

Thursday

Cost Sheet

Date 26/09/19

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BRIGHT

Raw material

work in progress

finished goods

① Prime cost + factory overheads (all the cost us in manufacturing process)

+ o/s of work in progress
- c/s of work in progress

② Now, add office and administration expenses

Cost of Sales

+ Profit
- Loss

Final Sales

Particulars

Direct Material 3,16,000

Direct Labour 70,000

Direct exp. 20,000

Prime Cost - 4,06,000

→ factory overheads → 59,000

20% of labour

Electricity

Depreciation on machinery

o/s of W/P +

Indirect expenses +

c/s of W/P -

6,09,000

factory overhead = ₹ 2,43,600

Office and admin. = ₹ 1,69,400

not the part of
cost sheet

Expenses

Revenue

coming in

cost sheet

Capital

Huge company's capital

Whole company's cost

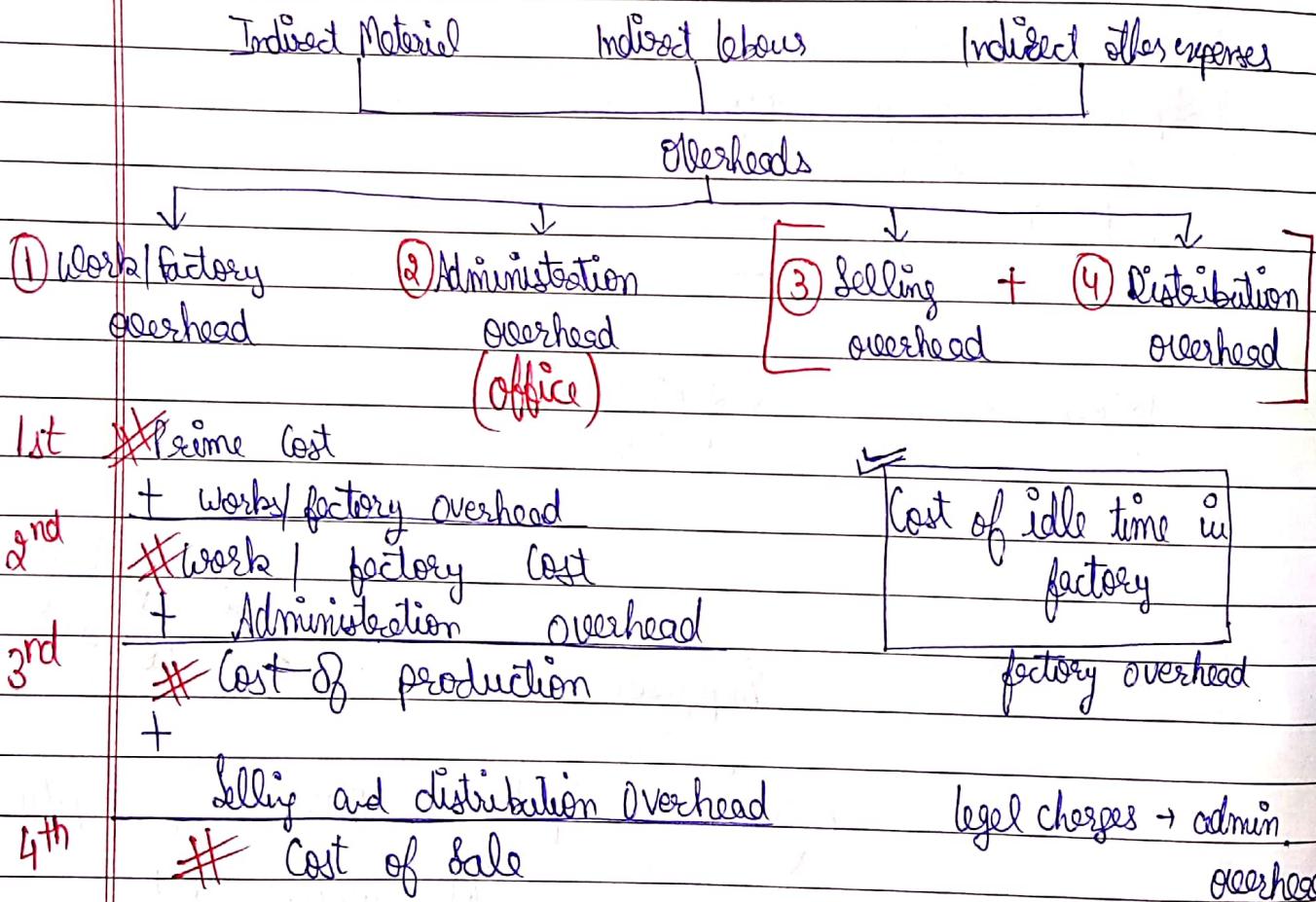
purchase and sale of
any asset will be the part
of cost sheet

