

Method Of Maintaining Books of Accounts

1) Non-Integral Method of Maint.A/c Or Cost Ledger Control Of A/c

Following Ledgers Accounts Are Required in the books of Costing Dept.

- 1.Stores Ledger Contol A/c Or Material Control A/c**Dr Bal.**
- 2.Finished Goods Ledger Control A/c
- 3.Work-in-Progress Ledger Control A/c.(Dr Bal.)
- 4.General Ledger Control Adjustment A/c Or Costing Ledger Control A/c**Cr.Bal**
- 5.Wages Control Adjustment A/c
- 6.Factory Control A/c
- 7.A.O.H Control A/c
8. Selling & Distribution Control A/c.
9. Capital Work-in-Progrss.
- 10.Sales A/c.
11. Costing Prfit and Loss A/c

1.For the Purchases of Raw Material on Cash as well as Credit

Stores Ledger Control A/c Dr
To Gen.Ledger Adjustment A/c.

2.If the raw material is returned to supplier.

Gen.Ledger Adjustment A/c.Dr
To Stores Ledger Control A/c

3.For the issue of direct material to the production Dept.

W-I-P Ledger Control A/c Dr.
To Stores Ledger Control A/c.

4.For the material returned from Producton Dept.

Stores Ledger Control A/c Dr.
To W-I-P Ledger Control A/c

Note

5.For the Indirect Material issued to Factory,S&D,Etc

F.O.H. Control A/c Dr
A.O.H Control A/c Dr
S&D Control A/c Dr
To Stores Ledger Control A/c

6.For the material issued for asset under contraction
Or Capital W-I-P (Own Contrution)

Capital W-I-P A/c Dr
To Stores Ledger Control A/c

7. For the Normal LosOr Normal Wastage of Material

F-O-H Control A/c Dr
Stores Ledger Control A/c

8. For Abnormal Loss Or Abnormal Wastage

Costing P& L A/c Dr
Stroes Ledger Control A/c

9.For Total Wages,Salary Commission &Other Remu.Paid To Worker
And Employees & Outstanding

Wages Control A/c Dr
To Gen.Ledger Adj. A/c
Out Of Wages Control A/c All Direct Wages Are T/D to W-I-P

W-I-P Ledger Control A/c Dr
To Wages Control A/c

10. For The Indirect Wages Paid In the Factory,Salary Paid in the
Office, Etc A.O.H , S & D

F-O-H Control A/c Dr
A.H.O Control A/c Dr
S & D Control A/c Dr
To Wages Control A/c

11. If any wages are paid for Capital W-I-P

Capital W-I-P Led.Control A/c
To Wages Control A/c

12. For Wages Incurred For Normal Wastage Of time

F-O-H Control A/c Dr
To Wages Control A/c

13. For the Wages incurred for Abnormal Wastage Of time

Costing P & L A/c Dr
To Wages Control A/c

Note If the entry wages control A/c gets closed for O. H Expenses Incurred
and Out Standing I,e F-O-H,A-O-H & S & D

F.O.H Control A/c Dr
A.O.H Control A/c Dr
S & D Control A/c Dr
To Gen.Ledger Adjustment A/c

14. For Absorbed or Recovered by W-I-P

W-I-P Ledger Control A/c
To F.O.H Control A/c

15. Administrative O.H Absorbed by Either By Production Or by Finish Goods

W-I-P Ledger Control A/c Dr (If Production)
Finished Goods Ledger Control A/c
To A.O.H Control A/c

Note If No Instructions are given in the question A.O.H may be Absorbed By Finish Goods

16. Selling And Distribution Expenses is Absorbed by Cost of sales

Cost of Sales A/c Dr
To Selling And Distribution A/c

17 If it is mentioned in the question that the Capital W-I-P is Completed, it should be T/D to Gen. Ledger Adjustment A/c

