



RAHUL SHIKHA ACADEMY

RSA
Quest For Excellence

COSTING **MOST** **IMPORTANT** **QUESTIONS**



CA Rahul Garg

Question 1

Arnav Inspat Udyog Ltd. has the following expenditures for the year ended 31st March, 2023:

S.No.	Particulars	Amount (₹)	Amount (₹)
(i)	Raw materials purchased		10,00,00,000
(ii)	GST paid on the above purchases @ 18% (eligible for input tax credit)		1,80,00,000
(iii)	Freight inward		11,20,600
(iv)	Wages paid to factory workers		29,20,000
(v)	Contribution made towards employees' PF & ESIS		3,60,000
(vi)	Production bonus paid to factory workers		2,90,000
(vii)	Royalty paid for production		1,72,600
(viii)	Amount paid for power & fuel		4,62,000
(ix)	Amount paid for purchase of moulds and patterns (life is equivalent to two years production)		8,96,000
(x)	Job charges paid to job workers		8,12,000
(xi)	Stores and spares consumed		1,12,000
(xii)	Depreciation on: : Factory building : Office building : Plant & Machinery : Delivery Vehicles	84,000 56,000 1,26,000 <u>86,000</u>	3,52,000
(xiii)	Salary paid to supervisors		1,26,000
(xiv)	Repairs & Maintenance paid for: : Plant & Machinery : Sales office building : Vehicles used by directors	48,000 18,000 <u>19,600</u>	85,600
(xv)	Insurance premium paid for: : Plant & Machinery : Factory building : Stock of raw materials & WIP	31,200 18,100 <u>36,000</u>	85,300
(xvi)	Expenses paid for quality control check activities		19,600
(xvii)	Salary paid to quality control staffs		96,200
(xviii)	Research & development cost paid for improvement in production process		18,200

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(xix)	Expenses paid for pollution control and engineering & Maintenance		26,600
(xx)	Expenses paid for administration of factory work		1,18,600
(xxi)	Salary paid to functional managers:		
	: Production control	9,60,000	
	: Finance & Accounts	9,18,000	
	: Sales & Marketing	<u>10,12,000</u>	28,90,000
(xxii)	Salary paid to General Manager		12,56,000
(xxiii)	Packing cost paid for:		
	: Primary packing necessary to maintain quality	96,000	
	: For re-distribution of finished goods	<u>1,12,000</u>	2,08,000
(xxiv)	Interest and finance charges paid (for usage of non-equity fund)		7,20,000
(xxv)	Fee paid to auditors		1,80,000
(xxvi)	Fee paid to legal advisors		1,20,000
(xxvii)	Fee paid to independent directors		2,20,000
(xxviii)	Performance bonus paid to sales staffs		1,80,000
(xxix)	Value of stock as on 1st April, 2022:		
	: Raw materials	18,00,000	
	: Work-in-process	9,20,000	
	: Finished goods	<u>11,00,000</u>	38,20,000
(xxx)	Value of stock as on 31st March, 2023:		
	: Raw materials	9,60,000	
	: Work-in-process	8,70,000	
	: Finished goods	<u>18,00,000</u>	36,30,000

Amount realized by selling of scrap and waste generated during manufacturing process ₹ 86,000.
 From the above data you are requested to prepare Statement of cost for Arnav Ispat Udyog Ltd. for the year ended 31st March, 2023, showing (i) Prime cost, (ii) Factory cost, (iii) Cost of Production, (iv) Cost of goods sold and (v) Cost of sales.



ANSWER-1

Cost sheet of Arnav Ispat Udyog Ltd.
for the year ending 31 March 2023

S.No.	Particulars	Amount (₹)	Amount (₹)
1.	Raw Material Consumed		
a.	Opening stock of Raw Materials	18,00,000	
b.	+ Purchases of raw Materials (Note 1)	10,00,00,000	
c.	+ Freight Inward	11,20,600	
d.	- closing stock of raw Materials	(9,60,000)	
		10,19,60,600	
2.	+ Direct labour		
a.	wages paid to factory workers	29,20,000	
b.	Contribution made towards employees PF & ESIS	3,60,000	
c.	Production bonus paid to factory workers	2,90,000	
		35,70,000	
3.	+ Direct Expenses		
a.	Royalty paid for production	1,72,600	
b.	Amount paid for power & fuel (Note 2)	4,62,000	
c.	Amortised cost of moulds and patterns (Note 3)	44,800	
d.	Job charges paid to Job workers	8,12,000	
		18,94,600	
(i)	Prime Cost		10,74,25,200
4.	+ Factory Overheads		
a.	Stores and spares consumed	1,12,000	
b.	Depreciation on factory building	84,000	
c.	Depreciation on Plant & Machinery	1,26,000	



d.	Salary paid to supervisors	1,26,000	
e.	Repairs & Maintenance paid for Plant & Machinery	48,000	
f.	Insurance premium paid for		
	: Plant & Machinery	31,200	
	: Factory building	18,100	
	: Stock of raw material & WIP	36,000	
g.	Expenses paid for pollution control and engineering & maintenance	26,600	
			<u>6,07,900</u>
5.	Gross Factory Cost		<u>10,80,33,100</u>
6.	+ opening stock of work-in-process		9,20,000
7.	- closing stock of work-in-process		(8,70,000)
(ii)	Factory Cost (Net)		<u>10,80,83,100</u>
8.	+ Quality control cost		
a.	Expenses paid for quality control check activities	19,600	
b.	Salary paid to quality control staffs	96,200	
			<u>1,15,800</u>
9.	+ Research & development cost paid for improvement in production process		18,200
10.	+ Administration Overhead (related to production)		
a.	Expenses paid for administration of factory work	1,8,600	
b.	Salary paid to production control manager	9,60,000	
			<u>10,78,600</u>
11.	- Realisable value of scrap and waste generated during manufacturing process		(8,600)
12.	+ Packing cost paid for primary packing necessary to maintain quality		96,000



(iii) Cost of Production

		<u>10,93,05,700</u>
13. +	Opening stock of finished goods	11,00,000
14. -	closing stock of finished goods	<u>(18,00,000)</u>

(iv) Cost of Goods Sold

10,86,05,700

15. +	Administration Overheads (General)		
a.	Depreciation on office building	56,000	
b.	Repairs & maintenance paid for vehicles used by directors	19,600	
c.	Salary paid to Finance & Accounts Manager	9,80,000	
d.	Salary paid to General Manager	12,56,000	
e.	Fee paid to auditors	1,80,000	
f.	Fee paid to legal advisors	1,20,000	
g.	Fee paid to independent directors	<u>2,20,000</u>	27,69,600
16. +	Selling overheads		
a.	Repairs & Maintenance paid for sales office building	18,000	
b.	Salary paid to Sales & Marketing Manager	10,12,000	
c.	Performance bonus paid to sales staffs	<u>1,80,000</u>	12,10,000
17. +	Distribution overheads		
	Depreciation on Delivery Vehicles		86,000
18. +	Packing Cost paid for re-distribution of finished goods (secondary packing)		1,12,000
19. +	Interest and finance charges paid		<u>7,20,000</u>
(v)	Cost of Sales		<u>11,35,03,300</u>



Notes

- (1.) GST paid on purchase of raw material ₹ 1,80,00,000 will not become part of cost because this GST is eligible for Input tax Credit.
- (2.) Amount of ₹ 4,62,000 paid for power & fuel has been taken as Direct Expense.
However, ICAI sometimes consider it as a factory overhead, in such case the answer shall change.
- (3.) Amount paid for moulds and patterns is ₹ 8,96,000 but it is having life equivalent to 2 years production.
As we are preparing cost sheet for 1 year, so the relevant expense of moulds & patterns shall be ₹ 4,48,000.
(8,96,000 / 2)

Question 2

Aditya Ltd. produces a product 'Exe' using a raw material Dee. To produce one unit of Exe, 2 kg of Dee are required. As per the sales forecast conducted by the company, it will be able to sale 10,000 units of Exe in the coming year. Following is the information regarding raw material Dee:

1. The Re-order quantity is 200 kg. less than the Economic Order Quantity (EOQ).
2. Maximum consumption per day is 20 kg. more than the average consumption per day.
3. There is an opening stock of 1,000 kg.
4. Time required to get the raw materials from the suppliers is 4 to 8 days.
5. The purchase price is ₹ 125 per kg.

