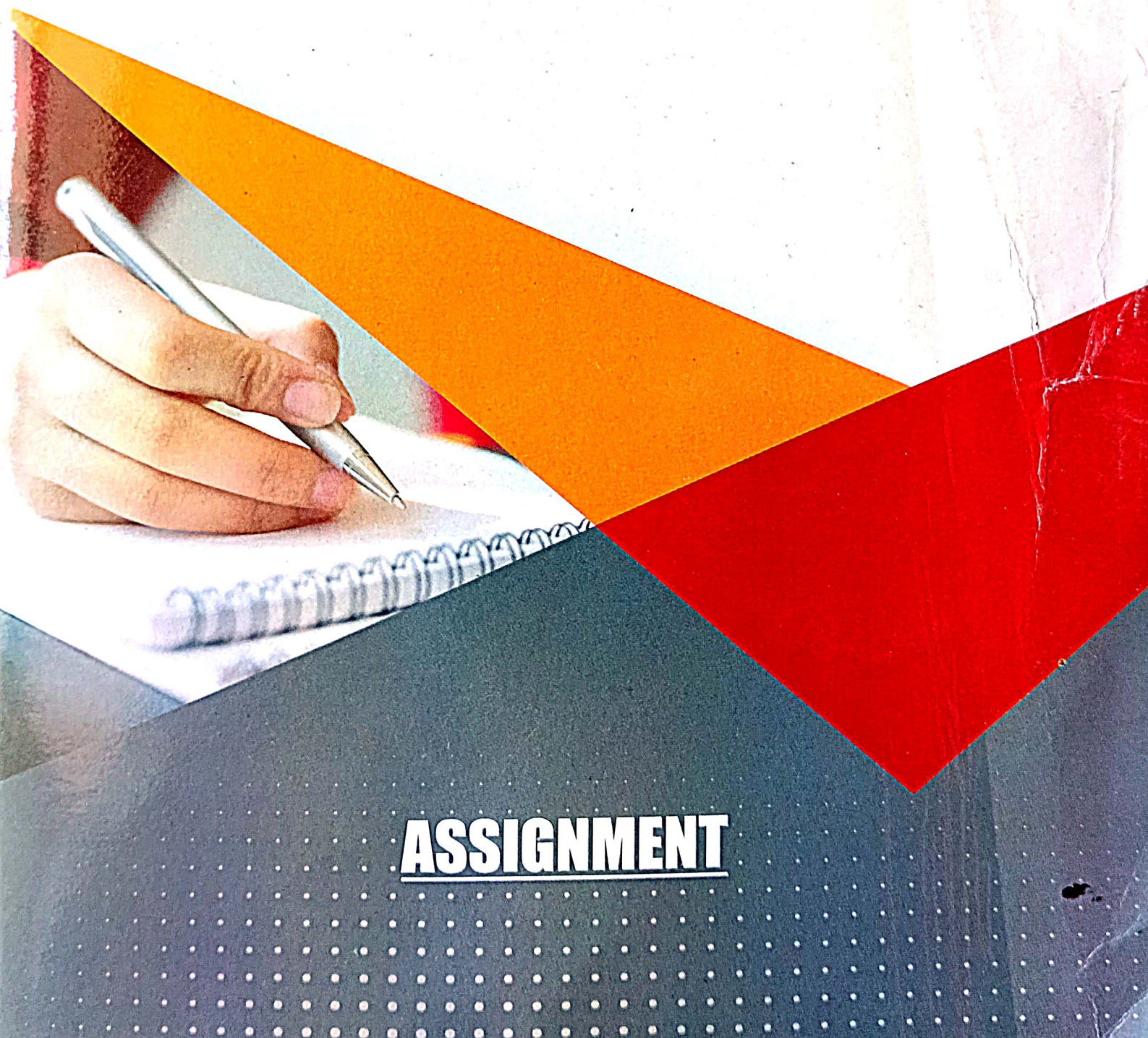




R.K.

GROUP OF COLLEGE

Behind Kalwar Police Station, Kalwar, Jaipur (Raj.)



ASSIGNMENT

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ERFM

ASSIGNMENT WORK / MIDTERM TEST

Session 20 *24*... - 20 *25*...