Gen Ledger Adjustment A/c Dr
To Capital W-I-P A/c

Note If it is not completed than, it should be carried Down

18. Cost of goods sold From Finished goods During Manf. Year

Cost of goods sold A/c Dr
To Finished Goods Ledger Control A/c

19. For the goods sold at sales value or for cash and credit sale made during the year

Gen Ledger Adjustment A/c Dr
To Sales A/c

20. For the under Absorbed Of O.H if Credit side of the O.H Control A/c is less than the Debit side, it is under Absorption under absorbed Question O.H may be carried forward Or T/D to P&L A/c As per Instruction Given In the Question, If it is Carried Forward, Carry Down Balance

If it is to be T/D to P& L A/c Than Following Entry required

Costing P&L A/c Dr
To Respective O.H Control A/c

Note If no Instructions are given in the Question T/D (Under Absorbed O.H) to P&L A/c For Over Absorbed Of O.H If Credit side more than the the It is a Case of Over Absorption It may be either Carry Down Or T/D to P& L A/c

If It is T/d To P& L A/c

Respective Control O.H A/c Dr
To Costing P&L A/c

For the purpose of Ascertaining P&L , Cost Of Sales A/c Is T/D to Costing P&L A/c

Costing P&L A/c Dr
To Cost Of Sales A/c

T/D Sales A/c To Costing P&L A/c

Sales A/c Dr
To Costing P&L A/c

For Profit

Costing P &L A/c Dr
To General Adjustment A/c

Note Expense of purely Financial Nature should not be Considered and hence should be Ignored

INTEGRAL METHOD

Follwing Entries Are Required

1. For Purchases of Raw Material

General Ledger Control Ajustment A/c Dr
To Bank /Creditor A/c

2. If the Material Returned to supplier

Creditor A/c Dr
To Stores Ledger Control A/c

3.For Direct Material Issued to production Dept.

W-I-P Control A/c Dr
To Stores Ledger Control A/c

4.For the material Returned from Production Dept.

Stores Ledger Conreol A/c Dr
To W-I-P Control A/c

5.For Indirect Material Issued

F.O.H Control A/c Dr
A.H.O Control A/c Dr
S & D Control A/c Dr
To Stores Ledger A/c

6.For Material Issued to Capital W-I-P

Capital W-I-P A/c Dr
To Stores Ledger A/c

7.For Normal Loss

F.O.H Control A/c Dr
To Stores Ledger A/c

8. For Abnormal Loss

P & L A/c Dr
To Stores Ledger A/c

9.For Wages,Salary,commission and other remu.

Wages Control A/c Dr
To Bank /Wages A/c

10. For T/D Of Direct Wages to W-I-P

W-I-P Control A/c Dr
To Wages Control A/c

11.for Indirect Wages

F.O.H Control A/c Dr
A.H.O Control A/c
S & D Control A/c
To Wages Control A/c

12. For Wages to be Charge to capital A/c

Capital W-I-P A/c Dr
To Wages Control A/c

13.Wages Incurred for Normal Wastage Of time

F.O.H Control A/c Dr
To Wages Control A/c

14.Wages Incurred for Abnormal Wastage Of time

P & L A/c Dr
To Wages Control A/c

15.For O.H Expenses Paid O/S

F.O.H Control A/c Dr
A.H.O Control A/c Dr
S & D Control A/c Dr
To Bank Or O/S Expenses A/c