There is an opening stock of 900 units of the finished product Exe.

The rate of interest charged by bank on Cash Credit facility is 13.76%.

To place an order company has to incur ₹ 720 on paper and documentation work.

From the above information find out the followings in relation to raw material Dee :

- (a) Re-order Quantity
- (b) Maximum Stock level
- (c) Minimum Stock level
- (d) Calculate the impact on the profitability of the company by not ordering the EOQ.
[Take 364 days for a year]



ANSWER-2

(a) Re-order quantity

(i) Annual Demand of Dec

Annual production of Exc :	sales	10,000
	+ closing stock	-
	- opening stock	(900)
		<u>9,100</u>

Annual consumption of Dec :

Annual production of Exc × RM required/Unit of Exc

$$9100 \times 2 \Rightarrow 18,200 \text{ Kg.}$$

Annual Demand of Dec :	Consumption	18,200
	+ closing stock	-
	- opening stock	(1,000)
		<u>17,200 Kg.</u>

$$O = 720 \text{ ₹ / order}$$

$$C = 13.76 \%$$

$$= 125 \times 13.76 \% = 17.20 \text{ ₹}$$

$$EOQ = \sqrt{\frac{2 \times 17200 \times 720}{17.20}}$$

$$= 1200 \text{ Kgs.}$$

$$\text{Reorder quantity} = EOQ - 200$$

$$= 1200 - 200$$

$$= 1,000 \text{ Kg.}$$



Computation of Consumption Data and Reorder level

Consumption

$$\text{Annual Consumption} = 18200 \text{ kg.}$$

$$\text{Average Consumption / Day} = \frac{18200}{364} = 50 \text{ kg.}$$

$$\begin{aligned} \text{Maximum Consumption / Day} &= \text{Average consumption / Day} + 20 \text{ kg.} \\ &= 50 \text{ kg} + 20 \text{ kg} \\ &= 70 \text{ kg.} \end{aligned}$$

$$\text{Average Consumption / Day} = \frac{\text{Minimum Consumption / Day} + \text{Maximum Consumption / Day}}{2}$$

$$50 = \frac{\text{Minimum Consumption / Day} + 70}{2}$$

$$100 = \text{Minimum Consumption / Day} + 70$$

$$\therefore \text{Minimum Consumption / Day} = 100 - 70 = 30 \text{ kg.}$$

Lead Time

$$\text{Minimum Lead Time} = 4 \text{ Days}$$

$$\text{Maximum Lead Time} = 8 \text{ Days}$$

$$\begin{aligned} \text{Average Lead Time} &= \frac{4 + 8}{2} \\ &= 6 \text{ Days} \end{aligned}$$



Reorder level

$$\begin{aligned}
 &= \text{Maximum Consumption} \times \text{Maximum Lead Time} \\
 &= 70 \times 8 \\
 &= 560 \text{ Kgs.}
 \end{aligned}$$

(b) Maximum stock level

$$\begin{aligned}
 &= \text{Reorder level} + \text{Reorder Quantity} - \left(\text{Minimum Consumption} \times \text{Minimum Lead Time} \right) \\
 &= 560 + 1000 - (30 \times 4) \\
 &= 560 + 1000 - 120 \\
 &= 1440 \text{ Kgs.}
 \end{aligned}$$

(c) Minimum stock level

$$\begin{aligned}
 &= \text{Reorder level} - \left(\text{Normal Consumption} \times \text{Normal Lead Time} \right) \\
 &= 560 - (50 \times 6) \\
 &= 560 - 300 \\
 &= 260 \text{ Kgs.}
 \end{aligned}$$



(d)

Comparison of Cost at EOQ level and at Non EOQ level

Sl. No.	Particulars	EOQ	Non EOQ
1.	Ordering Cost (No. of orders × OC/order)	$\frac{17200}{1200} \times 720$ $14.33 \sim 15$ $= 10,800$	$\frac{17200}{1000} \times 720$ $17.2 \sim 18$ $= 12,960$
2.	Carrying Cost ($\frac{QO}{2} \times CC/U P.A.$)	$\frac{1200}{2} \times 17.20$ $= 10,320$	$\frac{1000}{2} \times 17.20$ $= 8,600$
		21,120	21,560

As the cost at EOQ level is 440 ₹ less (21560 - 21120) as compared to Non EOQ level, so the profit of company Aditya Ltd. is also lesser by this amount.

Question 3

Calculate the earnings of A and B from the following particulars for a month and allocate the labour cost to each job X, Y and Z:

	A	B
Basic wages	₹ 10,000	₹ 16,000
Dearness allowance	50%	50%
Contribution to provident fund (on basic wages)	8%	8%
Contribution to employees' state insurance (on basic wages)	2%	2%
Overtime	10 Hours	-

The normal working hours for the month are 200. Overtime is paid at double the total of normal wages and dearness allowance. Employer's contribution to State Insurance and Provident Fund are at equal rates of employees' contributions. The two workers were employed on jobs X, Y and Z in the following proportions:

	Jobs		
	X	Y	Z
Worker A	40%	30%	30%
Worker B	50%	20%	30%

Overtime was done on job Y.



ANSWER-3

⇒ Computation of Overtime Rate

Particulars	Worker A
Basic Wages	10000 ₹
Dearness Allowance (10000 × 50%)	5000 ₹
Total	15000 ₹
Working Hours / Month	200
Normal Rate / Hour (BW + DA / Hour)	75 ₹
Overtime Rate / Hour (75 × 2)	150 ₹

⇒ Statement showing Earnings of Worker A and B

Particulars	Worker A	Worker B
Basic Wages	10000	16000
+ Dearness Allowance	10000 × 50% = 5000	16000 × 50% = 8000
+ Overtime Wages	10 × 150 = 1500	-
= Gross Wages	16500	24000
- Employees contribution to		
: Provident Fund	10000 × 8% = (800)	16000 × 8% = (1280)
: Employee State Insurance	10000 × 2% = (200)	16000 × 2% = (320)
= Net Wages	15500	22400



⇒ Statement showing labour cost

Particulars	Worker A	Worker B
Gross wages	16500	24000
+ Employer's contribution to		
: Provident Fund	10000 × 8% = 800	16000 × 8% = 1280
: Employee State Insurance	10000 × 2% = 200	16000 × 2% = 320
= Labour Cost	17500	25600

⇒ Computation of labour cost / Hour

Particulars	Worker A	Worker B
a. Labour cost (excluding overtime)	17500 - 1500 = 16000	25600
b. Normal working hours	200	200
c. Normal wage rate / Hour (a/b)	80	128

⇒ Statement showing Allocation of labour cost

Particulars	Job X	Job Y	Job Z
• Worker A			
: overtime	-	1500	-
: Normal wages (16000 ₹) (4:3:3)	6400	4800	4800
• Worker B (5:2:3)	12800	5120	7680
	19200	11420	12480

Question 4

PQR manufacturers - a small scale enterprise, produces a single product and has adopted a policy to recover the production overheads of the factory by adopting a single blanket rate based on machine hours. The annual budgeted production overheads for the year 2015-16 are ₹ 44,00,000 and budgeted annual machine hours are 2,20,000.