BPO

Business Processing Outsource

Thursday

Particulars	
Direct Material	ds of RM + Purchases
Direct labour	- Purchase return + carriage inward
Direct other expenses	- c/s of RM
Prime Cost	
+ work / factory overhead	= work / factory cost



Carriage / freight inward

free samples - selling overhead and distribution

Bad Debts - selling overhead
Discount allowed - selling overhead

Rent maintenance - factory overhead

Warehouse charges - selling ad distribution overhead

Repairs and renewal of machinery - factory

" " at office premises - admin

" of delivery vans - selling & distribution

exhibitions → selling & distribution

Q. DM - 905000

DL - 750000

factory overheads - 450000

Admin. overheads - 420000

Selling & Dis. overhead - 525000

Sales - 3550000

Prime Cost = 905000

750000

1655000

factory overhead = 450000

factory cost 2105000

420000

$\text{Profit} = \frac{\text{Sales}}{\text{Cost of Sales}}$

Cost of production = 25,25,000

525000

Cost of Sale = 3050000

Cost of Sale = ₹ 30,50,000

Sales = ₹ 35,50,000

Profit = 35,50,000 -

30,50,000

Profit = ₹ 5 Lakh

Ques.

Direct Material - ₹ 455,000

Direct Wages - ₹ 1,45,000

Fixed expenses - ₹ 54,000

factory overheads - 80% of Direct wages

Admin. overheads - 10% of works cost

Selling & Distribution overheads - ₹ 10.30 per unit

Units 10,000

Profit - 10% of cost of sale

Profit - 20% of sales

$$20 \times 80000$$

80

(po-20%)

Particulars	Total Cost	Cost per unit
Direct Material =	4,55,000	45.5
Direct Labour =	1,45,000	14.5
Direct expenses =	54,000	5.4
# Prime cost	6,54,000	65.4
factory overhead	1,16,000	11.6
# Work cost	7,70,000	77.0
Admin. overhead	77,000	7.7
# Cost of Production	8,47,000	84.7
Selling and distribution overhead	1,03,000	10.3
# Cost of Sales.	9,50,000	<u>95.0</u>

Ques. o/s of RM - ₹ 5000

Purchases during the year - ₹ 10,000

Purchase Return - ₹ 2000

Cashiege incurred - ₹ 2000

~~X~~ Cashiege outwred - ₹ 3000

Direct labour - 50% of Raw material consumed

c/s of RH - ₹ 400

factory overheads - 40% of works cost

Particulars

Direct Material - 5000

+ 10,000

(- 2,000)

+ 2,000

(- 400)

Raw material 14,600 14,600

Direct labour - 7,300

Prime Cost = ₹ 21,900

₹ 21,900

works/factory overheads = $\frac{40}{60} \times 21,900$

~~100~~ = ₹ 14,600

Works Cost = ₹ 36,500

Ques. From the following particulars prepare a cost sheet for the period ended 30.06.2011