16.For F.O.H Absorbed by Production Dept

W-I-P Control A/c Dr
To F.O.H Control A/c

17. For F.O.H Absorbed by C.WIP

C. W.I.P Control A/c Dr
To F.O.H Control A/c

18. A.O.H Absorbed by Prod Or Fin Goods

W-I-P Control A/c Dr
Finished Goods A/c Dr
To Admin O.H A/c

19. Selling & Distr Absorbed

Cost Of Sales A/c Dr
To Selling & Dist A/c

20. If the Capital W.I.P is Completed
Note: Transfer to Concerned Asset A/c

Concerned A/c Dr
To Cap W.I.P A/c

P & L A/c Dr
To Respective Control A/c

22. there is any Over Absorbed

Respective Control A/c Dr
To P & L A/c

23. For cost of Fin Goods Or Prod from W.I.P

Finished Goods A/c Dr
To W-I-P Control A/c

24. For Cost of Sales

Cost of Sales A/c Dr
Finished Goods A/c

25. For Sales

Bank / Debtors A/c Dr
To Sales A/c

26. For Payment made to Creditor

Creditor A/c Dr
To Bank A/c

27. For the Receipt from Debtor

Bank A/c Dr
To Debtor A/c

28. For Exp of Financial Nature

Expense A/c Dr
To Bank A/c

29. For the Income of Fin Nature

Bank A/c Dr
To Income A/c

30. For the Purpose of Ascertaining the Profit t/d
of Cost of Sales to P&L

P&L A/c Dr
To Cost Of Sales

31. Transfer of Sales to P & L A/c

Sales A/c Dr
To P&L A/c

32. T/d of Exp. Of Fin Nature to P&L A/c

P&L A/c Dr
To Exp. A/c

33. Transfer of Income

Income A/c Dr
To P&L A/c

FINANCIAL ANALYSIS AND PLANNING

1. Liquidity Ratios:

$$\text{Current Ratio} = \frac{\text{Current Assets}}{\text{Current Liability}}$$

$$\text{Quick Ratio Or Acid Test} = \frac{\text{Quick Assets}}{\text{Quick Liability}}$$

Note ; Quick Assets = Current Assets - Stock.

Note ; Quick Liability = Current Liability - Cash Credit , Bank O.D.

Note : Current Ratio generally acceptable 2:1 & Quick Ratio - 1:1.

2. Capital Structure / Long Term Solvency Ratios:

$$\text{Debt Ratio} = \frac{\text{Total Debt}}{\text{Capital Employed}} \quad \text{OR} \quad \frac{\text{Debt}}{\text{Equity}} \quad \text{OR} \quad \frac{\text{External Liability}}{\text{Internal Liability}} \quad \rightarrow \text{Note It Should be Low}$$

Capital Employed = Net Worth + Total Debt (Total Debt Both Short & Long Term)

$$\text{Proprietary Ratio} = \frac{\text{Proprietary Fund}}{\text{Total Assts}} \quad \rightarrow \text{Note It Should be High}$$

$$\text{Total Liability To Net Worth} = \frac{\text{Total Liability}}{\text{Net Worth}}$$

$$\text{Capital Gearing Ratio} = \frac{\text{Pref. Share Capital + Deb.+ Long term loan}}{\text{Equity Sh. Cap. + Res \& Surplus - Fictitious Assets}}$$

$$\text{Fixed Asset Ratio} = \frac{\text{Fixed Assts}}{\text{Long Term Loan}}$$

$$\text{Equity Ratio} = \frac{\text{Shareholders Equity}}{\text{Total Liability}}$$

$$\text{Debt Service Coverage Ratio} = \frac{\text{Earnig Available For Debt Sevice(PAT+Int.+Non Cash Exp.+Provision)}}{\text{Interest +Installments /Loan}}$$

3.Activity Ratio

$$\text{A. Capital T.O Ratio} = \frac{\text{Sales}}{\text{Cap. Employed}}$$

$$\text{B. Fixed Assets T.O. Ratio} = \frac{\text{Sales}}{\text{Cap Asset Or Fixed Asset}}$$

$$\text{C. Working Cap T.O Ratio} = \frac{\text{Sales}}{\text{Working Capital}}$$

$$\text{D. Inventory T.O Ratio} = \frac{\text{Sales}}{\text{Avg. Inventory}} \quad \text{And} \quad \frac{\text{Cost of Sales}}{\text{Avg Stock}}$$

$$\text{E. Debtors T.O Ratio} = \frac{\text{Sales}}{\text{Avg. A/c Receivable}}$$

$$\text{F. Creditor T.O Ratio} = \frac{\text{Credit Purchases}}{\text{Avg A/c Payable}}$$