Semester *IIIrd* Sem...

Name of Student *Komal Choudhary*.. Father's Name *Ram Kumar Choudhary*

Roll No. Enrollment No.

Year *2024-25* Semester *B.Com IIIrd Sem.*

FAEMSolution $\Rightarrow$ T

(i) Calculation of Revenue from operation

$$\text{Revenue from operation} = \frac{\text{Gross Profit}}{\text{Gross Profit Ratio}}$$

$$\text{Revenue from operation} = \frac{\text{₹ } 10,00,000}{20\%} = \text{₹ } 50,00,000$$

(ii) Calculation of sundry debtors

Debtors velocity : or Debtors collection period

$$= \frac{\text{Average Receivables}}{\text{Net credit Revenue from operation}} \times \text{No. of Months in a year}$$

$$3 = \frac{\text{Average Receivables} \times 12 \text{ Months}}{50,00,000}$$

$$\text{or } 12 \text{ Average Receivables} = \text{₹ } 1,50,00,000$$

$$\text{or Average Receivables} = \text{₹ } 12,50,000$$

$$\text{Sundry Debtors} = \text{Average Receivables} - \text{B/R}$$

$$\text{Sundry Debtors} = \text{₹ } 12,50,000 - \text{₹ } 1,20,000$$

$$= \text{₹ } 11,30,000$$

(iii) Calculation of closing Inventory

$$\text{Inventory velocity} = \frac{\text{Average Inventory} \times 12 \text{ Months}}{\text{Cost of Revenue from op.}}$$

$$6 = \frac{\text{Average Inventory} \times 12 \text{ Months}}{40,000}$$

$$\text{or } 12 \text{ Average Inventory} = ₹ 40,00,000 \times 6$$

$$\text{or } \text{Average Inventory} = \frac{₹ 40,00,000 \times 6}{12}$$

$$\text{or } \text{Average Inventory} = ₹ 20,00,000$$

$$\text{Average Inventory} = \frac{\text{Opening Inventory} + \text{Closing Inv.}}{2}$$

$$\text{or } ₹ 20,00,000 = \frac{x + (x + ₹ 40,000)}{2}$$

$$\text{or } 2x + ₹ 40,000 = ₹ 40,00,000$$

$$\text{or } 2x = ₹ 40,00,000 - ₹ 40,000$$

$$\text{or } x = \frac{₹ 39,60,000}{2} = ₹ 19,80,000$$

$$\text{or } \text{Opening Inventory} = ₹ 19,80,000$$

$$\therefore \text{Closing Inventory} = ₹ 19,80,000 + ₹ 40,000$$

$$= ₹ 20,20,000$$

(iv) Calculation of Sundry creditors

Creditors Velocity or Creditors Payment Period

$$= \frac{\text{Average Payables}}{\text{Net Credit Purchase}} \times 12$$

$$2 = \frac{\text{Average Payables} \times 12}{₹ 40,40,000}$$

$$\text{or } 12 \text{ Average Payables} = ₹ 40,40,000 \times 2$$

$$\text{or } \text{Average Payables} = ₹ 40,40,000 \times 2$$

$$\text{or } \text{Average Payables} = ₹ 6,73,333 \text{ --- Approx}$$

$$\text{Sundry Creditors} = \text{Average Payables} - \text{B/P}$$

$$\text{Sundry Creditors} = ₹ 6,73,333 - ₹ 73,333$$

$$= ₹ 6,00,000$$

$$\text{Net Credit Purchase} = \text{Cost of Revenue from operation} + \text{Closing Inventory} - \text{Opening Inventory}$$

$$\text{Net Credit Purchase} = 40,00,000 + 20,20,000 - 19,80,000$$

$$= ₹ 40,40,000$$

Solution 28- II

Yearly Production is 26,000 tonnes

Therefore Weekly production = $\frac{26,000}{52} = 500$ tonnes

Elements of cost	Amount ₹ Per Ton
Raw material 70% of ₹ 300	210
Wages & overheads 20% of ₹ 300	60
Total cost	270
Profit	30
Selling Price	300

