 per unit
Units produced during the previous year	-	1,80,000 units
Expected production for the current year	-	2,25,000 units
Expected sales for the current year	-	2,40,000 units
Fixed cost per unit for last year was	-	₹ 60 per unit
Expected rise in fixed cost	-	10%
Expected increase in variable cost	-	25%

Based on the above information available, the following needs to be determined:

Question – 1

The profit that the company will make on achieving its targeted sales amounts to:

(a) ₹ 1,51,20,000
(b) ₹ 1,62,00,000
(c) ₹ 1,71,45,000
(d) ₹ 1,72,00,000

Question – 2

The units to be sold by the company to achieve Break-even is:

(a) 57,600 units
(b) 87,600 units
(c) 1,05,600 units
(d) 96,000 units

Question – 3

The total fixed cost for the current year post the cost increase amounts to:

(a) ₹ 1,08,00,000
(b) ₹ 1,48,50,000
(c) ₹ 1,18,80,000
(d) ₹ 1,44,00,000

Question – 4

The quantity of closing stock and its value amounts to:

(a) Closing stock in units – Nil and Value – Nil
(b) Closing stock in units – 15,000 and Value - ₹ 40,50,000
(c) Closing stock in units – 15,000 and Value - ₹ 50,62,500
(d) Closing stock in units – 15,000 and Value - ₹ 58,05,000

Question – 5

Margin of safety in units amounts to:

(a) 87,600 units
(b) 1,52,400 units
(c) 1,62,000 units
(d) 1,60,000 units

Case Scenario

The analysis of cost sheet of A Ltd. for the last financial year has revealed the following information for its 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 overheads	10% of cost of goods sold	₹ 2,30,000
General & Administration Overheads	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., is expected to answer the following:

Question -1

What is the cost of goods sold for the last year?

(a) ₹ 7,20,000
(b) ₹ 7,00,000
(c) ₹ 7,10,000
(d) ₹ 7,30,000

Question – 2

What is the cost of sales for the last year?

(a) ₹ 8,00,000
(b) ₹ 8,20,000
(c) ₹ 8,10,000
(d) ₹ 7,90,000

Question – 3

The total fixed cost is:

(a) ₹ 3,79,000
(b) ₹ 3,89,000
(c) ₹ 3,59,000
(d) ₹ 3,69,000

Question – 4

Calculate the Break-even sales (in rupees)

(a) ₹ 6,90,882
(b) ₹ 7,90,000
(c) ₹ 3,89,000
(d) ₹ 5,48,692

Question – 5

What is the Margin of Safety (in %)

(a) 26.58%
(b) 25.31%
(c) 53.41%
(d) 34.25%

Question

A company sells two products, A and B. The sales mix is 4 units and 3 units of B. the contribution margins per unit are ₹ 140 for A and ₹ 70 for B. Fixed costs are ₹ 6,16,000 per month. What is break-even point for Product B?

(a) 5,600 units
(b) 2,400 units
(c) 3,200 units
(d) 800 units

Standard Costing

Case Scenario

K Ltd. is a manufacturer of a single product A. 8,000 units of the product A has been produced in the month of March 2024. At the beginning of the year a total 1,20,000 units of the product-A has been planned for production. The cost department has provided the following estimates of overheads:

Particulars	Amount (₹)
Fixed	12,00,000
Semi-variable	1,80,000
Variable	6,00,000

Semi-variable charges are considered to include 60 per cent expenses of fixed nature and 40 per cent of variable character.

The records of the production department shows that the company could have operated for 20 days but there was a festival holiday during the month.

The actual cost data for the month of March 2024 are as follows:

Particulars	Amount (₹)
Fixed	1,10,000
Semi-variable	19,200
Variable	48,000

The cost department of the company is now preparing a cost variance report for managerial information and action. You being an accounts officer of the company are asked to calculate the following information for preparation of the variance report:

Question – 1

What is the amount of variable overhead cost variance for the month of March 2024:

(a) ₹ 10,200 (A)
(b) ₹ 10,400 (A)
(c) ₹ 10,800 (A)
(d) ₹ 10,880 (A)

Question – 2

What is the amount of fixed overhead volume variance for the month of March:

(a) ₹ 9,000 (F)
(b) ₹ 9,000 (A)
(c) ₹ 21,800 (A)
(d) ₹ 11,000 (A)

Question – 3

What is the amount of fixed overhead expenditure variance for the month of March:

(a) ₹ 21,520 (A)

(b) ₹ 21,500 (A)

(c) ₹ 21,400 (A)

(d) ₹ 21,480 (A)

Question – 4

What is the amount of fixed overhead calendar variance for the month of March:

(a) ₹ 5,400 (A)

(b) ₹ 5,450 (A)

(c) ₹ 5,480 (A)

(d) ₹ 5,420 (A)

Question – 5

What is the amount of fixed overhead cost variance for the month of March:

(a) ₹ 43,220 (A)

(b) ₹ 43,300 (A)

(c) ₹ 43,200 (A)

(d) ₹ 43,380 (A)

Question

The wages budget for the last period was based on a standard repair time of 30 minutes per unit and a standard wage rate of ₹ 50 per hour. The actual data for the last period are as follows:

Number of units = 30,000

Labour rate variance = 7,500 (A)

Labour efficiency variance = Nil

From the information find out the actual rate of wages per unit.