4. Profitability Ratios:

A. Gross Profit Ratio	=	$\frac{\text{Gross Profit}}{\text{Sales}} \times 100$	E. Return on Net worth =	$\frac{\text{Return on Net worth}}{\text{Net Worth}} \times 100$
B. Net Profit Ratio	=	$\frac{\text{Net Profit}}{\text{Sales}} \times 100$	F. Return on Capital Employed Or Investment	$\frac{\text{EBIT}}{\text{Capital Employed}}$
C. Operating Profit Ratio	=	$\frac{\text{Operating Profit}}{\text{Sales}} \times 100$	G. Expenses =	$\frac{\text{Concerned Exp.}}{\text{Sales}} \times 100$
D. Returns to Share Holders	=	$\frac{\text{PAT}}{\text{Share Holder Funds}}$		

5. Other Ratios:

A. E.P.S	=	$\frac{\text{PAT}}{\text{No. of Equity Shares}}$	
B. Price Earning Ratio	=	$\frac{\text{Market Price Per Share}}{\text{EPS}}$	
C. Layout Ratio	=	$\frac{\text{Dividend Per Equity Share}}{\text{EPS}} \times 100$	
D. Dividend Yield Ratio	:	$\frac{\text{Dividend Per Share}}{\text{Market Price}} \times 100$	
E. Fixed Cahrges Coverage Ratio (OR) Interest Coverage Ratio		$\frac{\text{EBIT Or PBIT}}{\text{Interest}}$	
F. Fixed Dividend Coverage Ratio :		$\frac{\text{Net Profit}}{\text{Ann. Pref Shr Dividend}}$	
G. Overall Profitability Ratio	=	$\frac{\text{Operating Profit}}{\text{Capital Employed}}$	
H. Productivity Of Asset Employed		$\frac{\text{Net Profit}}{\text{Total Tangeble Assets}}$	
I. Retained Earning Ratio	:	$\frac{\text{Retained Earning}}{\text{Total Earning}} \times 100$	

EBIT & EPS Analysis:

I. When the Financial plan involves choice b/w Equity share V/s Equity Shares and Debentures.

$$\frac{X(1-t)}{N1} = \frac{(X-i)(1-t)}{N2}$$

Where:

X = EBIT

T = Tax Rate

N1 = No.of Equity Shares Outstanding in the First Alternative

N2 = No.of Equity Shares Outstanding in the Second Alternative

I = Interest

II. Where the Financial Plan involves Choide b/w Equity share & Debenture, where debts are already existed in the Company.

$$\frac{(X-i1)(1-t)}{N1} = \frac{(X-i1-i2)(1-t)}{N2}$$

Where:

i1 = Ann. Intrst Payable on existing Debt

i2 = Ann. Intrst Payable on New Debt

III. Equity Share v/s Equity shares & Debentures, when Debenture involves Sinking Fund.

$$\frac{X(1-t)}{N1} = \frac{(X-i)(1-t)-S}{N2}$$

Where:

S = Annual Amount transferred to Sinking Fund

(OR)

$$\frac{(X-i1)(1-t)}{N1} = \frac{(X-i1-i2)-S}{N2}$$

IV. Where the Financial Plans involves Choice b/w Equity share v/s Equity share & Preference Shares.

$$\frac{X(1-t)}{N1} = \frac{X(1-t)-P}{N2}$$

Where:

P = Annual Amount of Pref Share Div. Payable.

V. Equity Share v/s Equity Share , Preference Share & Dividend

$$\frac{X(1-t)}{N1} = \frac{(X-i)(1-t)-P}{N2}$$

VI. Where the Financial Plans involves Choice b/w Equity share v/s Equity share, Preference Shares & Debentures, where DT is Payable

$$\frac{X(1-t)}{N1} = \frac{(X-i)(1-t)-P(1+DT)}{N2}$$

Where:

DT = Dividend Distr Tax payable on per Rupee of Pref Share dividend.

Computation of Maximum Permissible Bank Finance towards Working Capital according to Tandon Committee Norms

Method	Max Finance	Working Cap. = (C.A - C.L.)
I	Working Cap X 75%	RCA = Real Cur Asset = Total C.A - Core C.A
II	Working Cap - 25% of C.A.	
III	RCA. - 25% of RCA - C.L.	