Statement Showing Working Capital Requirements

Particulars	₹	₹
(A) Current Assets:		
(i) Stock of Raw Materials $500 \times 4 \times 210$		4,20,000
(ii) Work-in-progress		
(a) Raw Materials	₹	
$500 \times 2 \times ₹ 210$	=	2,10,000
$200 \times ₹ 210$	=	42,000
		2,52,000
(b) Wages and Overheads $500 \times 60 \times 1$		30,000
		2,82,000
(iii) Stock of Finished Goods		
(a) Raw Materials $500 \times 6 \times 210$		6,30,000
(b) Wages and Overheads		

500 x 6 x ₹ 60	1,80,000	8,10,000
(iv) Debtors		
500 x 8 x ₹ 270		10,80,000
Total current Assets		25,92,000

There is no information of credit purchases or creditors, therefore, all purchases are assumed cash. There is no current liability.

Working Capital requirement is ₹ 25,92,000

Solution 3:-

1. Calculation of EOQ:-

Annual demand (C) = Normal use per week x 52 = 100 x 52 = 5,200

Cost per order (O) = ₹ 100 (As given)

Cost of carrying one unit for one year (I) =

$$520 \times 20\% = ₹ 104$$

$$EOQ = \sqrt{\frac{2CO}{I}} = \sqrt{\frac{2 \times 5,200 \times 100}{104}} = 100 \text{ Tubes}$$

$$\text{No. of orders} = 5,200 \text{ Tubes} \div 100 \text{ Tubes} = 52$$

2. If the supplier is ready to supply the required quarterly consumption of units at a discount of ₹ 5 per unit, it is worth accepting:

Total cost if EOQ system is followed:

	₹
(a) Total ordering cost (52 orders $\times$ ₹ 100)	5,200
(b) Inventory carrying $(100 \div 2) \times 104$	5,200
(c) Material cost $(5,200 \times 520)$	27,04,000
Total cost	27,14,400

Total cost if EOQ system is not followed:

$$\text{Order size per quarter} = 5,200 \div 4 = 1,300$$

$$\text{Average Inventory} = 1,300 \div 2 = 650$$

Number of orders if quarterly order is placed:

$$5,200 \div 1,300 = 4$$

$$\text{Discounted cost per unit} = (\text{given price } ₹ 520 - \text{dis. } ₹ 5)$$

$$= ₹ 515 \text{ per unit}$$

Cost of carrying one unit for one year (C) =

$$515 \times 20\% = ₹ 103$$

Overall cost as per the current practice of the manager:

	₹
(a) Ordering cost for orders in a year (4×100)	400
(b) Inventory carrying cost (650×103)	66,950
(c) Material cost $(5,200 \times 515)$	26,78,000
Total cost	27,45,350

Loss if EOQ system is not adopted $(27,45,350 - 27,14,400) = ₹ 30,950$

It is clear that there is no need to avail discount facility.

$$\begin{aligned} 3. \text{ Re-order stock level} &= \text{Maximum re-order period} \times \text{maximum usage} \\ &= 8 \times 200 = 1,600 \text{ units.} \end{aligned}$$

$$\begin{aligned} 4. \text{ Maximum stock level} &= (\text{Re-order level} + \text{Re-order Quantity}) - (\text{Minimum time to get supply} \times \text{Minimum rate of consumption}) \\ &= 1,600 + 100 - (6 \times 50) = 1,400 \text{ units.} \end{aligned}$$

$$\begin{aligned} 5. \text{ Minimum stock level} &= \text{Re-order level} - (\text{Average time to get supply} \times \text{Average rate of consumption}) \\ &= 1,600 - (7 \times 100) = 1,600 - 700 = 900 \text{ units} \end{aligned}$$

Working Notes :-

(1) The quantity of normal consumption per week is found by dividing the annual consumption by 52 weeks in a year. Hence the annual consumption will be $52 \times 100 = 5,200$ units.

(2) The supplier is willing to meet the quarterly requirement at a discount of ₹ 5, hence in case of getting the discount, at least $5,200 \div 4 = 1,300$ units will have to be purchased.

(3) To find the average time, the waiting period is taken as an average of 6-8 weeks.

(4) Since normal consumption is given, hence 100 units is considered as average consumption.