For a period of first six months of the financial year 2015 -2016, following information were extracted from the books :

Actual production overheads	₹ 24,88,200
Amount included in the production overheads :	
Paid as per court's order	₹ 1,28,800
Expenses of previous year booked in current year	₹ 1,200
Paid to workers for strike period under an award	₹ 44,000
Obsolete stores written off	₹ 6,700

Production and sales data of the concern for the first six months are as under :

Production :	
Finished goods	24,000 units
Work-in-progress (50% complete in all respects)	18,000 units
Sales :	
Finished goods	21,600 units

The actual machine hours worked during the period were 1,16,000 hours. It is revealed from the analysis of information that 1/4 of the under/ over absorption was due to defective production policies and the balance was attributable to increase/decrease in costs.

- Determine the amount of under/over absorption of production overheads for the six months period of 2015-16.
- Show the accounting treatment of under/ over absorption of production overheads, and
- Apportion the under/ over absorbed overheads over the items.



ANSWER-4

(a) Computation of Under/Over absorption of Production overheads

(1) Actual Overheads

	₹
Given amount	24,88,200
- Paid as per court's order	(1,28,800)
- Expenses of previous year booked in current year	(1,200)
- Paid to workers for strike period under an award (44,000)	
- obsolete stores written off	(6,700)
	<u>23,07,500</u>

(2) Pre-determined Overhead Recovery Rate

$$= \frac{\text{Budgeted Production Overheads}}{\text{Budgeted Machine Hours}}$$

$$= \frac{44,00,000}{2,20,000}$$

$$= ₹ 20/- \text{ Machine hour}$$

(3) Absorbed Overheads = Actual Machine Hours × Pre-determined Overhead Recovery Rate / Machine Hour

$$= 116000 \times 20$$

$$= ₹ 23,20,000$$

(4) Over Absorbed Overheads = Absorbed Overheads - Actual Overheads

$$= 23,20,000 - 23,07,500$$

$$= ₹ 12,500$$



(b) Accounting Treatment of Over Absorbed Production Overheads

(1.) Abnormal Reasons

As per the question, $\frac{1}{4}$ th of over absorption is due to defective production policies i.e. abnormal reason.

$$\text{Amount} = 12500 \times \frac{1}{4} = ₹ 3,125$$

So, ₹ 3125 of over absorption due to abnormal reason shall be transferred to **credit** of costing P/L A/c

(2) Normal Reasons

As per the question, $\frac{3}{4}$ th of over absorption is due to ~~increase~~ decrease in costs i.e. normal reason.

$$\text{Amount} = 12500 \times \frac{3}{4} = ₹ 9,375$$

This ₹ 9,375 shall be apportioned over various units by supplementary Rate Method

Equivalent units produced:	sales of finished goods	21,600
	closing stock of finished goods	2,400
	(24,000 - 21,600)	
	Equivalent closing stock of WIP	9,000
	(18,000 × 50%)	
		33,000

$$\text{Supplementary Rate} = \frac{\text{Over Absorbed Overheads due to normal reason}}{\text{Equivalent Units Produced}}$$

$$= \frac{9,375}{33,000}$$

$$= ₹ 0.2841 \text{ - Unit}$$



- ₹ 6,136 of cost of sales shall increase current year profit.
- ₹ 682 of cost of finished Goods and ₹ 2,557 of cost of WIP shall increase next year profit.

(C) Statement showing Apportionment of Over Absorbed Overheads

₹. Particulars	Units	Supplementary Rate	Amount (₹)
1. Cost of sales	21600	· 2841	6136
2. Cost of closing stock of FG	2400	· 2841	682
3. Cost of closing stock of WIP	9000	· 2841	2557
			<hr/> <u>9,375</u>

Question 5

ABC Ltd. is a multiproduct company, manufacturing three products A, B and C. The budgeted costs and production for the year ending 31st March, 2008 are as follows :

	A	B	C
Production quantity (Units)	4,000	3,000	1,600
Resources per Unit :			
- Direct Materials (Kg.)	4	6	3
- Direct Labour (Minutes)	30	45	60

The budgeted direct labour rate was ₹ 10 per hour, and the budgeted material cost was ₹ 2 per kg. Production overheads were budgeted at ₹ 99,450 and were absorbed to products using the direct labour hour rate. ABC Ltd. followed an Absorption Costing System.

ABC Ltd. is now considering to adopt an Activity Based Costing system. The following additional information is made available for this purpose:

1. Budgeted overheads were analysed into the following :

	₹
Material handling	29,100
Storage costs	31,200
Electricity	39,150

2. The cost drivers identified were as follows :

Material handling	Weight of material handled
Storage costs	Number of batches of material
Electricity	Number of Machine operations

3. Data on Cost Drivers was as follows :

	A	B	C
For complete production :			
Batches of material	10	5	15
Per unit of production :			
Number of Machine operators	6	3	2

You are requested to :

1. Prepare a statement for management showing the unit costs and total costs of each product using the absorption costing method.
2. Prepare a statement for management showing the product costs of each product using the ABC approach.
3. What are the reasons for the different product costs under the two approaches?

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ANSWER - 5

1. Absorption Costing Method

Computation of Direct Labour Hours

Product	Quantity	labour per Unit (in minutes)	labour hours for total production
A	4000	30	$4000 \times 30/60 = 2000$
B	3000	45	$3000 \times 45/60 = 2250$
C	1600	60	$1600 \times 60/60 = 1600$
			5850

$$\begin{aligned}
 \text{Overhead Absorption Rate} &= \frac{\text{Total Production Overheads}}{\text{Total Direct labour hours}} \\
 &= \frac{99450}{5850} = 17 \text{ ₹/-}
 \end{aligned}$$

Statement of Cost

Sl. No. Particulars

	A	B	C
1. Direct Material	$4000 \times 4 \times 2$ = 32000	$3000 \times 6 \times 2$ = 36000	$1600 \times 3 \times 2$ = 9600
2. Direct Labour	2000×10 = 20000	2250×10 = 22500	1600×10 = 16000
3. Overheads	2000×17 = 34000	2250×17 = 38250	1600×17 = 27200
4. Total Cost	86000	96750	52800
5. Production (Units)	4000	3000	1600
6. Cost/Unit (4. ÷ 5.)	21.50	32.25	33



2. Activity Based Costing Method

Computation of Cost Driver Rate

Activity	Cost Pool	Cost Driver	Cost Driver Capacity	Cost Driver Rate (e) = b/d
(a)	(b)	(c)	(d)	(e)
• Material Handling	29100	Weight of Material handled	3800	0.75
• Storage Costs	31200	No. of Batches of Material	30	1040
• Electricity	39150	No. of Machine operations	36200	1.0815

Computation of Cost Driver Capacity

Particulars	A	B	C	Total
• Weight of Material handled	4000×4 $= 16000$	3000×6 $= 18000$	1600×3 $= 4800$	38000
• No. of Batches of Material	10	5	15	30
• No. of Machine operations	4000×6 $= 24000$	3000×3 $= 9000$	1600×2 $= 3200$	36200



Statement of Cost

S.No. Particulars	A	B	C
1. Direct Material	32000	36000	9600
2. Direct labour	20000	22500	16000
3. Overheads			
a. Material Handling	$16000 \times .75$ $= 12000$	$18000 \times .75$ $= 13500$	$4800 \times .75$ $= 3600$
b. Storage Costs	10×1040 $= 10400$	5×1040 $= 5200$	15×1040 $= 15600$
c. Electricity	24000×1.0815 $= 25956$	9000×1.0815 $= 9734$	3200×1.0815 $= 3461$
4. Total Cost	1,00,356	86,934	48,261
5. Production (Units)	4000	3000	1600
6. Cost/Unit (4. \div 5.)	25.09	28.98	30.16

(3) The difference in cost of product under the two approaches is due to difference in the amount of overheads borne by each product. ABC considers activity wise rates whereas the Traditional method considers a single absorption rate. ABC is much more superior as compared to Traditional Costing system.