COST OF CAPITAL

1. Calculation of Cost of Irredeemable Shares Or Cost Of Long Term Loan

$$K_d = \frac{i(1-t)}{D}$$

Where:

K_d = Cost of Debt Capital
 i = Annual Interest Payable
 t = Tax Rate
 D = Net Proceeds received

2. Calculation of Cost of Redeemable Debenture

$$K_d = \frac{i(1-t) + \frac{R_v - N_p}{N}}{\frac{R_v + N_p}{2}}$$

Where:

R_v = Redeemable value of Debenture or Debt
 N = Term of Maturity
 N_p = Net Proceeds Received

3. Calculation of Cost of Irredeemable Preference Share

$$K_p = \frac{PD}{N_p}$$

Where:

K_p = Cost of Pref Share
 PD = Pref Share Div. paid Per Annum
 N_p = Net Proceeds Received

4. Calculation of Cost of Redeemable Preference Share

$$K_p = \frac{PD + \frac{R_v - N_p}{N}}{\frac{R_v + N_p}{2}}$$

Where:

R_v = Redeemable Value

COST OF EQUITY

1. Dividend Price Ratio Approach / DP Approach / Div. Yield Mode:

The Return expected by the share holder on the Equity share and Price is prepared to pay for the equity share is known as Div. Price Appr.

$$K_e = \frac{D_1}{PE}$$

Where:

D1 = Div Payable at the end of current year
or paid in next year

PE = Price of Equity share

2. Dividend Price+Growth Approach / Dividend Growth Model / Gordon Dividend Growth Method:

$$K_e = \frac{D_1}{PE} + g$$

(OR)

$$K_e = \frac{D_0 (1 + g)}{PE} + g$$

→ Previous Year

Where:

g = Growth rate expected individual per Rupee

Where:

D₀ = Dividend of the Preceding Year

3. Calculation of Cost of Equity by Earning Price Ratio Approach:

$$K_e = \frac{E}{M (PE \text{ also})} \quad \text{OR} \quad \frac{E}{M (PE \text{ also})} \times 100$$

4. Capital Asset Price Model:

$$K_e = R_f + \text{Beta} (K_m - R_f)$$

Where:

R_f = Risk Free Return / Risk less Investment

Beta = Represents Non diversifiable risk Or
Systematic Risk which is not in the control of
the investor

K_m = Market Return

Note : Risk in Bombay Stock Exchange is taken as 1.

Market Return - Risk free return = Market risk Premium

CAPITAL STRUCTURE THEORY & LEVERAGE

1 D.O.P. Degree Of Operating Leverage

2.D.F.L. Degree of Financial Leverage

3.D.C.L Degree of Combined Leverage

1. Operating Leverage - The Tendency of EBIT/ PBIT Or Operating Profit Disproportionately with the change in sales. It is known as operating leverage.

$$D.O.L = \frac{\% \text{ Change in EBIT / PBIT}}{\% \text{ Change in Sales}} \quad (\text{Relation B/W Sales and Profit}) \quad \text{Or} \quad \frac{\text{Contribution}}{\text{EBIT / PBIT}}$$

2. Financial leverage and Degree of Financial leverage: The tendency of EBT changing disproportionately with every change in EBIT is known as financial leverage.

$$D.F.V = \frac{\% \text{ Change in EBT / PBT}}{\% \text{ Change in EBIT / PBIT}} \quad \text{Or} \quad \frac{\text{EBIT}}{\text{EBT}}$$

3. Combined leverage; The tendency of EBT changing disproportionately with every change in sales is known as combined leverage.

$$D.C.L = \frac{\% \text{ Change in EBT / PBT}}{\% \text{ Change in Sales}} \quad \text{Or} \quad \frac{\text{Contribution}}{\text{EBT}}$$

Note; DOL shows the risk involved in the relationship between sales & EBIT. This is known as business risk.

DFL; shows the risk involved in the relationship between EBIT and EBT. This is known as financial risk.

DCL; shows the risk involved in the relationship between Sales and EBT. This is known as financial risk.