Solution 4:Computation of Cash Inflows

Particulars	Machine X	Machine Y
Savings Per annum:-		
Wages	9,000	12,000
Scrap	1,000	1,500
Gross Savings (A)	10,000	13,500
Additional cost Per annum:-		
Indirect Materials:	600	800
Maintenance	700	1,100
Supervision	1,200	1,600
Total Additional cost (B)	2,500	3,500
Cash Savings (A) - (B)	7,500	10,000
less: Depreciation (straight line)	3,000	4,000
Annual Savings (before tax)	4,500	6,000
less: Tax @ 30%	1,350	1,800
Annual Savings (after tax)	3,150	4,200
Add: Depreciation	3,000	4,000
Annual Cash Inflows	6,150	8,200

(i) Pay-back Method:(a) Pay-back Period = $\frac{\text{Initial Investment}}{\text{Annual cash Inflow}}$

$$\text{Machine X} = \frac{15,000}{6,150} = 2.439 \text{ yrs.}$$

$$\text{Machine Y} = \frac{24,000}{8,200} = 2.927 \text{ yrs.}$$

Conclusion: According to pay-back Method, Machine X is preferred.

(ii) Post-Pay-back Profitability Method:

Annual Cash Inflow (Whole life - Pay back Period)

$$\text{Machine X} = 6,150 (5 - 2.439) = 6,150 \times 2.561 = 15,750$$

$$\text{Machine Y} = 8,200 (6 - 2.927) = 8,200 \times 3.073 = 25,199$$

Conclusion: According to Post Pay-back Profitability Method, Machine Y is preferred.

(iii) Unadjusted Rate of Return Method:

Unadjusted or Average

$$\text{Rate of Return} = \frac{\text{Average Annual Savings after tax and Dep}}{\text{Average Investment}} \times 100$$

$$\text{Machine X} = \frac{3,150}{7,150} \times 100 = 42\%$$

$$\text{Machine Y} = \frac{4,200}{12,000} \times 100 = 35\%$$

$$\text{Average Investment} = \frac{\text{Initial Investment} + \text{Scrap value}}{2}$$

$$\text{Machine X} = \frac{15,000 + 0}{2} = 7,500$$

$$\text{Machine Y} = \frac{24,000 + 0}{2} = 12,000$$

Teacher's Signature

Conclusion:- According to ARR, Machine X is more profitable than that of Machine Y.

(iv) Net Present Value Index Method:

Present value = Annual cash Inflow $\times$ P.V. Factor at 8%.

$$\text{Machine X} = 6,150 \times 3.993 = 24,556.95$$

$$\text{Machine Y} = 8,200 \times 4.623 = 37,908.60$$

Net Present Value Index = $\frac{\text{Present value of cash inflows}}{\text{Investment}}$

$$\text{Machine X} = \frac{24,557}{15,000} = 1.637$$

$$\text{Machine Y} = \frac{37,909}{24,000} = 1.580$$

Conclusion:- According to NPV Method, Machine X is more profitable as compared to Machine Y.

Solution:- 5

Particulars	Plan I	Plan II
Earning Before Interest and Tax (EBIT):	1,25,000	1,25,000
Less: Interest on Debt	40,000	10,000
Earnings before Tax (EBT)	85,000	1,15,000
Less: Tax @ 50%	42,500	57,500
Earnings after interest and tax (A)	42,500	57,500
No. of Equity shares (B)	10,000	40,000
Earnings per share (EPS) = (A) ÷ (B)	4.25	1.438

	X	Y	Z
Sales value	50,000	50,000	50,000
Less: Variable cost contribution	30,000	20,000	15,000
Less: Operating Fixed cost	20,000	30,000	35,000
PBIT	10,000	20,000	25,000
Less: Fixed financial cost	10,000	10,000	10,000
PBT	3,500	2,000	10,000
	6,500	8,000	9,000

Degree of operating leverage:-

Contribution

Profit before Interest and Tax

For products X = $\frac{20,000}{10,000} = 2$

$$\text{For Product Y :- } \frac{30,000}{10,000} = 3$$

$$\text{For Product Z :- } \frac{35,000}{10,000} = 3.5$$

Degree of financial leverage :-

Profit before Interest and Tax

Profit before Tax and after Int

$$\text{For Product X :- } \frac{10,000}{6,500} = 1.54 (\text{App.})$$

$$\text{For Product Y :- } \frac{10,000}{8,000} = 1.25$$

$$\text{For Product Z :- } \frac{10,000}{9,000} = 1.11 (\text{App.})$$

Degree of combined leverage:-

Degree of operating leverage $\times$ Degree of financial leverage

For Product X :- $2 \times 1.54 = 3.08$ (App)

For Product Y :- $3 \times 1.25 = 3.75$

For Product Z :- $3.5 \times 1.11 = 3.89$ (App.)

