



CHAPTERWISE IMPORTANT ADJUSTMENTS OF COST

COST SHEET

- ① All the SPECIAL DESIGNS, DIAGRAMS, RENT OF SPECIAL m/c, SPECIAL SOFTWARE, MOULDS are **DIRECT EXPENSES**

NORMAL are **FACTORY OVERHEADS**

- ② To identify **ADMIN OH RELATED TO PRODUCTION :-**

- if Admin OH is based on % of DM/OL/DE/FOH/primecost
- if Admin OH is given individually or single in Adjustment.
- if Ques says it is Admin OH RTP.
- if it is Administration of Factory or Production Manager's Salary.
- if Admin OH is given as PER UNIT PRODUCED

For all other cases it is **GENERAL ADMIN OVERHEAD**

- ③ To calculate Fg amount :-

- (Based on COP) : $\frac{\text{Cost of production}}{\text{units produced}} \times \text{Fg units}$
- (Based on COGS) : $\frac{\text{Cost of goods sold}}{\text{units sold}} \times \text{Fg units}$





④ To identify **SCRAP OF RM**

- if it is given as **SCRAP OF MATERIAL** or **RAW MATERIAL**

⑤ To identify **SCRAP OF FG**

- if it is given as **SCRAP OF FG** or **SCRAP OF LEATHER CUTTING**.
- if it is given as **SCRAP DURING PRODUCTION**

⑥ Direct wages being **175% of Factory OH** means
 $\Delta \text{wages} = \text{Factory OH} \times 175\%$

⑦ Bemo Variable OH calculation :-

108000 per annum upto 50%

additional 46800 for 20% increase or part thereof

- If working at **0-50%** for full year, **cost = 108000**
- If working at **51%-70%** for full year, **cost = 108000 + 46800**
- If working at **71%-90%** for full year, **cost = 108000 + 46800 + 46800**
- If working at **90%-100%** for full year, **cost = 108000 + 46800 + 46800 + 46800**

⑧ Amount spent for **RECTIFICATION OF DEFECTIVE PRODUCT** is shown as **Factory OHs**

⑨ Packaging cost for **REDISTRIBUTION OF FG** is **Distribution OH**.



- ⑩ • SALARY TO GENERAL MANAGER is General Admin OH.
• SALARY TO SUPERVISOR is Factory OH
- ⑪ INCOME TAX OF COMPANY & DONATION TO PM RELIEF FUND is NOT SHOWN in cost sheet
- ⑫ INTEREST EXPENSES are shown just above cost of Sales.
- ⑬ • INSURANCE OF RM is shown in RM consumed.
• INSURANCE OF STOCK OF RM & WIP is Factory OH.
- ⑭ MOST IMPORTANT GST ADJUSTMENT
 - If ITC on GST available - Don't add to purchase price or don't less from purchase price (ignore)
 - If ITC on GST not available - Add to RM purchase price
 - If ITC available and still included in RM cost - then deduct from RM purchase price i.e. it should not be added.
- ⑮ • Stores and Spares are Factory OHs
• Carriage Outwards is Selling & Distribution OH.





- ⑩ Direct material cost in A is twice as much of direct material cost in B and total material cost is ₹ 800000. A units prod = 40000. B = 120000
So assume . direct material cost per unit of B = x
direct material cost per unit of A = $2x$

Total material cost = Total Material A + Total Material B

$$800000 = \text{units A} \times \text{RM/unit of A} + \text{units B} \times \text{RM/unit of B}$$

$$800000 = 40000 \times 2x + 120000 \times x$$

$$\text{direct material cost per unit of B} = x = 4$$

$$\text{direct material cost per unit of A} = 2x = 8$$

- ⑪ GST PAID ON HIRING OF CARS means GST ON [RENT + DIESEL]