Raw materials - ₹ 66,000

Production wages - ₹ 70,000

Direct expenses - ₹ 6,000

factory lighting - ₹ 4,400

factory heating - ₹ 3,000

Motive power - ₹ 8,800

Haulage - ₹ 6,000

Depreciation of

- Plant and machinery - ₹ 4,000

- Office Building - ₹ 2,000

- Delivery Vans - ₹ 400

Bad debts - ₹ 200

Advertising - ₹ 600

Directors' fees(works) - ₹ 2,000

Upproductive wages - ₹ 21,000

factory rent and taxes - ₹ 15,000

Sales Department salaries - ₹ 9,000

Directors' fees(office) - ₹ 4,000

factory cleaning - ₹ 1,000

Sunday office expenses - ₹ 400

office stationery - ₹ 1,800

factory insurance - ₹ 1,100

office insurance - ₹ 1,000

legal expenses - ₹ 800

Upkeeping of delivery vans - ₹ 1,400

Banka charges - ₹ 100

Soldsmen's commission - ₹ 3000

loose tools written off - ₹ 1,200

Rent and taxes (office) - ₹ 1,000

Water supply - ₹ 2,400

Rent of warehouse - ₹ 600

Estimating - ₹ 1,600

factory stationery - ₹ 1,500

Sales Manager's commission - ₹ 1,000

Particulars	Total Cost (in ₹)	Cost per unit
Raw materials	66,000	
Productive Wages	70,000	
Direct expenses	6,000	
Prime Cost	1,42,000	
Factory / Work overheads:		
Factory lighting	4,400	
factory Heating	3,000	
Motrice Power	8,800	
Haulage	6,000	
Depreciation of Plant and Machinery	4,000	
Directors' fees (works)	2,000	
Unproductive wages	21,000	
factory rent and taxes	15,000	
factory cleaning	1,000	
factory insurance	1,100	
loose tools written off	1,200	
Water supply	2,400	
Estimating	1,600	
factory stationery	1,500	
factory Cost	2,15,000	

Office and administration overhead:

Depreciation on office building	2,000
Directors' fees (office)	4,000
Sundry office expenses	400
office stationery	1,800
office Insurance	1,000
legal expenses	800
Bank charges	100

Particulars	Total Cost (in ₹)	Cost per unit
Rent and taxes (office)	1,000	
Cost of production	2,26,100	
Selling and distribution overhead:		
Depreciation of delivery vans	400	
Advertisement	600	
Bad Debts	200	
Sales department salaries	2,000	
Upkeeping of delivery vans	1,400	
Salesmen's Commission	3,000	
Rent of warehouse	600	
Sales Manager's commission	1,000	
Cost of Sales	2,35,300	

(In ₹ lakhs)

Thursday

Related to
productivity
of
Production

laws

long Run production function

Returns to Scale (constant returns)*

Variable Proportion

short Run production function

Basic factors of Production:-

- ① Land
- ② Labour
- ③ Capital
- ④ Entrepreneur

for all these
we have to
pay something

- Rent
- Wages/salary
- Interest on capital
- Profits

helping to work on
non-living factors

factors of production

fixed

Variable

(for short run only)

land (lace) and
all others factors
are constant

labour

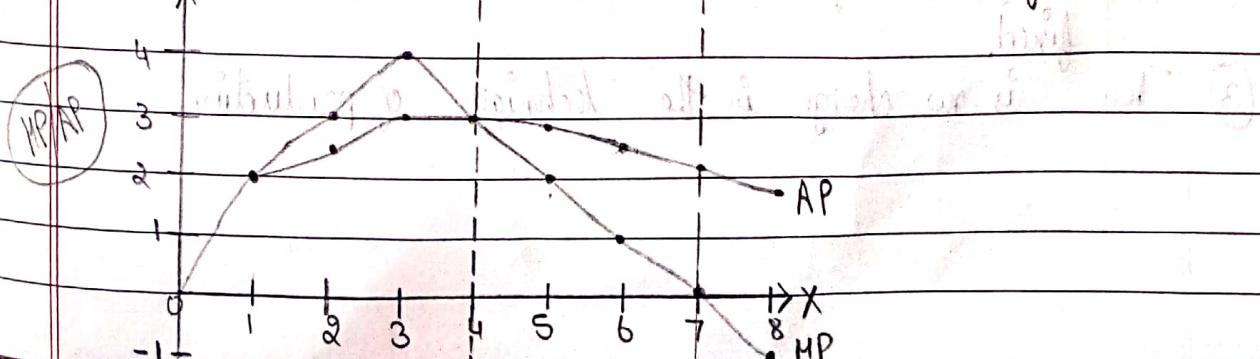
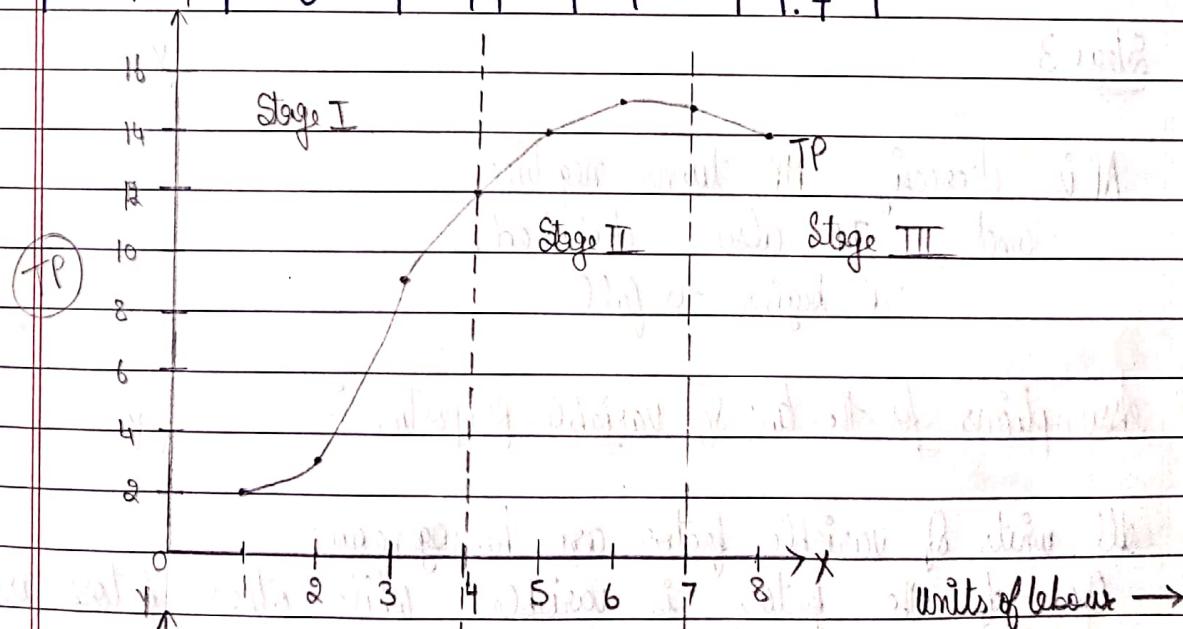
(for long run
(and also changes))

