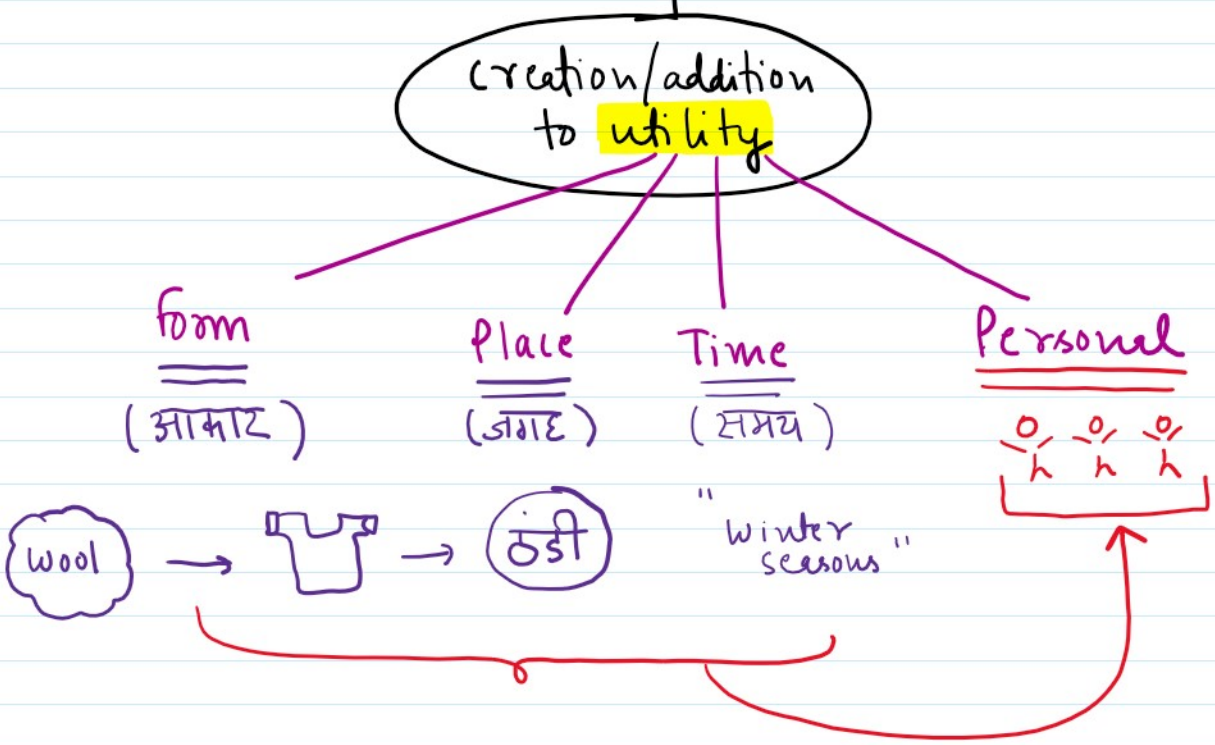
CH3 Unit 1 Production



(1) Factors of Production

a) Land

- → Natural Resources (Free Gift)
- → Passive factor
- → Heterogeneous
- → Cannot be shifted
- → Supply is perfectly Inelastic

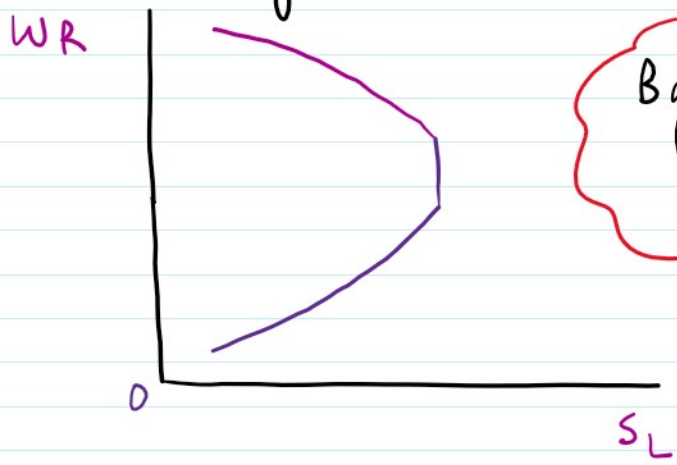
b) Labour

- → physical + Mental
- → Active factor
- → May not productive
- → [illegible]