Question 6

Concorde Ltd. manufactures two products using two types of materials and one grade of labour. Shown below is an extract from the company's working papers for the next month's budget:

	Product A	Product B
Budgeted sales (in units)	2,400	3,600
Budgeted material consumption per unit (in kg):		
Material - X	5	3
Material - Y	4	6
Standard labour hours allowed per unit of product	3	5

Material-X and Material-Y cost ₹ 4 and ₹ 6 per kg and labours are paid ₹ 25 per hour. Overtime premium is 50% and is payable, if a worker works for more than 40 hours a week. There are 180 direct workers.

The target productivity ratio (or efficiency ratio) for the productive hours worked by the direct workers in actually manufacturing the products is 80%.

In addition, the non-productive down-time is budgeted at 20% of the productive hours worked. There are four 5-days weeks in the budgeted period and it is anticipated that sales and production will occur evenly throughout the whole period.

It is anticipated that stock at the beginning of the period will be :

Product A	400 units
Product B	200 units
Material X	1,000 Kgs.
Material Y	500 Kgs.

The anticipated closing stocks for budget period are as below :

Product A	4 days sales
Product B	5 days sales
Material X	10 Days consumption
Material Y	6 Days consumption

Calculate the Material Purchase Budget and the Wages Budget for the direct workers, showing the quantities and values, for the next month.



ANSWER - 6

(A)

Production Budget

Particulars	Product A	Product B
• Budgeted sales	2400	3600
+ Anticipated closing stock	$2400 \times \frac{4}{20}^*$	$3600 \times \frac{5}{20}$
	= 480	= 900
- Anticipated opening stock	(400)	(200)
	<u>2480</u>	<u>4300</u>

* Days in Budgeted period = 4 weeks x 5 Days/week
= 20 Days

(B)

Raw Material consumption and Purchase Budget

Particulars	Material X	Material Y
• consumption for Product A	2480×5 = 12400	2480×4 = 9920
• consumption for Product B	4300×3 = 12900	4300×6 = 25800
Total consumption (Kgs.)	<u>25,300</u>	<u>35,720</u>
+ Anticipated closing stock	$25300 \times \frac{10}{20}$ = 12650	$35720 \times \frac{6}{20}$ = 10716
- Anticipated opening stock	(1000)	(500)
= Purchase (Kgs.)	<u>36,950</u>	<u>45,936</u>
X cost / Kgs. of RM	4	6
= Purchase (£)	<u>1,47,800</u>	<u>2,75,616</u>



(C) Computation of Data for Wages Budget

(1) Standard Time

Particulars	Hours
Product A	$2480 \times 3 = 7440$
Product B	$4300 \times 5 = 21500$
	<u>28940</u>

(2) Actual Time (Productive Hours worked)

$$\text{Efficiency Ratio} = \frac{\text{Standard Time}}{\text{Actual Time}} \times 100$$

$$80\% = \frac{28940}{\text{Actual Time}}$$

$$\text{Actual Time} = \frac{28940}{80\%}$$

Actual Time = 36175 hours

(3) Idle Time (Non Productive Down Time) and Total Payment Hours

• Idle Time = Productive Hours Worked \times 20%
 = $36175 \times 20\% = 7,235$ hours

• Total Payment Hours = $36175 + 7235 = 43,410$ hours

(4) Wage Rate/ Hour

• Normal Time = ₹ 25/-
 • Over Time = $25 + 50\%$ = ₹ 37.50/- ← OT Premium

(D) Wages Budget

Particulars	Hours	Rate/ Hour	Amount (₹)
• Normal Time	$40 \times 4 \times 180 = 28800$	25	7,20,000
• Overtime	$43410 - 28800 = 14610$	37.50	5,47,875
	<u>43,410</u>		<u>12,67,875</u>

Question 7

A Ltd. is a pharmaceutical company which produces vaccines for diseases like Monkey Pox, Covid-19 and Chickenpox. A distributor had given an order for 1,600 Monkey Pox Vaccines. The company can produce 80 vaccines at a time. To process a batch of 80 Monkey Pox vaccines, the following costs would be incurred:

Direct Materials ₹ 4,250

Direct wages ₹ 500

Lab set-up cost ₹ 1,400

The Production Overheads are absorbed at a rate of 20% of direct wages and 20% of total production cost is charged in each batch for Selling, distribution and administration Overheads. The company is willing to earn profit of 25% on sales value.

You are required to determine:

- (1) Total Sales value for 1,600 Monkey Pox Vaccines
- (2) Selling price per unit of the Vaccine.



ANSWER-7

Batch Size : 80 Vaccines

Order Received : 1600 Vaccines

No. of Batches : $\frac{1600}{80} = 20$ batches

Statement showing sales value of 1 batch and 20 batches & per Unit

Sl. No. Particulars	Amount (1 batch)	Amount (20 batches)	Amount per Unit
1. Direct Materials	4250	85,000	53.125
2. Direct Wages	500	10,000	6.25
3. Lab set up cost	1400	28,000	17.50
4. Prime Cost (1+2+3)	6150	123000	76.875
5. Production Overheads (20% of Direct Wages)	100	2000	1.25
6. Production Cost (4+5)	6250	125000	78.125
7. Selling, Distribution and Administration overheads (20% of Production cost)	1250	25000	15.625
8. Cost of sales (6+7)	7500	150000	93.75
9. Profit (WN)	2500	50000	31.25
10. Sales (8+9)	10000	2,00,000	125

Working Note

$$\text{Net SP} = 100$$

$$P = 25$$

$$CP = 75$$

$$P \text{ on } CP = \frac{25}{75} = \frac{1}{3}$$

Question 8

'Healthy Sweets' is engaged in the manufacturing of jaggery. Its process involves sugarcane crushing for juice extraction, then filtration and boiling of juice along with some chemicals and then letting it cool to cut solidified jaggery blocks.

The main process of juice extraction (Process - I) is done in conventional crusher, which is then filtered and boiled (Process - II) in iron pots. The solidified jaggery blocks are then cut, packed and dispatched. For manufacturing 10 kg of jaggery, 100 kg of sugarcane is required, which extracts only 45 litres of juice.

Following information regarding Process - I has been obtained from the manufacturing department of Healthy Sweets for the month of January:

	₹
Opening work-in-process (4,500 litre)	
: Sugarcane	50,000
: Labour	15,000
: Overheads	45,000
Sugarcane introduced for juice extraction (1,00,000 kg)	5,00,000
Direct Labour	2,00,000
Overheads	6,00,000
Abnormal Loss : 1,000 kg	
Degree of completion:	
: Sugarcane	100%
: Labour and overheads	80%
Closing work-in-process : 9,000 litre	
Degree of completion:	
: Sugarcane	100%
: Labour and overheads	80%

Extracted juice transferred for filtering and boiling: 39,500 litre.

