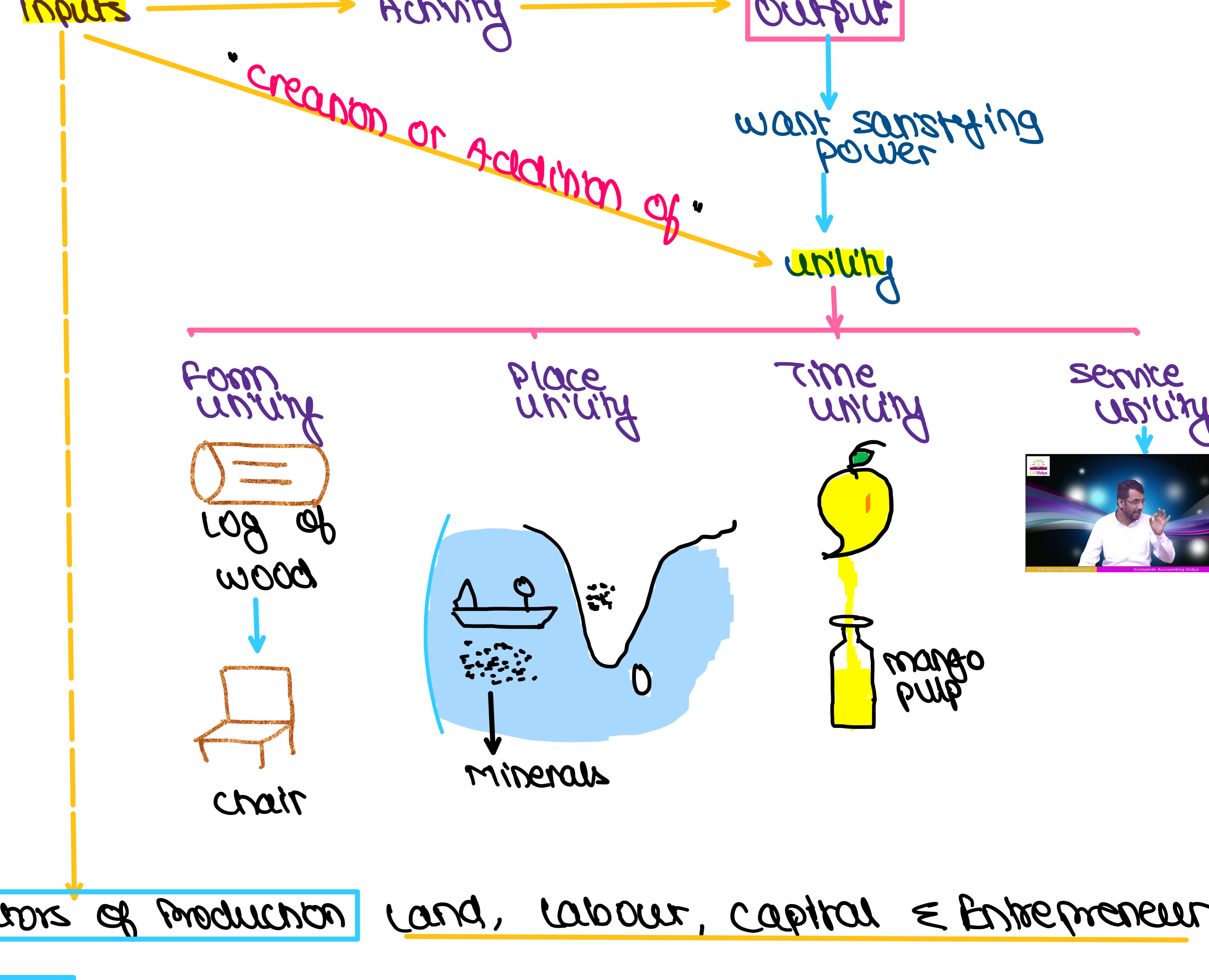


Chapter 3: Theory of Production: "Process of converting input into output"