MATERIAL COST

① DISCOUNTS :-

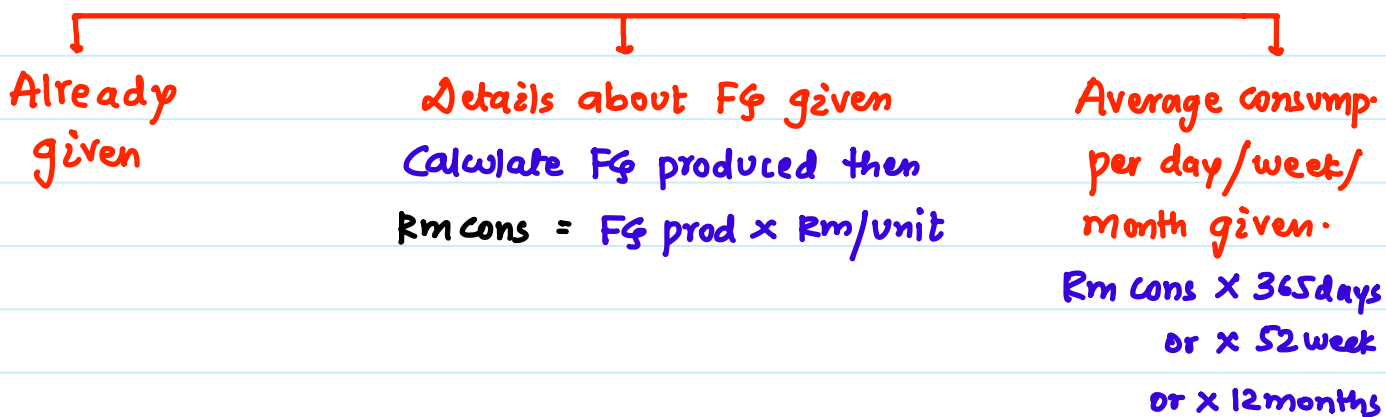
- Cash discount - Ignore
- Qty / Trade discount / Subsidy - Deduct from purchase price

- ### ②
- NORMAL LOSS :- Only Quantity subtracted.
 - ABNORMAL LOSS :- Both Quantity and Respective Cost is subtracted

③ TO CALCULATE :-

- ~~EOQ~~ use RM purchased
- MAXIMUM / MINIMUM STOCK use RM consumed

④ HOW TO CALCULATE ANNUAL CONSUMPTION OF RM :-



⑤

• $Fg\ sold = o/s\ Fg + Fg\ produced - c/s\ Fg$

• $RM\ consumed = o/s\ RM + RM\ purchased - c/s\ RM$

(If o/s and c/s of RM not given then $RM\ purchased = RM\ consumed$)



⑥ WEIGHTED AVERAGE :- First calculate weighted avg SP.

CARRYING COST

(Ques 6)

$$\frac{\text{units}_A \times SP_A + \text{units}_B \times SP_B}{\text{units}_A + \text{units}_B}$$

Then multiply it with carry cost per unit.

⑦ For STOCK OUT Ques :-

Check what will be my loss if I keep a particular level of Inventory.

⑧ If Ques asks what is counteroffer for discount in EOQ based Ques :-
Total cost should always be equal to our minimum cost at EOQ level (Ques 3 main book)

⑨ Sales demand 500000	X Stock 12000 units
RM A:B = 1:4	A Stock 24000 units
RM A required 4 kg/unit	B Stock 52000 units

Sales = o/s FG + production - c/s FG

500000 = 12000 + production - 0

production = 500000 - 12000 = 488000



- Rm A required = 4 kg/unit
- Rm B required = 4 times A = 16 kg/unit

$$\begin{aligned}\text{Total Cons A} &= 48000 \times 4 \\ &= 1952000\end{aligned}$$

$$\begin{aligned}\text{Total Cons B} &= 48000 \times 16 \\ &= 7808000\end{aligned}$$

$$\begin{aligned}\text{Purchase A} &= \text{Cons} - \text{O/s Rm} + \text{C/s Rm} \\ &= 1952000 - 24000 \\ &= 1928000\end{aligned}$$

$$\begin{aligned}\text{Purchase B} &= \text{Cons} - \text{O/s Rm} + \text{C/s Rm} \\ &= 7808000 - 52000 \\ &= 7756000\end{aligned}$$