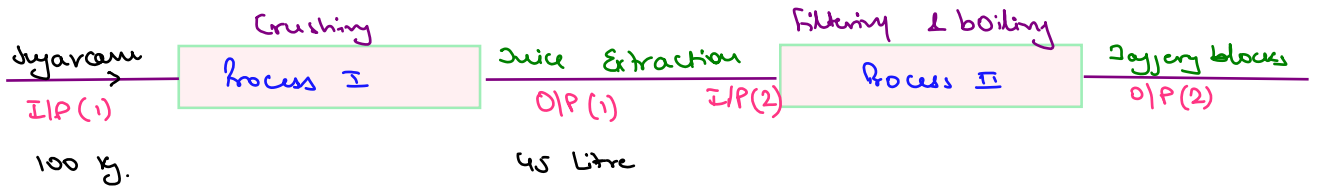
(Consider mass of 1 litre of juice equivalent to 1 kg)

You are required to prepare using average method:

1. Statement of equivalent production,
2. Statement of cost,
3. Statement of distribution cost, and
4. Process-I Account



ANSWER- 8



for Process I ;
 Input of Syarcane = 100 kg.
 Output of Juice = 45 Litre/kg.
 So, loss in processing = 55 kg. (Normal loss)
 Normal loss (%) = $\frac{55}{100} \times 100 = 55\%$

Process - I A/c

Particulars	Units	Amt	Particulars	Units	Amt
To opening WIP	4500	110000	By Normal loss	55000	-
To Syarcane	100000	500000		(100000 × 55%)	
To Direct labour	-	200000	By Abnormal loss	1000	25,595
To Overheads	-	600000	By Process II A/c	39500	11,54,048
			By closing WIP	9000	2,30,357
	<u>104500</u>	<u>1410000</u>		<u>104500</u>	<u>14,10,000</u>

Statement of Equivalent Production

Input	Units	Output	Units	Syarcane		Labour		Overheads	
				Doc	ECU	Doc	ECU	Doc	ECU
• opening WIP	4500	• Normal loss	55000	-	-	-	-	-	-
		• Abnormal loss	1000	100%	1000	80%	800	80%	800
• Syarcane fresh I/P	100000	• Transfer to Process II	39500	100%	39500	100%	39500	100%	39500
		• closing WIP	9000	100%	9000	80%	7200	80%	7200
	<u>104500</u>		<u>104500</u>		<u>49500</u>		<u>47500</u>		<u>47500</u>



Statement of cost

S.No. Particulars	Cost incurred in previous period	+	Cost incurred in current period	= Total Cost	ECU	Cost/ECU
1. Sugarcan	50000	+	500000	= 550000	49500	11.1111
2. Labour	15000	+	200000	= 215000	47500	4.5263
3. Overheads	45000	+	600000	= 645000	47500	13.5789
						<u>29.2164</u>

Statement of Valuation

1. Transfer to next process

$$= 39500 \times 29.2164 = 11,54,048$$

2. Abnormal loss

	ECU	x	Cost/ECU	=	
Sugar.	1000	x	11.1111	=	11,111
lab	800	x	4.5263	=	3621
OH	800	x	13.5789	=	10863
					<u>25595</u>

3. closing WIP

	ECU	x	Cost/ECU	=	
Sugar.	9000	x	11.1111	=	1,00,000
lab.	7200	x	4.5263	=	32,589
OH.	7200	x	13.5789	=	97,768
					<u>2,30,357</u>

Question 9

A company produces two joint products X and Y, from the same basic materials. The processing is completed in three departments.

Materials are mixed in department I. At the end of this process, X and Y get separated. After separation, X is completed in the department II and Y is finished in department III.

During a period, 2,00,000 kgs of raw material were processed in department I, at a total cost of ₹ 8,75,000, and the resultant 60% becomes X and 30% becomes Y and 10% normally lost in processing.

In department II, 1/6 of the quantity received from department I is lost in processing. X is further processed in department II at a cost of ₹ 1,80,000.

In department III, further new material added to the material received from department I and weight mixture is doubled, there is no quantity loss in the department and further processing cost (with material cost) is ₹ 1,50,000.

The details of sales during the year:

	Product X	Product Y
Quantity sold (kgs)	90,000	1,15,000
Sales price per kg (₹)	10	4

There were no opening stocks. If these products sold at split-off-point, the selling price of X and Y would be ₹ 8 and ₹ 4 per kg respectively. Required:

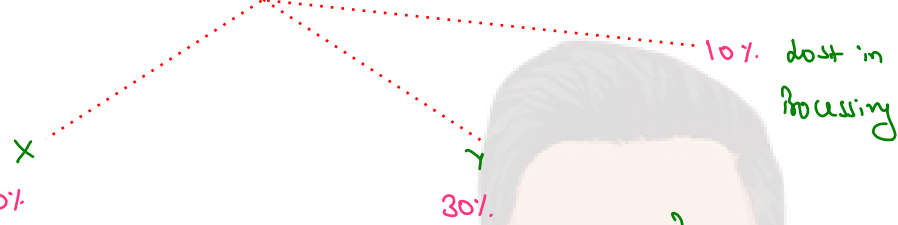
- Prepare a statement showing the apportionment of joint cost to X and Y in proportion of sales value at split off point.
- Prepare a statement showing the cost per kg of each product indicating joint cost, processing cost and total cost separately.
- Prepare a statement showing the product wise profit for the year.
- On the basis of profits before and after further processing of product X and Y, give your comment that products should be further processed or not.



ANSWER - 9

20000 kg. ₹ 75000 ← Joint Cost

Department 1



Split-off joint :

12000 kg. }
 SP @ 8/- }
 ₹ 180000 F
Department 2

60000 kg. }
 SP @ 4/- }
 ₹ 150000 F
Department 3

Loss : $12000 \times \frac{1}{6}$
 : 2000 kg.

After split off joint :

Net : 12000 - 2000
 OP : 10000 kg.

Net OP : 60000×2
 : 120000 kg.

Qty. : 90000 kg. @ 10/-
 sold

115000 kg. @ 4/-

closing : 10000 kg.
 stock

5000 kg



(a) Statement showing Apportionment of Joint Cost

Sl. No. Particulars	X	Y
1. Sales value at split off point	120000 x 8 = 960000	60000 x 4 = 240000
2. Share in Joint Cost of ₹ 875000	700000	175000

(b) Statement of Cost per kg. and Total

Sl. No. Particulars	X (100000 kg.)		Y (120000 kg.)	
	Total	Per kg.	Total	Per kg.
1. Joint cost	700000	7	175000	1.4583
2. Further Processing Cost	100000	1.00	150000	1.25
3. Total Cost	800000	8.00	325000	2.7083

(c) Statement of Profit

Particulars	X	Y
Sales value after further processing	90000 x 10 = 900000	115000 x 4 = 460000
- Share in Joint Cost	90000 x 7 = (630000)	115000 x 1.4583 = (167705)
- Further Processing cost	90000 x 1.00 = (162000)	115000 x 1.25 = (143750)
	<u>108000</u>	<u>145855</u>



(d)

(1) Statement of Profit if JPs sold at split-off joint

Particulars	X	Y
Sales	960000	240000
- Share in Joint Cost	(700000)	(175000)
	<u>260000</u>	<u>65000</u>

(2) Statement of Profit if JPs sold after further processing

Particulars	X	Y
Sales	100000 x 10 = 10,00,000	120000 x 4 = 4,80,000
- Further Processing Cost	(180000)	(150000)
- Share in Joint Cost	(700000)	(175000)
	<u>120000</u>	<u>155000</u>

(3) Decision about further processing

As Profits for Product X are higher when sold at split-off point, so it should not be processed further.

However, as Profits for Product Y are higher when sold after further processing, so it should be processed further.