→ May not productive

→ Perishable (cannot be stored)

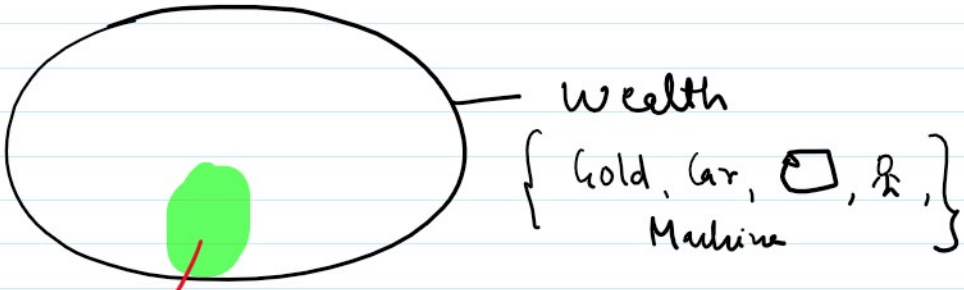
→ Wage Rate relation



c) Capital

→ produced factor → Machine

→ help in further production of wealth



Fixed — Real — Tangible — Individual

Circulating — Human — Intangible — Social.

* Savings ① → Banks → Investment ③

Mobilise
(2)

Capital formation

4) Entrepreneur

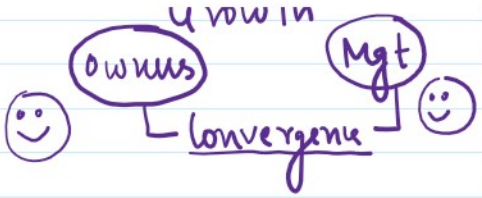
(Organisor, Manager, Risk taker)

→ Innovation (Schumpeter)

→ Business → Risk
Uncertainity

profit belongs → Frank Knight

Objectives	Constraints	Problems
1) Organic ↓ · Survival Growth + expansion · Owners → profit, Market share, Reputation Mgt → Salary, Job security └ divergence ↓ Growth owners Mgt	1) Lack of Knowledge & information 2) Infrastructural inadequacies 3) Restriction imposed by state 4) changes in Business condition 5) Events / Inflation	1) objectives are contradictory 2) Location 3) Size of Plant 4) Finance 5) Organisation Structure 6) Legal



5) Events (Inflation, Interest rate) etc

6) Legal

7) Industrial Relations

(2) Economic objective

Profit (Maximum)

- HA Simon → Reasonable profit
- Baumol → Sales Maximisation
- Berle & Means → Managers want to enjoy discretionary powers (Williamson's Theory)
- Cyret & March → profit, Inventory production, market share

c) Social objective – Adulterated products ✗

d) National objective – Reduce Inequality
– Self sufficient.

e) Human objective – Fair deals to employee
→ Training (✓)

(2) Production function

$$Q = f(F_1, F_2, F_3 \dots F_n)$$

Q: Output

$F_1, F_2, F_3 \dots F_n$: Inputs.

Short Run

↓

atleast (1) factor fixed, (other variable)

