

UDHNA CITIZEN COMMERCE COLLEGE &
S.P.B. COLLEGE OF BUSINESS ADMINISTRATION &
SMT. DIWALIBEN HARJIBHAI GONDALIA COLLEGE OF BCA & IT
(Self Financed)

(Managed by Udhna Academy Education Trust)
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Class: S.Y.B.Com. (Sem. 3)
Subject: Advanced Accounting & Auditing 1

Accounting for Material
Practice Sums with Solution

Question – 1

From the following information, calculate the Economic Order Quantity (EOQ).

Given:

- Annual Consumption = 18,000 units
- Ordering Cost per Order = ₹360
- Annual Carrying Cost per Unit = ₹4

Solution

Formula

$$EOQ = \sqrt{\frac{2AO}{C}}$$

Where,

- A = Annual Consumption
- O = Ordering Cost per Order
- C = Annual Carrying Cost per Unit

Calculation

$$\begin{aligned} EOQ &= \sqrt{\frac{2 \times 18,000 \times 360}{4}} \\ &= \sqrt{32,40,000} \\ &= 1,800 \text{ units} \end{aligned}$$

Answer

Economic Order Quantity (EOQ) = 1,800 units

Question – 2

From the following information, calculate:

1. Economic Order Quantity (EOQ)
2. Number of Orders to be placed during the year

Given:

- Monthly Consumption = 1200 units
 - Ordering Cost per Order = ₹450
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- Carrying Cost = 5%
- Per unit Price : ₹100

Solution
Formula

$$EOQ = \sqrt{\frac{2AO}{CP}}$$

$$\begin{aligned} EOQ &= \sqrt{\frac{2 \times 14,400 \times 450}{100 \times 5\%}} \\ &= \sqrt{25,92,000} \\ &= 1,610 \text{ units (Approx.)} \end{aligned}$$

EOQ = 1,610 units

Number of Orders During the Year
Formula

$$\begin{aligned} \text{Number of Orders} &= \frac{\text{Annual Consumption}}{\text{EOQ}} \\ &= \frac{14,400}{1,610} \\ &= 9 \text{ orders (Approx.)} \end{aligned}$$

Question – 3

The Economic Order Quantity (EOQ) is 1,200 units, the Ordering Cost per Order is ₹180, and the Annual Carrying Cost per Unit is ₹2.

Calculate:

1. Annual Consumption
2. Number of Orders during the Year
3. Time Interval between Two Orders

Solution
Formula

$$EOQ = \sqrt{\frac{2AO}{C}}$$

Given:

- EOQ = 1,200 units
- O = ₹180
- C = ₹2

Calculation of Annual Consumption

$$1200 = \sqrt{\frac{2A \times 180}{2}}$$

$$1200 = \sqrt{180A}$$

Squaring both sides,

$$\begin{aligned} 1200^2 &= 180A \\ 14,40,000 &= 180A \\ A &= \frac{14,40,000}{180} \\ A &= 8,000 \text{ units} \end{aligned}$$

Annual Consumption = 8,000 units

Number of Orders During the Year
Formula

$$\begin{aligned} \text{Number of Orders} &= \frac{\text{Annual Consumption}}{\text{EOQ}} \\ &= \frac{8,000}{1,200} \\ &= 6.67 \approx 7 \text{ orders} \end{aligned}$$

Time Interval between Two Orders
Formula

$$\begin{aligned} \text{Time Interval} &= \frac{365}{\text{Number of Orders}} \\ &= \frac{365}{7} \\ &= 52 \text{ days (Approx.)} \end{aligned}$$

Answer

- Annual Consumption = 8,000 units
- Number of Orders = 7 orders
- Time Interval between Two Orders = 52 days

Question – 4

From the following information, calculate:

1. Re-order Level
2. Minimum Level
3. Maximum Level
4. Average Level
5. Danger Level
6. Safety Level

Given:

Particulars	Information
Maximum Consumption	120 units per week
Average Consumption	90 units per week
Minimum Consumption	60 units per week
Maximum Time	8 weeks
Average Time	6 weeks

Particulars	Information
Minimum Time	4 weeks
Economic Order Quantity (EOQ)	900 units
Emergency Procurement Time	2 weeks

Solution

(1) Re-order Level

Formula:

$$\begin{aligned}\text{Re-order Level} &= \text{Maximum Consumption} \times \text{Maximum Time} \\ &= 120 \times 8 \\ &= 960 \text{ units}\end{aligned}$$