Law of Variable Proportion :-

In the short period, when the output is supposed to be increased by way of additional application of the variable factor to a given quantity of fixed factor, law of Variable proportion comes into operation.

TP/labour

Land (fixed)	Labour (variable)	Total Product	Marginal Product	Average Product	Explanation
1	1	2	2	2	
1	2	5	3	2.5	
1	3	9	4 ^{max.}	3	
4 th level	1	12	3 = 3		
1	5	14	2	2.8	
1	6	15 ^{max.}	1	2.5	
1	7	15	0	2.1	
1	8	14	-1	1.7	



Explanation

Stage 1.

Average product increases, Total product also increases
 Marginal product initially increases and then begins to falls

This stage ends where Average Product (AP) = Marginal Product (MP)

Stage 2.

AP decreases, TP is increasing
 MP decreases till it becomes zero.

TP is maximum and constant

Stage 3.

AP is decreasing, MP turns negative
 and TP also declined.

TP begins to fall

* Assumptions for the law of variable proportion:-

- (1) * All units of variable factor are homogeneous
- (2) One of the factor is variable while other factors are fixed.
- (3) There is no change in the technique of production

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Economics of Scale

Usage of resources at
their highest efficiency

Internal

External

Using
byproducts

Combining labour, machines
to ↑ production
or ↑ profit

Dis-economies

Taxes, Tariff

ITC

Role is in owner's
hand

Law of Returns to Scale :-

Returns to scale describe the behaviour of total output as all the inputs are varied by same proportion.

It is a long run concept, in long run all the factor inputs are variable.

The response of output to changes in scale or size of all the factors in same proportion is termed as the returns to scale.

Labour (L)

Capital (K)

It is not practically

possible to

change land and

labour with

same proportion

in real life.