Law of Returns to Factor

Long Run

↓

all factors are variable

Law of Returns to Scale

Douglas Cobb

Manufacturing Industries

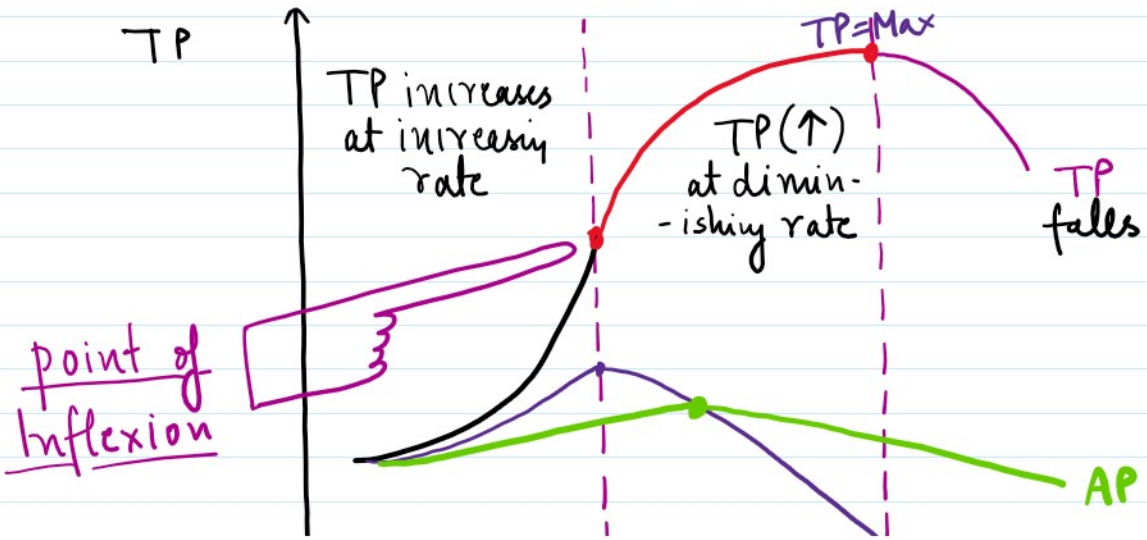
→ Labour 75% (3/4)

→ Capital 25% (1/4)

$$Q = K \cdot L^{a} \cdot C^{(1-a)}$$

K, a = (+)ve constant

Short Run



TP & MP

1) $MP = \frac{\Delta TP}{\Delta \text{Input}}$

2) $TP = MP_1 + MP_2 + MP_3 \cdots MP_N$

$= \Sigma MP$

MP is the *SLOPE* of TP

Stage 1) TP ↑ @ ↑ing rate ; MP ↑

Stage 2) TP ↑ @ ↓ing rate ; MP ↓

* TP is MAX ; MP = 0

Stage 3) TP ↓ ; MP is (-) ve

AP & MP

1) MP > AP ; AP (↑)

2) MP = AP ; AP is MAX

3) MP < AP ; AP (↓)

Law of Variable Proportion

Stage I Stage II Stage III

Stage I (Increasing RTF)

- Division of labour
- Specialisation

× economic absurdity

Producer

Stage II (Diminishing RTF)

- Inefficiency
- Fixed factors inadequate

(~)

produce

Stage III (Negative RTF)

Poor coordination

× economic absurdity

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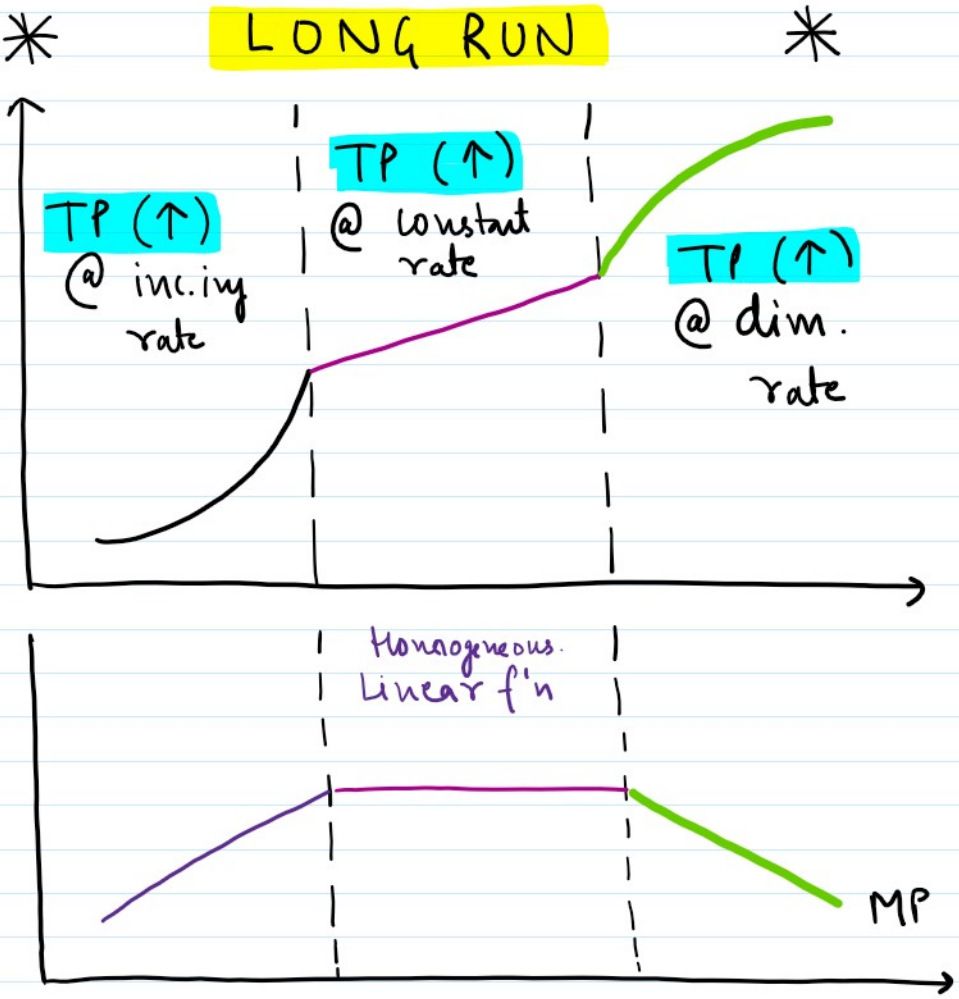
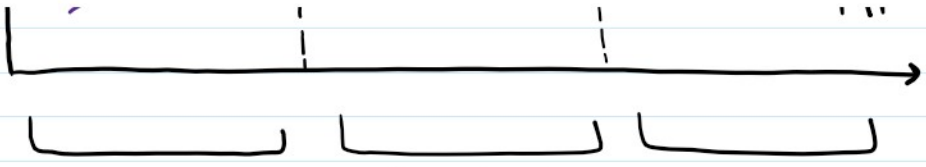