(If nothing is given $\text{Max Cons} = \text{Avg Cons} = \text{Min Cons}$)

(10) Consumption X = 240000
Loss in Process = 4% of purchase.

$$\text{purchase} - \text{loss} = \text{consumption}$$

$$x - 4\%x = 240000$$

$$96\%x = 240000$$

$$x = 240000 / 96\% = 250000 \text{ kg}$$

$$\text{purchase} = 250000 \text{ kg}$$





⑪ If Ques is about **PERISHABLE GOODS** · (3.5 days expiry)
Compare max stock v/s consumption of stock in 3.5 days

Step 1:- Calculate maximum stock by using formula $[ROL + ROQ - \frac{\text{min cons} \times \text{min lead}}{\text{min cons}}]$

Step 2:- Calculate RM consumed in 3.5 days $[\text{Avg RM cons per day} \times 3.5 \text{ days}]$

Step 3:- Lower of Both is MAXIMUM STOCK.

⑫ Carry cost per unit per annum = Purchase Price RM $\times$ Interest % pa

⑬ Always **ROUND UP** the no. of orders i.e $[3.1 \text{ order} = 4 \text{ order}]$

⑭ Detention Charges / Fines / Penalties are NOT added to cost of RM.

⑮ Lead Time and Consumption should have same base i.e **days** or **week**



EMPLOYEE COST

- ① **WAGE RATE** or **LABOUR COST** is calculated from company's P.O.V so ALL THE AMOUNT PAID by the company is included.

[Basic + DA + Bonus + overtime + Commission + Perquisites + Allowance
+ Employer's contri to PF + Employer's contri to Insurance]

- ② **EARNINGS** is calculated from workers P.O.V so net amount received in hand is considered [employer's contri to PF & ESI ignored]
[employee's contri to PF & ESI is subtracted]

- ③ **TOTAL OVERTIME PAY = NORMAL RATE + OVERTIME PREMIUM**

- ④ **TO CONVERT TIME RATE :-** Piece Rate = $\frac{\text{Total cost per Hour}}{\text{No of units in 1 Hr as per standard}}$
TO PIECE RATE

- ⑤ **TO CONVERT PIECE RATE :-** Time Rate = $\frac{\text{Peice rate per unit}}{\text{Standard time per unit}}$
TO TIME RATE

- ⑥ **EFFECTIVE WAGE RATE =** $\frac{\text{Total payment to worker (including bonus)}}{\text{Actual Hours worked}}$

- ⑦ While calculating **ORDINARY WAGE RATE** overtime is not included.





⑧ If Ques says :-

Overtime is given if a worker works more than 9 Hours and if he works more than 9 Hours, overtime is considered after 8 Hours

First check :- Has the worker worked > 9 Hours

Second :- If Yes, $\text{overtime Hours} = \text{Actual Hours worked} - 8 \text{ Hours}$.

⑨ Whenever solving the Questions of Halsey or Rowan, ALWAYS ADD THE NORMAL WAGES earned to the BONUS.

⑩ To calculate No of workers Replaced and No of Fresh joinee first fill all the vacancies of people left.



OVERHEADS

① When preparing PRIMARY & SECONDARY DISTRIBUTION

- If $\Delta m / \Delta L / \Delta E$ of both prod & service dept is given : write $\Delta m / \Delta L / \Delta E$ only of service dept & not prod dept
- If $\Delta m / \Delta L / \Delta E$ given only of production department : write $\Delta m / \Delta L / \Delta E$ in production dept only
- If $\Delta m / \Delta L / \Delta E$ given only of service department : write $\Delta m / \Delta L / \Delta E$ in the service dept only

② How to allocate POWER COST OF MACHINE :-

- If only HP (Horse power) given : on the basis of HP only.
- If HP & MACHINE HRS given : on basis of $(HP \times m/c \text{ Hrs})$
- If HP & LABOUR HRS given : on basis of HP only

③ In Machine Hour Rate, Depreciation is fixed exp if given on basis of YEARS. if it is given on the basis of Hours it is Variable expense.