(2) Minimum Level

Formula:

$$\begin{aligned}\text{Minimum Level} &= \text{Re-order Level} - (\text{Average Consumption} \times \text{Average Time}) \\ &= 960 - (90 \times 6) \\ &= 960 - 540 \\ &= 420 \text{ units}\end{aligned}$$

(3) Maximum Level

Formula:

$$\begin{aligned}\text{Maximum Level} &= \text{Re-order Level} + \text{EOQ} - (\text{Minimum Consumption} \times \text{Minimum Time}) \\ &= 960 + 900 - (60 \times 4) \\ &= 1,860 - 240 \\ &= 1,620 \text{ units}\end{aligned}$$

(4) Average Level

Formula:

$$\begin{aligned}\text{Average Level} &= \text{Minimum Level} + (\text{EOQ} \div 2) \\ &= 420 + (900 \div 2) \\ &= 420 + 450 \\ &= 870 \text{ units}\end{aligned}$$

(5) Danger Level

Formula:

$$\begin{aligned}\text{Danger Level} &= \text{Average Consumption} \times \text{Emergency Procurement Time} \\ &= 90 \times 2 \\ &= 180 \text{ units}\end{aligned}$$

(6) Safety level = Max Consumption (Max Time – Avg. Time)

$$= 120 (8 - 6)$$

$$= 240 \text{ એકમો Answer}$$

Question – 5

From the following information, calculate:

1. Re-order Level
2. Minimum Level
3. Maximum Level

4. Average Level

5. Danger Level

Given:

Particulars	Information
Maximum Consumption	150 units per week
Minimum Consumption	90 units per week
Maximum Time	7 weeks
Minimum Time	3 weeks
Economic Order Quantity (EOQ)	800 units
Emergency Procurement Time	2 weeks

Solution

Average Consumption = $90 + \text{Max. Consumption} / 2$

$120 = 90 + \text{Max. Consumption} / 2$

$120 \times 2 = 90 + \text{Max. Consumption}$

Max. Consumption = 150

Average Time = $3 + 7 / 2 = 5$

(1) Re-order Level

Formula:

Re-order Level = Maximum Consumption $\times$ Maximum Time

$= 150 \times 7$

$= 1,050 \text{ units}$

(2) Minimum Level

Formula:

Minimum Level = Re-order Level $- (\text{Average Consumption} \times \text{Average Time})$

$= 1,050 - (120 \times 5)$

$= 1,050 - 600$

$= 450 \text{ units}$

(3) Maximum Level

Formula:

Maximum Level = Re-order Level + EOQ $- (\text{Minimum Consumption} \times \text{Minimum Time})$

$= 1,050 + 800 - (90 \times 3)$

$= 1,850 - 270$

$= 1,580 \text{ units}$

(4) Average Level

Formula:

Average Level = Minimum Level + $(\text{EOQ} \div 2)$

$= 450 + (800 \div 2)$

$= 450 + 400$

$= 850 \text{ units}$

(5) Danger Level

Formula:

Danger Level = Average Consumption $\times$ Emergency Procurement Time

$= 120 \times 2$

= 240 units

Answer

- Re-order Level = 1,050 units
- Minimum Level = 450 units
- Maximum Level = 1,580 units
- Average Level = 850 units
- Danger Level = 240 units

Question – 6

From the following information, calculate:

1. Re-order Level
2. Minimum Level
3. Maximum Level
4. Average Level
5. Danger Level

Given:

Particulars	Information
Maximum Consumption	180 units per week
Average Consumption	150 units per week
Minimum Consumption	100 units per week
Maximum Time	9 weeks
Average Time	6 weeks
Minimum Time	4 weeks
Economic Order Quantity (EOQ)	1,000 units
Emergency Procurement Time	3 weeks

Solution

(1) Re-order Level

Formula:

$$\begin{aligned}\text{Re-order Level} &= \text{Maximum Consumption} \times \text{Maximum Time} \\ &= 180 \times 9 \\ &= 1,620 \text{ units}\end{aligned}$$

(2) Minimum Level

Formula:

$$\begin{aligned}\text{Minimum Level} &= \text{Re-order Level} - (\text{Average Consumption} \times \text{Average Time}) \\ &= 1,620 - (150 \times 6) \\ &= 1,620 - 900 \\ &= 720 \text{ units}\end{aligned}$$