Material

$$EOQ = \frac{\sqrt{2CO}}{i}$$

C = Annual Consumption / Demand / Annual Requirement Of the raw material
O = Ordering Cost Incurred Per Order
i = Inventory Carrying Cost Per Unit Per Annum

2. How many orders to be placed in a year (No. of order to be placed)

$$\frac{C}{EOQ}$$

3. What is the cost of order incurred in a year

$$\frac{C \times O}{EOQ}$$

4. What is the frequency of placing the order i.e. once in how many days

$$\frac{365}{\text{No. of orders}}$$

5. What is the carrying cost per annum

$$\frac{EOQ \times i}{2}$$

Note At EOQ order cost & Carrying cost = Each other

6. What are the ordering cost & Carrying cost

$$3+5$$

7. What is total cost annual consumption X Rate + O.C + I.C .Cost
the formula which can be used for finding the total of ordering cost & carrying cost

$$\sqrt{2 \times C \times O \times i}$$

8. Calculation of reordering level

Reorder level = safety stock + avg. lead time in days X avg. consumption of material per day

$$\text{Avg. lead time} = \frac{\text{Min} + \text{Max}}{2} \quad \text{Or}$$

Reorder Level = Maximum Lead time in days X maximum consumption per day

9. At present the stock in stores refer notes

10. Calculation of Maximum level, minimum level, Avg. Stock Level And Danger Level

A. Min. stock level = This is the level above which the stock should not be allowed to fall

Min. Stock level = Re-order level - (Avg. Rate of consumption or Normal Consumption or normal Usage of material) X Avg. lead time OR Avg. time required to obtain fresh delivery

B. Maximum = this is the level above which the stock should not be allowed to rise

Maximum Level = Re-Order Level + Re-Order Quantity - (Min. Cons. Or Min. Usage Of Raw Mat.) X Min. time for Re-Order OR Min. Re-Order Period

3. Avg. Stock Level

$$\frac{\text{Min. Stock Level} + \text{Maximum Stock level}}{2} \quad (\text{or}) \quad \text{Min. Stock Level} + \frac{1}{2} \text{ of Re-order Qty}$$

4. Danger Level

Avg. Consumption Or Avg. use of Raw Material X Lead time for Emergency purchases

(where lead time for = Extra charges)

Note Reorder Qty = EOQ

5. Re-order level

Normal consumption X Avg. lead time Or

Maximum Re-order period X Max. Usage

COST SHEET

Opening stock of raw material	xx	
Add: Purchases of raw material	xx	
Less: Closing stock of raw material	<u>xx</u>	
Raw Material Consumed	xxx	xxx
Add: Direct material, Wages, Productivity Wages	xx	
Direct Expenses	<u>xx</u>	
Prime Cost	xxx	xxx
Add: Factory Overhead]	xx	
Indirect Wages & Works manager's salary, Petrol, Diesel	xx	
Fuel & Power, Rent & Rates of factory, Depreciation of the P & M &	xx	
Factory & Buildings	xx	
Cost of Rectification of Defective goods	xx	
Less: Sale of Scrap	(xx)	
Factory overhead Or Works overhead	<u>xx</u>	<u>xx</u>
Add: Opening W-I-P	xx	
Less: Closing W-I-P	(xx)	
Factory Cost Or Works Cost	<u>xx</u>	<u>xx</u>
Add: Office Salaries, Director Remuneration, Audit Fees, Travelling Exp.,	xx	
Legal Expenses, Printing & Stationery, Postage & Telegrams Etc	xx	
Cost of Production Or Cost of Product	<u>xx</u>	<u>xx</u>
Add: Opening Stock of finished goods	xx	
Less: Closing stock of " "	(xx)	
Add: Selling & Distribution Expenses	xx	
Salaries in Sales Office, commission to the sales manager, carriage -	xx	
Outward, Packing Exp. Bad Debts, Discounts Etc.	xx	
Total Cost of sales Or Cost sales	<u>xx</u>	<u>xx</u>
Add: Profit /Loss	xx	
Sales	<u>xx</u>	<u>xx</u>