Question 10

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

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

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

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

Analysis of variances was as follows:

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

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

1. Material cost variance
2. Budgeted output (in units)
3. Quantity of raw materials purchased (in kilograms)
4. Actual output (in units)
5. Actual hours worked
6. Actual wage rate per labour hour
7. Labour cost variance
8. Production overhead cost variance

ANSWER- 10

(A) Labour Variances

 L_1 : Actual Labour Cost

: 4392000

Labour Rate Variance = 69120 (A)

 $L_2 - L_1 = 69120$ (A) $L_2 - 4392000 = -69120$ $L_2 = 4322880$

Labour Efficiency Variance = 33120 (F)

 $L_5 - L_2 = 33120$ (F) $L_5 - 4322880 = 33120$ $L_5 = 4356000$ L_5 : Actual O/P x Stdd. Lab Cost/ Unit of O/P $4356000 = \text{Act. O/P} \times (5 \times 72)$

$$\text{Act. O/P} = \frac{4356000}{360}$$

$$\text{Act. O/P} = 12100$$

(B) Material Variances

 M_4 : Act. O/P x Stdd. Mat cost/ Unit of O/P $M_4 = 12100 \times (20 \times 24)$ $M_4 = 5808000$



$$\text{Material Usage Variance} = 48000 \text{ (F)}$$

$$M_4 - M_2 = 48000 \text{ (F)}$$

$$570000 - M_2 = 48000$$

$$M_2 = 576000$$

$$\text{Material Price Variance} = 48000 \text{ (F)}$$

$$M_2 - M_1 = 48000 \text{ (F)}$$

$$576000 - M_1 = 48000$$

$$M_1 = 528000$$

(C) Fixed overhead Variances

fo₁ : Actual fixed overheads

: 4500000

$$\text{F. OH Expenditure Variance} = 18000 \text{ (A)}$$

$$fo_2 - fo_1 = 18000 \text{ (A)}$$

$$fo_2 - 4500000 = -18000$$

$$fo_2 = 4320000$$

(1) Material Cost Variance

$$= M_4 - M_1$$

$$= 580000 - 528000$$

$$= 52000 \text{ (F)}$$

(2) Budgeted O/P (Units)

$$fo_2 = \text{Budg. O/P} \times \text{std. fix. OH / Unit of O/P}$$

$$4320000 = \text{Budg. O/P} \times 360 \leftarrow \text{As says it is same as lab cost/O/P}$$

$$\text{Budg. O/P} = \frac{4320000}{360} = 12000$$



(3.) Qty. of LM purchased (kg.)

$$M_1 = AQ \times AR$$

$$5280000 = AQ \times 22$$

$$AQ = \frac{5280000}{22}$$

$$AQ = 240000 \text{ kg.}$$

(4.) Actual Output (in Units)

$$= 12100 \text{ [computed in (A) above]}$$

(5.) Actual Hours worked

$$L_2 = AH \times SR$$

$$4322880 = AH \times 72$$

$$AH = \frac{4322880}{72}$$

$$AH = 60040$$

(6.) Actual Wage Rate/ labour hour

$$L_1 = AH \times AR$$

$$4392000 = 60040 \times AR$$

$$AR = \frac{4392000}{60040}$$

$$AR = 73.15 \text{ ₹ | hour}$$

(7.) Labour Cost Variance

$$= L_5 - L_1$$

$$= 4356000 - 4392000$$

$$= 36000 \text{ (A)}$$



(f) Production on Cost Variance

$$= F_{05} - F_{01}$$

$$= 4356000 - 4500000$$

$$= 144000 \text{ (A)}$$

$$F_{05} = \text{Act. O/P} \times \text{std. f. on cost} / \text{Unit of O/P}$$

$$= 12100 \times 360$$

$$= 4356000$$

Question 11

The following data are available from the budget records of Finesign Women's Handbag Company for the forthcoming budget period.

	(₹)
Selling Price per unit	1,000
Variable cost per unit :	
Material cost	750
Salesmen's commission	50
Total variable cost	800
Annual fixed expenses :	
Rent	7,00,000
Salaries	11,00,000
Other fixed expenses	5,00,000
Total fixed cost	23,00,000

Although the firm manufactures Bags with different styles, they have identical purchase costs and selling price.

Requirement:

- What is the annual break-even point both in terms of units and value?
- If the store manager is paid 1 per cent commission on sales, what would be the annual break-even point both in terms of units and value?
- If the firm decides to pay a fixed salary of ₹ 9,00,000 in lieu of sales commission, what would be the annual break-even point in terms of units and value?
- Considering break-even point in requirement (a), if the stores manager is paid 2 per cent commission on each bag sold in excess of the break-even point, what would be the profit if 20000 bags were sold.



ANSWER- 11

(a) $SP/u = 1000 \text{ ₹}$

$VC/u = 800 \text{ ₹}$

$Contribution/Unit = 1000 - 800 = 200 \text{ ₹}$

$P/V \text{ Ratio} = \frac{200}{1000} \times 100 = 20\%$

$BEP (Units) = \frac{FC}{Contribution/Unit}$

$= \frac{23,00,000}{200} = 11500 \text{ Units}$

$BEP (₹) = \frac{FC}{P/V \text{ Ratio}}$

$= \frac{23,00,000}{20\%} = 115,00,000 \text{ ₹}$

(b) $Commission \text{ to store manager} = 1\% \text{ of sales}$

$= 1000 \times 1\% = 10 \text{ ₹/Unit}$

$Revised VC/Unit = 800 + 10 = 810 \text{ ₹}$

$Revised contribution/Unit = 1000 - 810 = 190 \text{ ₹}$

$Revised P/V \text{ Ratio} = \frac{190}{1000} \times 100 = 19\%$

$BEP (Units) = \frac{2300000}{190} = 12105 \text{ Units}$

$BEP (₹) = \frac{2300000}{19\%} = 1,21,05,263 \text{ ₹}$



(c) Revised $vc/unit = 750 \text{ ₹}$

Revised contribution/unit = $1000 - 750 = 250 \text{ ₹}$

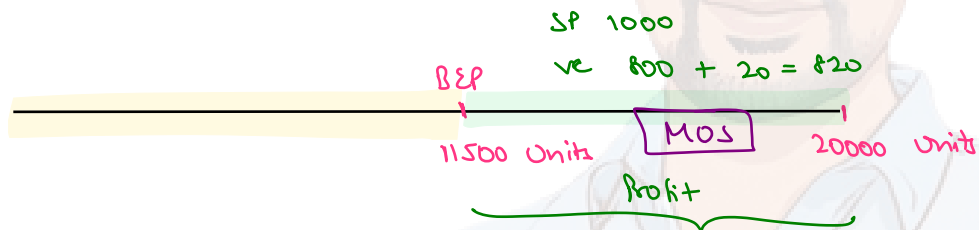
Revised P/V ratio = $\frac{250}{1000} \times 100 = 25\%$

Revised FC = $23,00,000 + 9,00,000 \text{ (Salary)} = 32,00,000 \text{ ₹}$

BEP (Units) = $\frac{32,00,000}{250} = 12,800 \text{ Units}$

BEP (₹) = $\frac{32,00,000}{25\%} = 1,28,00,000 \text{ ₹}$

(d)



- FC is fully recovered till BEP i.e. 11500 units
- Profit will be earned on 8500 units (20000 - 11500)
- Any contribution earned beyond 11500 units is simply the profit.

$SP/U = 1000 \text{ ₹}$

$vc/U = 800 \text{ ₹}$

Commission on each bag = $1000 \times 2\% = 20 \text{ ₹}$

Revised $vc/U = 800 + 20 = 820 \text{ ₹}$

Contribution/U = $1000 - 820 = 180 \text{ ₹}$

Total Profit = Total Contribution = 8500×180
 $= 1,53,00,000 \text{ ₹}$

Question 12

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.