Solution:- 6Computation of Operating Cycle Period

(1) Raw Material Storage Period:

$$= \frac{\text{Average Stock of Raw Material}}{\text{Raw Material Consumption for the year}} \times 365$$

$$= \frac{1,30,000}{7,30,000} \times 365 = 65 \text{ days}$$

$$\text{Average stock of Raw Material} = \frac{1,10,000 + 1,50,000}{2} = 1,30,000$$

$$\text{Raw Material Consumption for the year} = \text{Opening Stock} + \text{Purchase} - \text{Closing Stock}$$

$$= 1,10,000 + 7,70,000 - 1,50,000$$

$$= 7,30,000$$

(2) Conversion or Processing Period:

$$= \frac{\text{Average Work in progress}}{\text{Factory cost}} \times 365 = \frac{52,500}{12,77,500} \times 365$$

$$= \boxed{15 \text{ days}}$$

$$\text{Average work in progress} = \frac{45,000 + 60,000}{2}$$

$$= 52,500$$

$$\text{Factory cost} = \text{Opening WIP} + \text{Raw Material Consumed} + \text{Wages} + \text{Manufacturing Expenses} - \text{Closing WIP}$$

$$= 45,000 + 7,30,000 + 3,30,000 + 2,32,500 - 60,000$$

$$= 12,77,500$$

(3) Finished Good storage Period:

$$= \frac{\text{Average stock of finished goods} \times 365}{\text{Cost of sales}}$$

$$= \frac{72,000 \times 365}{13,14,000} = 20 \text{ days}$$

$$\text{Average stock of finished goods} = \frac{90,250 + 53,750}{2}$$

$$= 72,000$$

$$\text{Cost of sales} = \text{Opening Stock of FG} + \text{Factory cost of Production} - \text{Closing stock of FG}$$

$$= 90,250 + 12,77,500 - 53,750$$

$$= 13,14,000$$

(4) Debtors Collection Period:

$$= \frac{\text{Average Debtors}}{\text{Credit Sales}} \times 365$$

$$= \frac{11,35,000}{16,42,500} \times 365$$

$$= 30 \text{ days}$$

$$\text{Average Debtors} = \frac{1,20,000 + 1,50,000}{2} = 1,35,000$$

(5) Creditors Payment Period:

$$= \frac{\text{Average Creditors}}{\text{Credit Purchases}} \times 365$$

$$= \frac{42,500}{6,20,500} \times 365 = 25 \text{ days}$$

$$\begin{aligned}\text{Average Creditors} &= \frac{40,000 + 45,000}{2} \\ &= 42,500\end{aligned}$$

$$\begin{aligned}\text{Credit Purchases} &= 7,70,000 - 1,49,500 \\ &= 6,20,500\end{aligned}$$

$$\begin{aligned}\text{Operating Cycle Period} &= 65 + 15 + 20 + 30 - 25 \\ &= 130 - 25 \\ &= \boxed{105 \text{ days}}\end{aligned}$$

Solution 8-7

$$\text{Cost of Preference capital (Kp)} = \frac{D_p}{NP} \times 100$$

$$\begin{aligned}(a) &= \frac{1,00,000}{20,00,000 - 40,000} \times 100 = \frac{1,00,000}{19,60,000} \times 100 \\ &= 5.1\%\end{aligned}$$

$$\begin{aligned}(b) &= \frac{1,00,000}{20,00,000 + 2,00,000 - 40,000} \times 100 \\ &= \frac{1,00,000}{21,60,000} \times 100\end{aligned}$$

$$(c) \frac{1,00,000}{20,00,000 - 1,00,000 - 40,000} \times 100$$

$$= \frac{1,00,000}{18,60,000} \times 100$$

$$= 5.38\%$$