LABOUR

1. Time Rate System Or Day Wages Plan

Time rate system :High wage plan or ford wages plan

T X R Where T = No. of Hr's Spend by the worker

R = Rate per Hr's

2.Piece rate system

**P X R Where P = No.of Pieces
R = Rate of per Piece**

3.Premium Bonus Plan

A.Halsey Premium Bonus Plan

**T X R + 50% Of (S-T) X R Whr:T Actual time taken by the worker
R = Rate per Hr's
S = Std time allow to complete the work**

B.Halsy Weir

T X R + 33.1/3% Of (S-T) X R

3.Rowan Premium bonus plan

T X R + $\frac{(S-T) X}{S} X T X R$

Differncial piece rate system

A. Taylors diffrential piece rate system

Efficiency of workers = $\frac{\text{Actual production}}{\text{Srandard production}} \times 100$

a.Low piece rate is 83% of normal piece rate (Some time it may be 80% of normal piece rate)
High piece rate = 125% of normal piece rate (some time it may be 120% of normal piece rate
is taken as high piece rate some time high piece rate given at 125% of normal piece rate + 50%
Intenctive in the form of Bonus I,e 175% Normal piece rate

Note If no specific instuction is not given than 83% & 125% As Low & High Piece rate

4.Merricks Differncial piece rate

<u>Level of efficiency</u>	<u>Piece rate Applicability</u>
1.upto 83% (83.1/3)	(1).Normal Piece Rate
2.Above 83% & Upto 100%	(2).10% Above normal piece rate i.e.110% of normal piece rate
3.More than 100% Efficency	(3).120% of normal piece rate (some time it may be 30% Above normal)

Combination of time piece rate system

Emersons efficiency plan

- (1).Mini.time wages are guaranteed
(2).In addition to guaranted time wages bonus is paid to worker depending upon his efficiency which is measured by his actual production

- A. Efficiency below 66.67 % of standard- No bonus
B. Efficiency from 66.67 % to 100 % - bonus veries between 0.01% to 20%
C. Efficiency above 100 % - 20% of basic wage

Notes

Above 100% bonus = 20 % of basic time wage + 1% of each 1% increase in efficiency over & above 20%

Gantt task

- | | |
|--|---|
| 1. Actual out put below stanadred out put | Guaranted wages as time rate system |
| 2. Actual out put equal to standard out put | Guaranted wages as time rate system + 20% of time wages |
| 3. Actual out put more than standard out put | High piece rate (given in the Question) |

Notes

If high piece rate is not given in the question than normal wages + 20% of wages

Labour Turnover

Separation Rate Method = $\frac{\text{No of separation in a period}}{\text{Average No of worker in a period}} \times 100$

Reclament Method = $\frac{\text{No of replacement in a period}}{\text{Average No of worker in a period}} \times 100$

Flux Method = Combination of above

Contract Account

Contract Account				
To	Material		By	Contractor A/c -contractor Price if work On cntract
"	Less:Returns to stores		"	<u>Is Completed</u>
"	Suppliers	XXX	"	<u>W-I-P</u>
"	Wages		"	Work Certified XXX
"	Add O/S Wages	XXX	"	Work Uncertified XXX
"	O.H. Expenses	XXX	"	
"	Establishment Expenses	XXX	"	Plant Remaining value afer Deprecitation XXX
"	Cosf of Plant & Equipment -		"	Stock of Materail at site XXX
"	Exclusively used for the contract	XXX	"	P & L A/c -if loss of materail XXX
"	Dep.on Plant & Machinery used in common with other contract	XXX		
"	Cost of Sub-Contractor	XXX		
"	Profit & Loss A/c (T/D To P&L A/c)	XXX		
"	Bal C/D To Reseves & Conti.	XXX		
"		XXX		XXX

Work Certified with the contract

% of completion of work on contract = $\frac{\text{Work Certified} \times 100}{\text{Contract price}}$