(3) Maximum Level

Formula:

$$\begin{aligned}\text{Maximum Level} &= \text{Re-order Level} + \text{EOQ} - (\text{Minimum Consumption} \times \text{Minimum Time}) \\ &= 1,620 + 1,000 - (100 \times 4) \\ &= 2,620 - 400 \\ &= 2,220 \text{ units}\end{aligned}$$

(4) Average Level

Formula:

$$\text{Average Level} = \text{Minimum Level} + (\text{EOQ} \div 2)$$

$$= 720 + (1,000 \div 2)$$

$$= 720 + 500$$

$$= 1,220 \text{ units}$$

(5) Danger Level

Formula:

$$\text{Danger Level} = \text{Average Consumption} \times \text{Emergency Procurement Time}$$

$$= 150 \times 3$$

$$= 450 \text{ units}$$

Answer

- Re-order Level = 1,620 units
 - Minimum Level = 720 units
 - Maximum Level = 2,220 units
 - Average Level = 1,220 units
 - Danger Level = 450 units
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Question – 7

From the following information, calculate:

1. Material Turnover Ratio
2. Material Turnover Period

Given:

- Opening Stock of Materials = ₹70,000
 - Closing Stock of Materials = ₹90,000
 - Materials Consumed During the Year = ₹4,80,000
-

Solution

(1) Average Stock of Materials

Formula:

$$\begin{aligned} \text{Average Stock of Materials} &= \frac{\text{Opening Stock of Materials} + \text{Closing Stock of Materials}}{2} \\ &= \frac{₹70,000 + ₹90,000}{2} \\ &= \frac{₹1,60,000}{2} \\ &= ₹80,000 \end{aligned}$$

$$\text{Average Stock of Materials} = ₹80,000$$

(2) Material Turnover Ratio

Formula:

$$\text{Material Turnover Ratio} = \frac{\text{Materials Consumed During the Year}}{\text{Average Stock of Materials}}$$

$$\begin{aligned}
 &= \frac{₹4,80,000}{₹80,000} \\
 &= 6 \text{ times}
 \end{aligned}$$

Material Turnover Ratio = 6 times

(3) Material Turnover Period

Formula:

$$\begin{aligned}
 \text{Material Turnover Period} &= \frac{365 \text{ days}}{\text{Material Turnover Ratio}} \\
 &= \frac{365}{6} \\
 &= 61 \text{ days (Approx.)}
 \end{aligned}$$

Answer

- Material Turnover Ratio = 6 times
- Material Turnover Period = 61 days (Approx.)

Question – 8

From the following information, calculate:

1. Material Turnover Ratio
2. Material Turnover Period

Given:

- Opening Stock of Materials = ₹1,10,000
- Closing Stock of Materials = ₹90,000
- Materials purchased During the Year = ₹6,80,000

Solution

$$\begin{aligned}
 \text{Consumption of Material} &= \text{Opening stock} + \text{Purchases} - \text{Closing stock} \\
 &= 110000 + 680000 - 90000 \\
 &= 700000
 \end{aligned}$$

(1) Average Stock of Materials

Formula:

$$\begin{aligned}
 \text{Average Stock of Materials} &= \frac{\text{Opening Stock of Materials} + \text{Closing Stock of Materials}}{2} \\
 &= \frac{₹1,10,000 + ₹90,000}{2} \\
 &= \frac{₹2,00,000}{2} \\
 &= ₹1,00,000
 \end{aligned}$$

$$\text{Average Stock of Materials} = ₹1,00,000$$

(2) Material Turnover Ratio

Formula:

$$\text{Material Turnover Ratio} = \frac{\text{Materials Consumed During the Year}}{\text{Average Stock of Materials}}$$

$$\begin{aligned} &= \frac{₹7,00,000}{₹1,00,000} \\ &= 7 \text{ times} \end{aligned}$$

Material Turnover Ratio = 7 times

(3) Material Turnover Period

Formula:

$$\begin{aligned} \text{Material Turnover Period} &= \frac{365 \text{ days}}{\text{Material Turnover Ratio}} \\ &= \frac{365}{7} \\ &= 52 \text{ days (Approx.)} \end{aligned}$$

Answer

- Material Turnover Ratio = 7 times
- Material Turnover Period = 52 days (Approx.)