Required:

- A. Calculate the number of shirts and shorts to be produced per month in the first quarter of financial year 2022-2023 to maximize company's profit.
- B. Prepare the following budgets on a monthly basis for July, August and September 2022:
- (1) Sales budget showing sales units and sales revenue for each product.
 - (2) Production budget (in units) for each product.



ANSWER - 12

(A) Statement of contribution and ranking

Particulars	shirt	short
SP/Unit	60	44
- VC/Unit		
: Raw Material - fabric	(24)	(12)
: Dyes & Cotton	(6)	(4)
: Direct labour	(8)	(4)
= Contribution/Unit	22	24

labour hours / Unit

$$\frac{8}{8} = 1$$

$$\frac{4}{8} = .50$$

Units / labour Hour

$$\frac{1}{1} = 1$$

$$\frac{1}{.50} = 2$$

Contribution / lab. Hour

$$22 \times 1 = 22$$

$$24 \times 2 = 48$$

Rank

2

1

Due to higher contribution/labour hour, shorts should be produced first

Let no. of shorts to be produced P.M. = x

∴ the no. of shirts to be produced P.M. = 25% of $x = .25x$

$$\underbrace{(x \times .50)}_{\text{lab hrs. for shorts}} + \underbrace{(.25x \times 1)}_{\text{lab hrs. for shirts}} = 12000 \quad (\text{Total labour hours})$$

$$.50x + .25x = 12000$$

$$.75x = 12000$$

$$x = \frac{12000}{.75} = 16000$$

∴ no. of shorts = 16000

no. of shirts = $16000 \times 25\% = 4000$



(B)

(1.) Sales Budget

	Shirts			Shorts		
	July	Aug	Sep	July	Aug.	Sep.
(a) Sales (Units)	15000	16500	18150	20000	22000	24200
(b) SP/v	60	60	60	44	44	44
(c) Sales Revenue (a × b)	900000	990000	1089000	880000	968000	1064800

(2.) Production Budget

	Shirts				Shorts			
	July	Aug.	Sep	Oct.	July	Aug.	Sep.	Oct.
sales	15000	16500	18150	19965	20000	22000	24200	26620
+ closing stock	6600	7260	7986		8800	9680	10648	
- opening stock	NIL	(6600)	(7260)		NIL	(8800)	(9680)	
= Production	21600	17160	18876		28800	22880	25168	

Question 13

The following information is available in the financial accounts of a manufacturing company for the year ending 31st March, 2009:

	₹
Direct Material consumption	3,55,000
Direct wages	3,60,000
Manufacturing expenses	2,45,000
Office and administrative expenses	2,40,000
Selling and distribution expenses	2,00,000
Donation and charity	20,000
Interest on debentures	48,000
Preliminary expenses (written off)	20,000
Provision for income-tax	75,000
Interest received on deposits	25,000
Sales : 1,80,000 units	16,20,000
Closing stock of finished goods : 30,000 units	1,50,000

The Cost accounts reveals:

- Manufacturing overheads recovered at 80 percent on direct wages.
- Office and administrative overheads recovered at 25 percent on factory cost.
- Selling and distribution overheads at Re. 1.00 per unit sold.
- Closing stock of finished goods valued at cost of production.

You are required to:

1. Prepare profit and loss account showing net profit in financial accounts.
2. Prepare a statement showing profit in the cost accounts.
3. Prepare a statement reconciling the profits disclosed as per above (i) and (ii).



ANSWER-13

(1)

Trading and Profit & Loss A/c
for year ending 31 Mar 2009

Particulars	Amt. (₹)	Particulars	Amt. (₹)
To Direct Material	355000	By Sales	1620000
To Direct Wages	360000	By closing stock of FG	150000
To Manufacturing Expenses	245000	By interest received on deposits	25000
To office and administrative Expenses	240000		
To selling and distribution Expenses	200000		
To Donation & charity	20000		
To Interest on debentures	40000		
To Preliminary Expenses (W.P.A.)	20000		
To Provision for Income Tax	75000		
To Net Profit	232000		
	<u>1795000</u>		<u>1795000</u>

Note: $\text{Production} = \text{Sales} + \text{closing stock} - \text{opening stock}$

$$= 180000 + 30000 - 0$$

$$= 210000 \text{ Units}$$



(2)

Cost sheet

for year ending 31 Mar 2009

Particulars	Amt (₹)
Direct Material	355000
+ Direct wages	360000
= Prime cost	715000
+ Manufacturing overheads (360000 × 40%)	288000
= Factory cost	1003000
+ office and administrative overheads (related to production) (1003000 × 25%)	250750
= Cost of production	1253750
+ opening stock of FG	-
- closing stock of FG $\left(\frac{1253750}{210000} \times 30000 \right)$	(179107)
= Cost of goods sold	1074643
+ selling & distribution overheads (100000 × 1)	100000
= Cost of sales	1254643
+ Profit	365357
= Sales	<u>1620000</u>



Reconciliation Statement

Particulars	Amt (₹)
Profit as per Cost A/c	365357
+ Interest received on deposits	25000
- Donation and charity	(20000)
- Interest on debentures	(40000)
- Preliminary Expenses (W/O/T)	(20000)
- Provision for income tax	(75000)
- Over valuation of closing stock in Cost A/c	(29107)
(179107 - 150000)	
+ over recovery of Manufacturing overheads	43000
(28000 - 245000)	
+ over recovery of office & Administrative overheads	10750
(250750 - 240000)	
- Under recovery of selling & Distribution overheads	(20000)
(200000 - 180000)	
= Profit as per financial A/c	<u><u>2,32,000</u></u>

Question 14

Acme Manufacturing Co. Ltd. opens the costing records, with the balances as on 1st July, 2012 as follows :

	₹	₹
Material control A/c	1,24,000	
Work-in-progress A/c	62,500	
Finished Goods A/c	1,24,000	
Production Overheads A/c	8,400	
Administration Overhead		12,000
Selling and Distribution Overhead A/c	6,250	
General Ledger Control A/c		3,13,150
	3,25,150	3,25,150

The following are the transactions for the quarter ended 30th September 2012 :

	₹
Materials purchased	4,80,100
Materials issued to jobs	4,77,400
Materials to works maintenance	41,200
Materials to administration office	3,400
Materials to selling department	7,200
Wages direct	1,49,300
Wages indirect	65,000
Transportation for incoming materials	8,400
Production overheads	2,42,250
Absorbed overheads production	3,59,100
Administration overheads	74,000
Administration allocation to production	52,900
Administration allocation to sales	14,800
Sales overheads	64,200
Sales overheads absorbed	82,000
Finished goods produced	9,58,400
Finished goods sold	9,77,300
Sales Realisation	14,43,000

Make up the various accounts in the Cost Ledger and prepare a Trial Balance as at 30th September, 2012.