1.If work is completed less than 25 %

No profit Should be transferred to P & L A/c

2.If the work on contract is completed = 25 % but Less than 50 %

$\frac{1}{3} \times \text{Notional Profit} \times \frac{\text{Cash Received}}{\text{Work Certified}}$

3. If the work on contract is completed 50 % but less 90 %

$\frac{2}{3} \times \text{Notional Profit} \times \frac{\text{Cash Received}}{\text{Work Certified}}$

4. If the work on contract is completed upto 90 % or more than90 %

$\text{Estimated total Profit} \times \frac{\text{Work Certified}}{\text{Contract Price}} \times \frac{\text{Cash Received}}{\text{Work Certified}}$

Note Estimated profit is calculated as under

Contract Price	XXX
Less:Expenditure incurred to be date of preparing A/c	(XXX)
Estimated Expenses to be incurred on completing the remaining work	XXX
Estimated total cost on the completion contract	XXX
Estimated Total Profit	XXX

Margial Costing

$$\text{Contribution} = S - V = C \quad C = F + P$$

Therefore $S - V = F \text{ } -/+ \text{ } P$ Profit = P = C - F

$$\text{P/V Ratio} = \frac{\text{Contribution}}{\text{Sales}} \quad \text{OR} \quad \frac{\text{Change in Contribution/ Profit}}{\text{Change in Sales}}$$

$$\frac{\text{Sales} - \text{Variable cost}}{\text{Sales}} \quad \text{Or} \quad 1 - \frac{\text{Variable Cost}}{\text{Sales}}$$

Contribution to sales

The Ratio between contribution and sales is known as profit volume ratio

B E P is that level of sales at which contribution earned will be exactly = Fixed expenses incurred so that business makes no profit, no loss

$$\text{BEP (In units)} = \frac{\text{Fixed cost}}{\text{Contribution Per Unit}} \quad \text{In R.s} \quad \frac{\text{Fixed Cost}}{\text{CPU}} \times \text{SPPU}$$

$$\text{Or} \quad \frac{\text{Fixed cost}}{\text{P/v Ratio}} \quad \text{Or} \quad \frac{\text{Fixed cost}}{\text{Total Contribution}} \times \text{Total Sales}$$

Margin of safety sales: When the business makes actual sales more than Breakeven sales it goes into margin of safety sales

M = Actual sales - Breke Even sales

(Profit volume ratio)	Contribution to sales ratio	<u>Profit</u> <u>Sales</u>
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Note $S = V + F + P$

Statement showing computation of under/over absorbed over head

Actual overhead expenditure incurred XXX
Less;

1. Any Amt. error or wrongly included in the above XXX

2. Any abnormal or usually amt. included in the above

E.g Amt paid under the award of labour court or industrial tribunal

Or wages paid during the strike period.

Normal and correct overhead Amt. Incurred. XXX

Less;

3. Overhead absorbed / recovered on the bases of Pre-Determined

Overhead recovery rate Like on the bases of Machinery Hr's rate or Direct Labour Overhead XXX

Less;

4. Under / Over absorbed reasons Like Defective planing and schedule, non availability

of raw material, HEAVY BREAKDOWN OF MACHINERY, shortage of power etc

under/ over absorbed OH rising on account of abnormal reasons should be always XXX

transf. to P & L a/c

Under/ Over abs. OH on ac. of normal reason like increase in costs : Following Treatment

1. Trans. To P & L

2. C/f to subsequent acct. year

3. Adj of under/over absorbed OH with help of supplementary OH recovery rate
with the following formula

Supplementary rate =

$$\frac{\text{under/over abs OH}}{\text{No. of units sold + closing (prod. + wip)}}$$

Allocation: When the whole of expenditure is incurred specifically for each department, it is allocation

To allocate means to charge the whole expenditure to a particular dept.

Apportionment: Means Dividing common exp. Among production & service depts. on some appropriate basis

Reapportionment: Charging exp of service dept to prod. Dept. on some appr. Basis

Methods Of Apportionment

Direct Method: Exp of service dept are charged only to prod depts (but not to other service depts.)

Step ladder method: Exp charged to other service depts on non reciprocal basis