④ To calculate MACHINE HOURS just check, "HOW MANY HRS DID M/C RUN" [Total Hrs avail - leave with pay - leave w/out pay - idle time]



④ For UNDER / OVER ABSORPTION [Check from Dadaji's P.O.V]

Actual OH (already given)
(Only CV and normal cost)
you 😊

Recovered OH $\left(\frac{\text{Planned} \times \text{Actual}}{\text{rate Hrs}} \right)$
Planned Rate = $\frac{\text{Plan cost}}{\text{plan Hrs}}$
Dadaji 😊

⑤ M/C HOUR RATE - can be calculated for 1 machine or more m/c - can be calculated for 1 year, 1 month, 1 week - just remember to keep SAME BASE

⑥ ROBOT BASED QUES :- [apply veg v/s Non veg concept]

Common Expenses will be distributed to ALL THE DEPARTMENT.
Robot Expenses distributed only to the DEPARTMENT USING ROBOT.

⑦ SUPPLEMENTARY RATE :- $\frac{\text{Total Overheads Underabsorbed}}{\text{Units sold} + \text{Fg Stock Units} + \text{WIP stock units equivalent}}$

⑧ INTEREST COST is not included in Machine Hour RATE calculation.

⑨ MAINTENANCE TIME & SET-UP TIME is productive or not will always be given in the question.



ACTIVITY BASED COST

① How to calculate ACTIVITY BASED COST

<u>Activity</u>	<u>Cost Pool</u>	<u>Cost Driver</u>	<u>No of Driver</u>	<u>Rate</u>
Setup	5.00.000	Set-up Hours	5000	100
packaging	10.00.000	Units packed	1000	1000
customer inquiry	3.00.000	No of Inquiry	600	500





MARGINAL

① Impact of CHANGE IN SP/UNIT, VC/UNIT, UNITS SOLD ON SALES & COST.

If units sold change, $VC/unit$:- Total Sale, Total VC, Total contri & SP/unit remain same
Total profit changes.

If SP/unit changes and $VC/unit$ & units sold DON'T CHANGE :- Only Total Sales changes and also Total contri & Total profit changes
But TOTAL VC remains same.

If $VC/unit$ changes and SP/unit and units sold DOESN'T CHANGE :- Only Total VC changes and also Total contri & Total profit changes
But TOTAL SALES remains same.

② If Ques asks to recover only FC [BEP calculate] = $\frac{\text{Total Fixed cost}}{\text{Contri/unit}}$ or $\frac{\text{Total Fixed cost}}{P/v \text{ ratio}}$

If Ques asks to recover only Profit [Mos calculate] = $\frac{\text{Total Profit}}{\text{Contri/unit}}$ or $\frac{\text{Total Profit}}{P/v \text{ ratio}}$

If Ques asks to recover FC & Profit both [Desired Sale] = $\frac{\text{Total FC + profit}}{\text{Contri/unit}}$ or $\frac{\text{Total FC + profit}}{P/v \text{ ratio}}$

③ PRODUCT Mix means WHICH PRODUCT to be produced and in WHAT QTY



- ④ If the Question is of **KEY FACTOR / LIMITING FACTOR**, then
- Step 1:- Check which factor's **AVAILABILITY < REQUIREMENT**
 - Step 2:- Calculate contribution per unit of each produce
 - Step 3:- Calculate contribution per key factor [divide step 2 by key factor per unit]
 - Step 4:- Rank and produce

If Ques say to fulfill some minimum usage or demand first, then first fulfill that requirement.