Increasing RTS | Constant RTS | Decreasing RTS

Cobb-Douglas

$a+b > 1$	$a+b = 1$	$a+b < 1$
% Change in Output > % change in Inputs	% change in output = % change in Inputs	% change in output < % change in Inputs
Inputs 25%	25%	25%
Output 30%	25%	20%

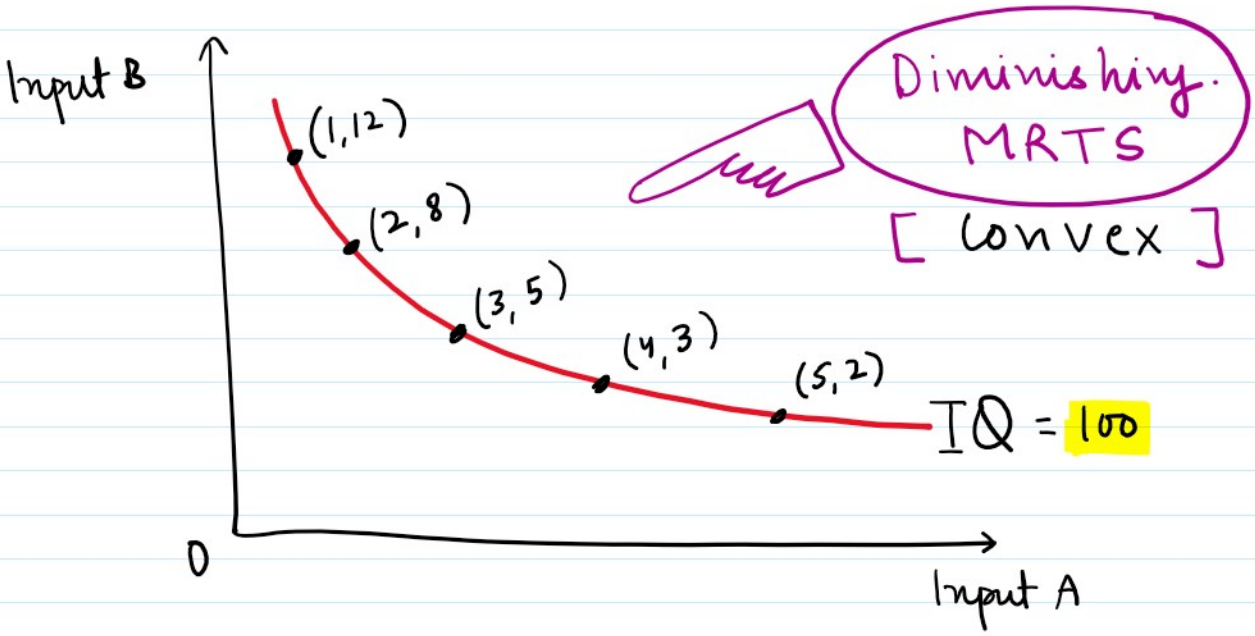
Inputs change → Same Proportion

* **Product Optimisation**

Concept 1 — **Iso Quant Curve**

(Production Indifference Curve)