$$P = f(L, K)$$

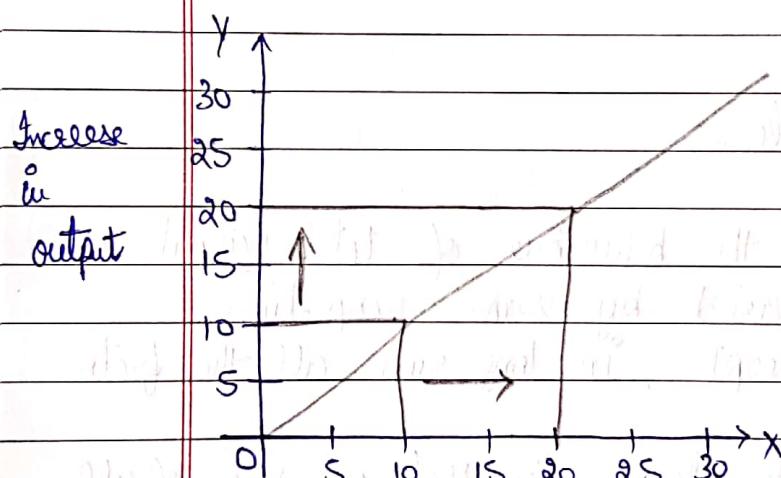
$$P_1 = f(mL, mK)$$

increased by
some proportion

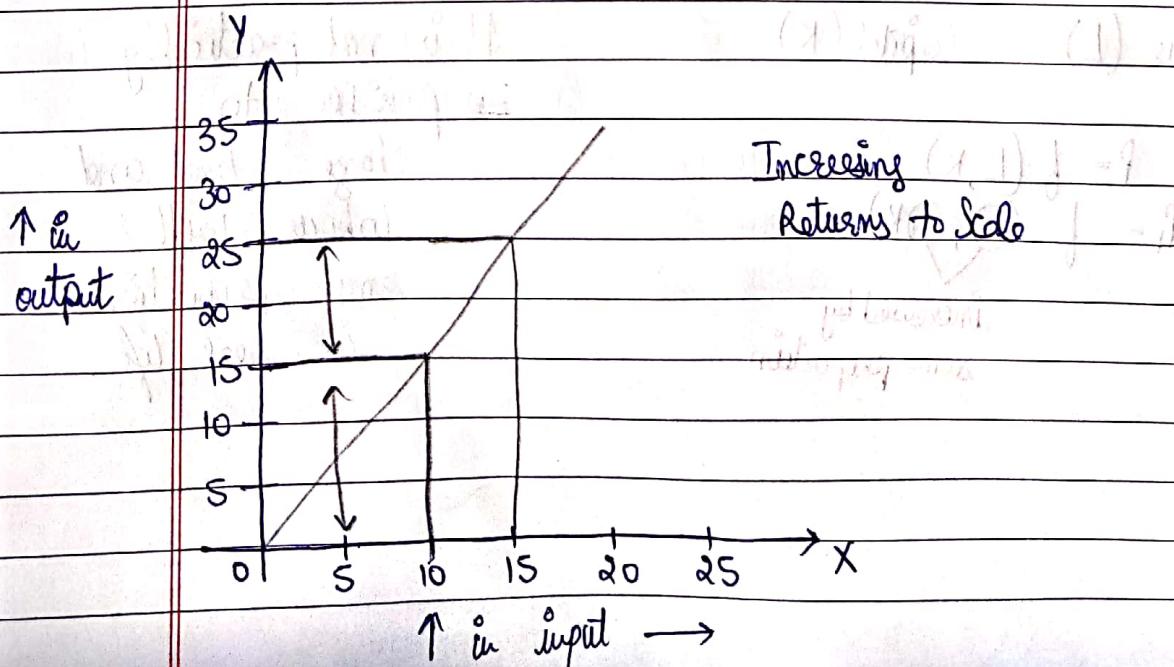
Input
Proportionate ↑ in
Land and Labour