Unit 1



i. Land

- a) Free gift of nature
- b) Anything on, above & below the surface of earth
- c) supply
  - Macro (country) → completely fixed (Perfectly inelastic)
  - Micro (firm/individual) → Relatively fixed (Relatively elastic)
- d) Land has Indestructible Powers i.e. its powers can be restored.
- e) Land is a passive factor i.e. it does NOT work on its own
- f) Place Mobility (x) - i.e. it cannot be shifted from one place to another place
- g) Occupational mobility (✓) i.e. it can be used for various purposes
- h) Heterogeneous factor
  - i. Fertile / Infertile
  - ii. Red, Black, Brown soil
  - iii. Surface / water
- i.) Reward: Rent

ii. Labour

- Any mental or physical exertion done with an intention to secure income
- a) labour & labourer are different
  - b) labour & labourer are inseparable
  - c) Labour cannot be stored
  - d) Labour is highly perishable. } A day's labour lost is lost forever
  - e) weak bargaining power
  - f) Place mobility (✓)
  - g) Occupational mobility (✓)
  - h) heterogeneous factor: skilled, unskilled, semi skilled
  - i) Exception to law of supply
  - j) Active factor
  - k) All labour is not productive
  - l) Reward: wages

iii. Capital

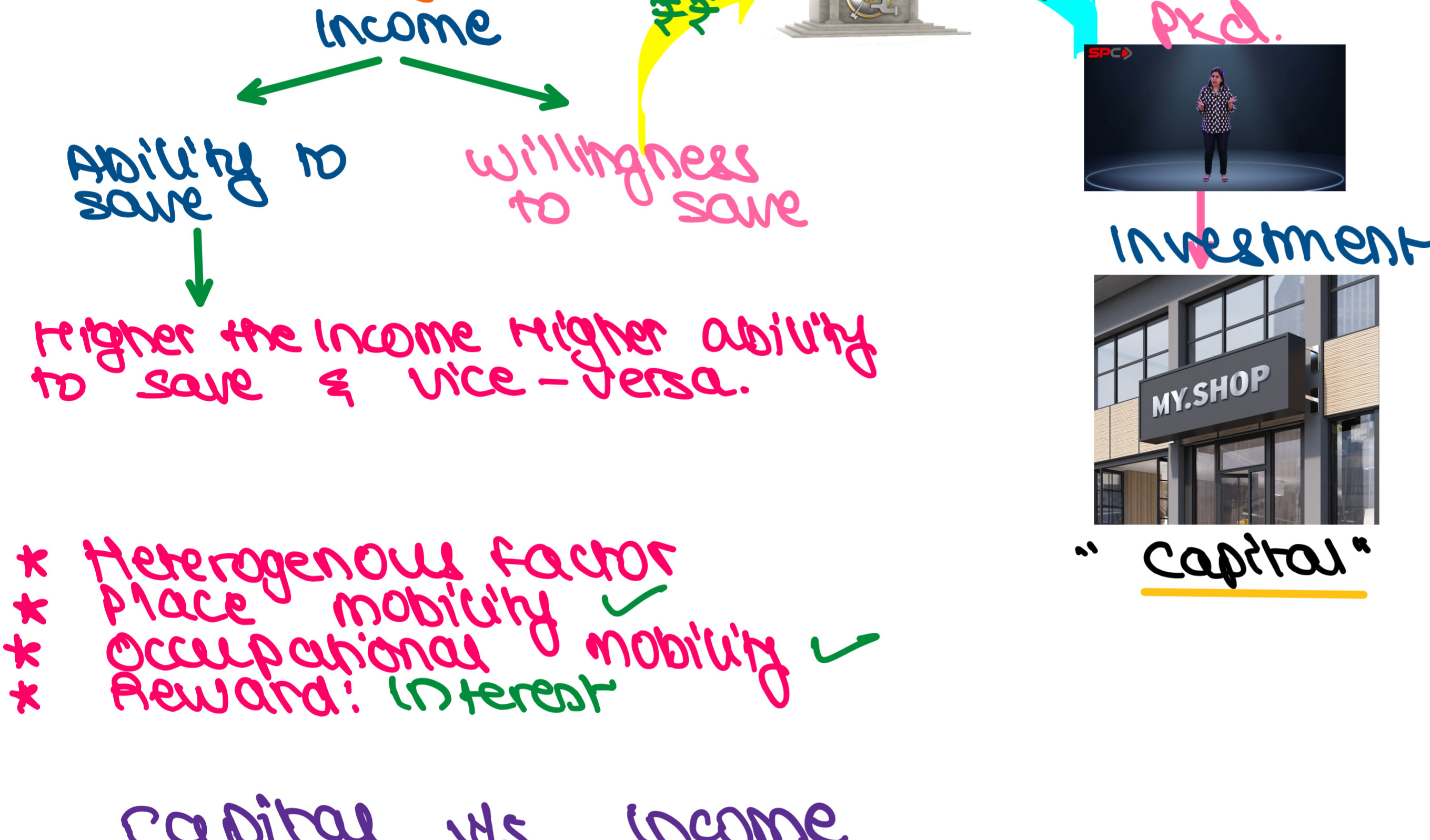
Definition: i. Part of wealth used for further production of wealth