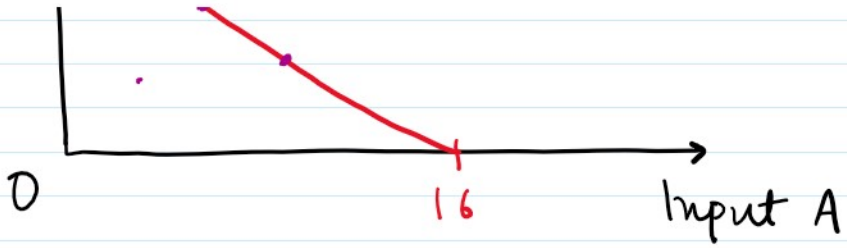
Input A	Input B	Output	MRTS
1	12	100	–
2	8	100	4
3	5	100	3
4	3	100	2
5	2	100	1



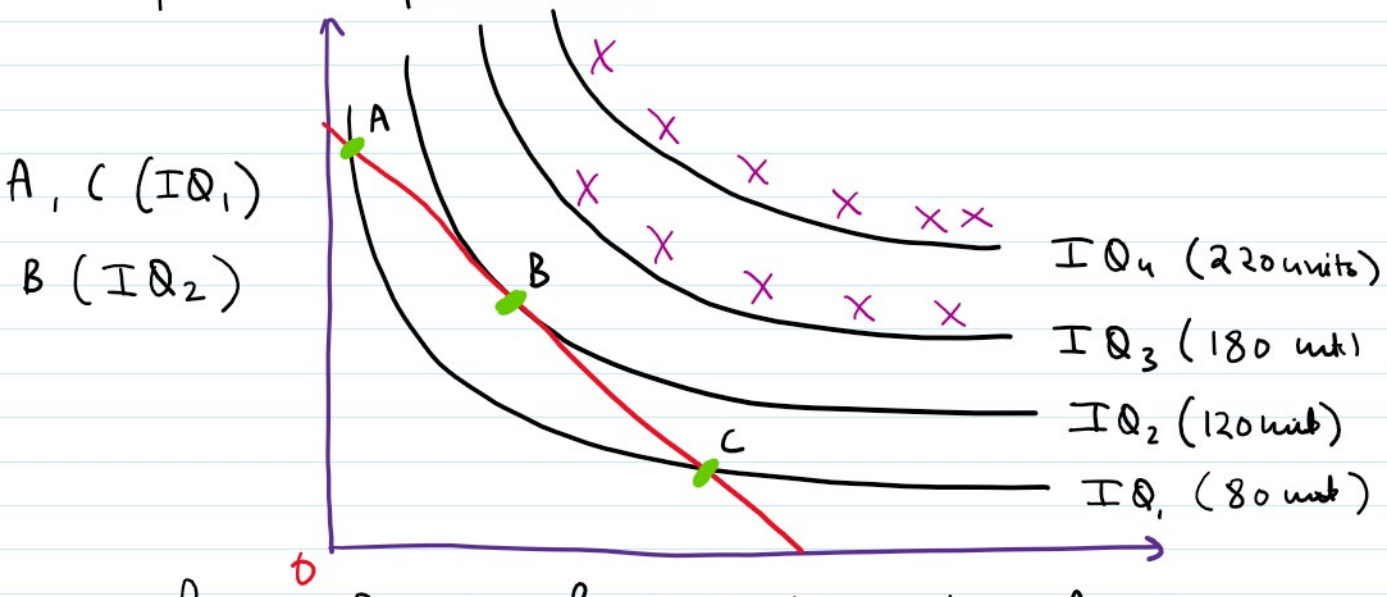
$$MRTS = \frac{\triangle \text{ Input Sacrificed}}{\triangle \text{ Input Gained}}$$

MRTS is the **SLOPE** of IQ

Concept (2) Iso-Cost or Equal cost line



product optimisation



Point B is Product optimisation Point.