- ⑤ If Ques asks to charge minimum price :-
- $$\text{Minimum PRICE} = \text{Variable cost only} + \text{Any extra fixed cost incurred specially for that project.}$$

(If Ques asks to charge profit also, then Add PROFIT Otherwise NOT)

$$\text{⑥ CASH BREAK-EVEN POINT} = \frac{\text{Total Fixed Cost} - \text{Depreciation}}{\text{Pv ratio or Contribution/unit}}$$

$$\text{⑦ SHUT-DOWN POINT} = \frac{\text{Total Fixed Cost} - \text{Cost to shut down}}{\text{Contribution/unit}}$$

If current loss exceed cost to shut down - close the business.



⑧ If the Ques says there are two products and we need to calculate Combined BEP, we have to calculate

$$\text{Weighted average contribution/unit} = \frac{\text{Contri per unit}_A \times \text{units}_A + \text{Contri per unit}_B \times \text{units}_B}{\text{units}_A + \text{units}_B}$$

Now divide Total FC by weighted avg. contri/unit.



PROCESS COSTING

① **NORMAL COST PER UNIT :-**

$$\frac{\text{Total cost} - \text{Normal loss units} \times \text{SP of Normal loss units}}{\text{Total units} - \text{Normal loss units}}$$

② In statement of Equivalent Production, on **Normal Loss** work done = 0%.

③ In statement of Equivalent Production, on **Finished Goods** work done = 100%.

④ If No details given about **Abnormal loss, Abnormal gain, Closing Stock** then work done on them = 100%.

⑤ STATEMENT OF EQUIVALENT PRODUCTION

		<u>MATERIAL</u>		<u>LABOUR</u>		<u>OVERHEADS</u>	
	<u>units</u>	<u>% complete</u>	<u>Eq. units</u>	<u>% complete</u>	<u>Eq. units</u>	<u>% complete</u>	<u>Eq. units</u>
Normal Loss	100	-	-	-	-	-	-
Finished Goods	2000	100%	2000	100%	2000	100%	2000
Abnormal Loss	500	100%	500	50%	250	50%	250
Closing WIP	1000	70%	700	50%	500	20%	200

⑥ When the Question is of FIFO Method :-

Check How many completed units produced out of opening WIP and check how much % work done in current year for opening WIP.
work done in Current Year = 100% - % of opening WIP given.





- ⑦ For units completed out of Fresh Input work done = 100%.
- ⑧ For Weighted average, no need to do above process, for completed units just apply work done = 100%.

⑨

STATEMENT OF COST

Factor	Total cost (a)	Equivalent Units (b)	Cost per unit (a/b)
Material	Total cost (-) Sale of scrap of N-loss units		
	xxx	xx	xx
Labour	xxx	xx	xx
Overheads	xxx	xx	xx

If only 1 material is given, reduce sale of scrap of N-loss only from that material.

If 2 material are given then, reduce sale of scrap of N-loss only from material₁.

- ⑩ If any cost is related to finished goods only (packaging), then add it in Finished Good a/c only.



BUDGETORY CONTROL

① In NORMAL LIFE :- RM Purchase $\longrightarrow$ Fg Production $\longrightarrow$ Sale

In Budgetory Control :- SALE $\longrightarrow$ Fg production $\longrightarrow$ RM purchase

② o/stock of Fg + Production - c/stock of Fg = Sale Units

o/stock of RM + Production - c/stock of RM = RM consumed

Sale units = always given in Ques

RM consumed = Fg produced $\times$ RM/unit.

③ Current SP = 23000, it will increase by 10% if Wholesale price index increases by 5%. WPI increases by 4%.

It means if WPI increase by 5% or more we will increase SP by 10%
But since WPI increase by 4% only so we cannot increase partial.

④ Daily wages = ₹850 are linked to CPI. Current CPI is 165.17 points and it is expected to be 173.59 points in next year.

Here the Question doesnot fix limit.