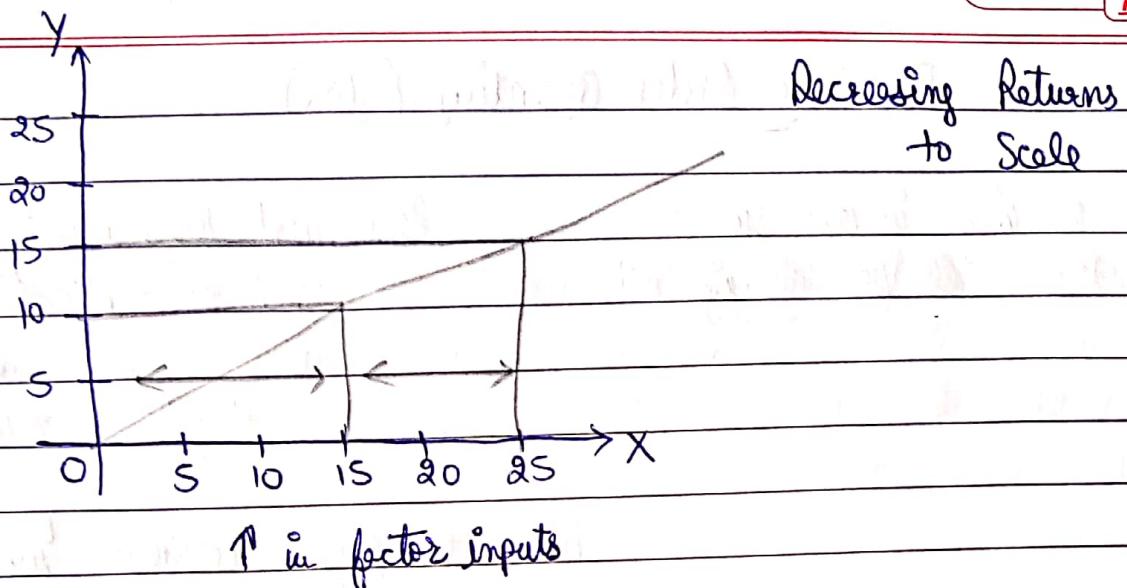
Output

Land	Labour	Total Product	Proportionate ↑ in TP	
1	2	—	10	$\frac{30-10}{10} \times 100$
2	4	100	30	Increasing Returns to Scale
3	6	50	60	Constant Returns to Scale
4	8	33	80	Decreasing Returns to Scale
5	10	25	100	
6	12	20	110	
7	14	16	120	
8	16	14	125	



Increased in factor inputs →





Wednesday

Economic Order Quantity (EOQ)

If all into in one go

there will be carrying cost

Requirement 100,000 units (Year) RM

1000 - 1 Month

100,000
1000

100 orders

have to pay carriage ^{to} ~~inward~~

~~Ordering Cost ← Acquisition Cost~~

In an organization

① Carrying Cost = Cost of carrying goods in an organization

>Selecting Tender → ② Ordering ~~Expense of Transportation~~
goods (below) cost = Cost of placing and receiving an order (Transportation)

③ Acquisition Cost = ~~Don't affect~~ EOQ → This is not in our hand
Depend on supplier

$$\text{EOQ} = \sqrt{\frac{2CD}{I}}$$

Where, C = Consumption of one year (annual consumption)

D = Ordering Cost

I = Inventory (Stock) Carrying cost

Capital Budgeting

↳ Replacement Studies

- ① Breakdown of machinery → replace machines
- ② efficiency vs of old machine → replace machines
- ③ New Technology → replace old assets, purchase new machine
- ④ Expansion of business → public sector banks

* In India, massive replacement Banking sectors - old computers
New computers

Methods:-

- ① Payback → When my investing going to pay me back.

(profit फिल न करे सारे पैसे बचा सके)

Time excluded → Time value of money) अगली वर्षता
Depreciation excluded पैसा 2 साल बढ़ पुरा हो जाएगा।

Thursday

Economic Order Quantity

Acquisition Cost :-

Acquisition Cost will remain unaffected irrespective of number of units which are ordered until or unless the supplier provides the quantity discounts.

Carrying Cost :-

1. Cost of storage space, rent, etc.
2. Cost of maintaining the material.
3. Salaries of store keepers
4. Inventory (Stock) Insurance Cost. -
 - (i) fire
 - (ii) marine insurance
 - (iii) life insurance
5. Cost of loss due to wastage.

Ordering Cost :-

1. Cost of staff posted in purchasing department / Inspection department.
2. Cost of comparative evaluation.
3. Cost of inviting quotations (TENDER).
4. Transportation Cost.

EOQ = carrying cost and ordering cost
will be minimum

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Ques. Annual usage = 5000 units

Material Cost = ₹20/unit

Cost of placing and receiving one order = ₹100

Annual carrying cost of inventory = 5% of material cost

Calculate EOQ and no. of orders?

Sol.

$$\text{EOQ} = \sqrt{\frac{2CD}{I}} = \sqrt{\frac{2 \times 5000 \times 100}{1}} = 1000 \text{ units}$$

$$\text{no. of orders} = \frac{5000}{1000} = 5 \text{ times} = \frac{\text{Annual usage}}{\text{EOQ}}$$

Ques. Annual consumption = 6000 units

Cost of material = ₹20/unit

Cost of placing & receiving one order = ₹60

Annual carrying cost = 10% of material cost = ₹2

Calculate EOQ and no. of orders?

Sol.

$$\text{EOQ} = \sqrt{\frac{2 \times 6000 \times 60}{2}} = 600 \text{ units}$$

$$\text{no. of orders} = \frac{6000}{600} = 10 \text{ orders}$$