(a) ₹ 50

(b) ₹ 25.50

(c) ₹ 50.50

(d) ₹ 25.25

Question

PQR Ltd. has normal monthly machine hour capacity of 120 machine working 8 hours per day for 24 working days in a month. The budgeted fixed overhead is ₹ 5,60,000. The actual production was 4,500 units. The actual fixed overhead was ₹ 5,75,000. Fixed overhead expenditure variance will be:

(a) ₹ 15,000 (A)

(b) ₹ 15,000 (F)

(c) ₹ 20,000 (F)
(d) ₹ 20,000 (A)

Question

The following information is given:

Budgeted production	12,000 units
Budgeted variable overhead	₹ 2,40,000
Standard time for one unit of output	2 hours
Actual production	11,800 units
Actual overhead incurred	₹ 2,44,000
Actual hours worked	23,200 hours

What is 'Variable Overhead Efficiency Variance?

(a) ₹ 4,000 (A)
(b) ₹ 6,000 (A)
(c) ₹ 2,000 (F)
(d) ₹ 4,000 (F)

Budget & Budgetary Control

Case Scenario

SR Ltd. is a manufacturer of Garments. For the first three months of financial year 2022-23 commencing on 1st April, 2022, production will be constrained by direct labour. It is estimated that only 12,000 hours of direct labour hours will be available in each month.

For market reasons, production of either of the two garments must be at least 25% of the production of the other. Estimated cost and revenue per garment are as follows:

	Shirt (₹)	**Short (₹)**
Sales price	60	44
Raw materials		
Fabric @12 per metre	24	12
Dyes and cotton	6	4
Direct labour @8 per hour	8	4
Fixed Overhead @4 per hour	4	2
Profit	18	22

From the month of July 2022 direct labour will no longer be a constraint. The company expects to be able to sell 15,000 shirts and 20,000 shorts in July 2022. There will be no opening stock at the beginning of July 2022.

Sales volumes are expected to grow at 10% per month cumulatively thereafter throughout the year. Following additional information is available:

- The company intends to carry stock of finished garments sufficient to meet 40% of the next month's sale from July 2022 onwards.
- The estimated selling price will be same as above.

Question – 1

The contribution per labour hour for shirt and short is:

(a) ₹ 22 and ₹ 24 respectively
(b) ₹ 22 and ₹ 48 respectively
(c) ₹ 44 and ₹ 24 respectively
(d) ₹ 44 and ₹ 48 respectively

Question – 2

The number of shirts to be manufactures is:

(a) 4,000
(b) 8,000
(c) 12,000
(d) 16,000

Question – 3

The number of shorts to be manufactures is:

(a) 4,000
(b) 8,000
(c) 12,000
(d) 16,000

Question – 4

The amount of sales for shirt for month of august is:

(a) ₹ 9,00,000
(b) ₹ 9,90,000
(c) ₹ 8,80,000
(d) ₹ 9,68,000

Question – 5

The number of units to be manufactured of short for august is:

(a) 21,600
(b) 28,800
(c) 22,880
(d) 25,168

Question

ABC Co. makes a single product and is preparing its material usage budget for next year. Each unit of product requires 2kg of material and 5,000 units of product are to be produced next year. Opening inventory of material is budgeted to be 800 kg and ABC Co. budgets to increase material inventory at the end of next year by 20%. The material usage for next year is:

(a) 8,000 kg
(b) 9,940 kg
(c) 10,000 kg
(d) 10,160 kg

Question

Product units are produced at the rate of 3 units per useful direct labour hour. Direct labour idle time is 10% of hours paid for. Sales of 540 units are planned. Which of the following is the direct labour budget (hours)?

(a) 1,620 hours
(b) 1,800 hours
(c) 180 hours
(d) 200 hours

Question

The following extract is taken from the overhead budget of X:

Budgeted activity	50%	75%
Budgeted overhead (₹)	30,00,000	40,00,000

What would be the budgeted overhead for 60% level of activity:

(a) ₹ 32,00,000

(b) ₹ 34,00,000

(c) ₹ 30,00,000

(d) ₹ 36,00,000