Since CPI has increased, wage rate will also increase.

$$\text{New wage Rate} = 850 \times \frac{173.59}{165.17} = ₹ 893.33$$





⑤ BUDGETORY RATIOS :-

(i) Efficiency Ratio = $\frac{\text{Std Hours required to produce Actual Output}}{\text{Actual Hours taken to produce output}}$

(ii) Activity Ratio = $\frac{\text{Std Hours required to produce Actual Output}}{\text{Budgeted Hours planned at start}}$

(iii) Calendar Ratio = $\frac{\text{Working Days or Hours Actually Available}}{\text{Working Days or Hours Budgeted at start}}$

(iv) Standard Capacity Usage Ratio = $\frac{\text{Working Days or Hours Budgeted at start}}{\text{Maximum Hours possible in given period}}$

(v) Actual Capacity Usage Ratio = $\frac{\text{Actual Hours worked during period}}{\text{Maximum Hours possible in given period}}$

(vi) Actual usage of Budgeted capacity = $\frac{\text{Actual Hours worked during period}}{\text{Working Days or Hours Budgeted at start}}$



SERVICE COST

① For the Questions of Bus or Hotel - **NO NEED** to bifurcate the expenses into Fixed and Variable.

② Tyres and Repair & Maintenance are always **SEMI-VARIABLE**

③ Important Base in Service Costing :-

Type of Ques

Passenger Bus

Lorry

Taxi

Hotel

Hospital

Toll Road

School

Insurance

Base

Cost per passenger per km

Cost per tonne per km

Cost per km

Cost per room per day

Cost per bed per day

Cost per vehicle per km

Cost per student

Cost per policy

④

Station X
(100 tons)

400km

Station Y

(120 tons)

150km

Station Z

(70 tons)

300km

ABSOLUTE TONNS

$$100 \text{ ton} \times 400 \text{ km} + 120 \text{ ton} \times 300 \text{ km} + 70 \text{ ton} \times 150 \text{ km} = 86500 \text{ tons km}$$

COMMERCIAL TONNS

$$\frac{100 + 120 + 70}{3} \times 350 \text{ km} = 82167 \text{ ton km}$$





- ⑤ In almost all Questions of **Bus or Truck**, there is **Two-way JOURNEY** (Coming - going or inward - outward)
- ⑥ ONE TRIP means **ONE ROUND TRIP** (inward + outward)
- ⑦ OCCUPANCY = No. of seats occupied
If Nothing is given, assume Occupancy = 100%.
- ⑧ If Ques says there are 20 Buses and on an average 10% Buses are down for repair - then calculate everything and at the end "just solve proportionally for 18 buses."
- ⑨ NO NEED TO CALCULATE EQUIVALENT ROOMS - just solve using "x"

Total Cost = ₹ 10,00,000

Normal Rooms 200, Deluxe Rooms 100, Super Deluxe Rooms 40

Price of Deluxe Rooms = Double of Price of Normal Room

Price of Super Deluxe Rooms = 2.5 times of price of Normal Rooms

Let price of Normal Rooms = x

price of Deluxe Rooms = $2x$

price of S. Deluxe Rooms = $2.5x$



$$\text{Total Rent} = (\text{price of Normal room} \times \text{No of Normal room}) + (\text{price of Deluxe room} \times \text{No of Deluxe room}) + (\text{price of S-Deluxe room} \times \text{No of S-Deluxe room})$$

$$₹10,00,000 = (x \times 200) + (2x \times 100) + (2.5x \times 40)$$

$$500x = ₹10,00,000$$

$$\text{price of Normal Rooms} = x = 2000$$

$$\text{price of Deluxe Rooms} = 2x = 4000$$

$$\text{price of S-Deluxe Rooms} = 2.5x = 5000$$

- (10) Occupancy during season = 80%. Occupancy in off season = 40%.
lighting charges = 110/room except in 4 months of winter where charges = 30
Total Rooms = 200 · Winter season is off season

Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec
200	200	200	200	200	200	200	200	200	200	200	200
x	x	x	x	x	x	x	x	x	x	x	x
40%	40%	40%	40%	80%	80%	80%	80%	80%	80%	40%	40%
x	x	x	x	x	x	x	x	x	x	x	x
30	30	110	110	110	110	110	110	110	110	30	30