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ANSWER - 14

Material Control A/c

Particulars	Amt.	Particulars	Amt.
TO Balance b/d	124000	By WIP Cont A/c	477400
TO GLC A/c	480100	By Prod OH A/c	41200
TO GLC A/c : Transportation	8400	By Adm OH A/c	3400
		By S & D OH A/c	7200
		By Balance c/d	83300
	<u>612500</u>		<u>612500</u>

Wages Control A/c

Particulars	Amt.	Particulars	Amt.
TO GLC A/c	214300	By WIP Cont A/c	149300
(149300 + 65000)		By Prod OH A/c	65000
	<u>214300</u>		<u>214300</u>

Production overheads A/c

Particulars	Amt.	Particulars	Amt.
TO Balance b/d	8400	By WIP Cont A/c	359100
TO Mat. Cont A/c	41200		
TO Wog. Cont. A/c	65000		
TO GLC A/c	242250		
TO Balance c/d	2250		
	<u>359100</u>		<u>359100</u>



Work-In-Progress A/c

Particulars	Amt.	Particulars	Amt.
TO Balance b/d	62500	By FG A/c	958400
TO Mat. cont. A/c	477400		
TO Waj. cont. A/c	149300	By Balance c/d	142800
TO Prod. on A/c	359100		
TO Admin OH A/c	52900		
	<u>11,01,200</u>		<u>11,01,200</u>

Administration overhead A/c

Particulars	Amt.	Particulars	Amt.
TO Mat. cont. A/c	3400	By Balance b/d	12000
TO GLC A/c	74000	By WIP cont. A/c	52900
TO Balance c/d	2300	By Cost of sales A/c	14800
	<u>79700</u>		<u>79700</u>

Finished Goods A/c

Particulars	Amt.	Particulars	Amt.
TO Balance b/d	124000	By Cost of sales A/c	977300
TO WIP A/c	958400	By Balance c/d	105100
	<u>1082400</u>		<u>1082400</u>

Selling and Distribution overhead A/c

Particulars	Amt.	Particulars	Amt.
TO Balance b/d	6250	By Cost of sales A/c	82000
TO Mat. cont. A/c	7200		
TO GLC A/c	64200		
TO Balance c/d	4350		
	<u>82000</u>		<u>82000</u>



Cost of Sales A/c

Particulars	Amt.	Particulars	Amt.
TO Admin OH A/c	14800	By Costing P/L A/c	1074100
TO S & D OH A/c	82000		
TO FC A/c	97300		
	<u>1074100</u>		<u>1074100</u>

Costing Profit & Loss A/c

Particulars	Amt.	Particulars	Amt.
TO Cost of Sales A/c	1074100	By GLC A/c	1443000
TO GLC A/c: Profit	368900		
	<u>1443000</u>		<u>1443000</u>

General Ledger Control A/c

Particulars	Amt.	Particulars	Amt.
TO Costing P/L A/c	1443000	By Balance b/d	313150
TO Balance c/d	322300	By Mat. Cont. A/c	480100
		By Wages Cont. A/c	214300
		By Mat. Cont. A/c	8400
		By Prod. OH A/c	242250
		By Adm. OH A/c	74000
		By S & D OH A/c	64200
		By Costing P/L A/c	368900
	<u>1765300</u>		<u>1765300</u>



Trial Balance of Acme Mfg. Co. Ltd
as at 30 Sep 2012

Particulars	Dr.	Cr.
Material Control A/c	83200	
Production Overheads A/c		2250
Work in Progress A/c	142800	
Administration Overheads A/c		2300
Finished Goods A/c	105100	
Selling & Distribution Overheads A/c		4850
General Ledger Control A/c		322300
	<hr/>	<hr/>
	331200	331200
	<hr/>	<hr/>

Question 15

SLS Infrastructure built and operates 110 k.m. highway on the basis of Built-Operate-Transfer (BOT) for a period of 25 years. A traffic assessment has been carried out to estimate the traffic flow per day shows the following figures :

S.No.	Type of Vehicle	Daily Traffic Volume
1.	Two wheelers	44,500
2.	Cars & SUVs	3,450
3.	Bus & LCV	1,800
4.	Heavy commercial vehicles	816

The following is the estimated cost of the project :

S.No.	Activities	Amount (₹ in lakh)
1.	Site clearance	170.70
2.	Land development and filling work	9,080.35
3.	Sub base and base courses	10,260.70
4.	Bituminous work	35,070.80
5.	Bridge, flyovers, underpasses, Pedestrian subway, foot bridge, etc	29,055.60
6.	Drainage and protection work	9,040.50
7.	Traffic sign, marking and road appurtenance	8,405.00
8.	Maintenance, repairing and rehabilitation	12,429.60
9.	Environmental management	982.00
	Total Project cost	1,14,495.25

An average cost of ₹ 1,120 lakh has to be incurred on administration and toll plaza operation. On the basis of the vehicle specifications (i.e. weight, size, time saving etc.), the following weights has been assigned to the passing vehicles :

S.No.	Type of Vehicle	
1.	Two wheelers	5%
2.	Cars & SUVs	20%
3.	Bus & LCV	30%
4.	Heavy commercial vehicles	45%

- (1) Calculate the total project cost per day of concession period.
- (2) Compute toll fee to be charged for per vehicle of each type, if the company wants earn a profit of 15% on total cost.

[Note: Concession period is a period for which an infrastructure is allowed to operate and recovers its investment]

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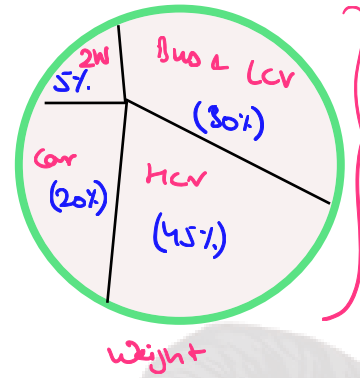
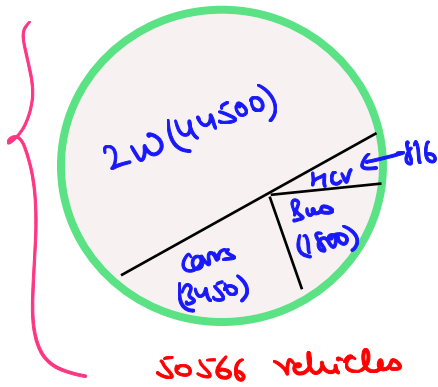
ANSWER - 15

(1) Statement showing Total Project cost per Day of concession period

S.No. Particulars	Amount (₹ in lakh)
1. Site clearance	170.70
2. Land Development and filling work	9080.35
3. Sub base and base courses	10260.70
4. Bituminous work	35070.60
5. Bridge, Flyovers, underpass etc	29056.60
6. Drainage and Protection work	9040.50
7. Traffic sign, marking & road appurtenance	1405.00
8. Maintenance, Repair & Rehabilitation	12429.60
9. Environmental Management	982.00
10. Administration cost	1120.00
11. Total Cost	115615.25
12. Total Days in Concession period (25 Years x 365 Days/Year)	9125
13. Project cost/Day (11/12)	12.67 ₹ (in lakh)

(2) Computation of Toll charges

Cost/Day	1267000 ₹
+ Profit @ 15%	190050 ₹
= Total Collection/Day	14,57,050 ₹



Statement showing weighted Traffic

S.No.	Type of Vehicle	Daily volume	Weight(%)	Product
1.	Two wheelers	44500	5	2225
2.	Cars & SUVs	3450	20	690
3.	Bus & LCV	1800	30	540
4.	HCV	816	45	367.20
		<u>50566</u>		<u>3822.20</u>

आगर सभी vehicle 1 ही type के हों तो के total 3822.20 हों

$$\text{Weighted Avg. Toll Rate} = \frac{1457050}{3822.20} = 381.207 \text{ ₹}$$

अगर हम हर vehicle से 381.207 ₹ का toll लेंगे।

Statement showing Toll fee to be charged from each type of vehicle

S.No.	Type of vehicle	Toll Rate
1.	Two Wheeler	$381.207 \times 5\% = 19.06 \text{ ₹}$ $\left\{ \begin{array}{l} \times 44500 \\ \times 3450 \\ \times 1800 \\ \times 816 \end{array} \right.$
2.	Cars & SUVs	$381.207 \times 20\% = 76.24 \text{ ₹}$
3.	Bus & LCV	$381.207 \times 30\% = 114.36 \text{ ₹}$
4.	HCV	$381.207 \times 45\% = 171.54 \text{ ₹}$
		<u>1457050</u>