- ii. man-made instrument of production
- iii. Produced factor of production

Types of capital

- i. Fixed capital: camera, ipad, benches
- ii. Circulating capital: Raw material
- iii. Tangible capital: camera, Raw material
- iv. Intangible capital: Goodwill, Patent, TM, ©
- v. Real capital: Camera, RM, Laptop, Furniture
- vi. Human capital: Skills/Resources of individuals
- vii. Social capital
- viii. Private capital

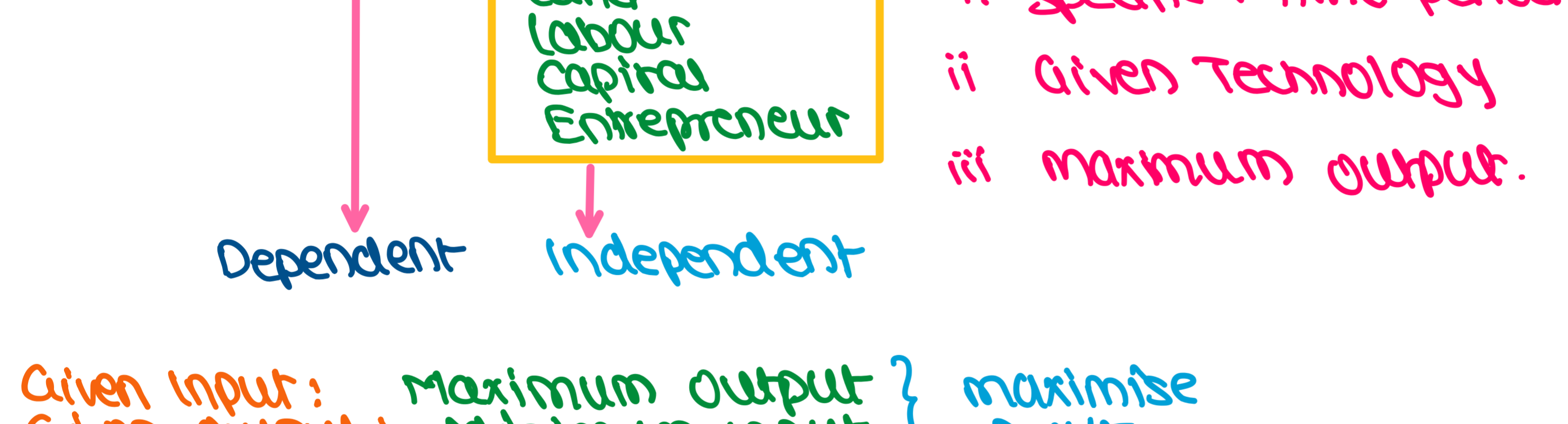
→ Stages of capital formation



- \* Heterogeneous factor
- \* Place mobility (✓)
- \* Occupational mobility (✓)
- \* Reward: interest

Capital v/s Income  
 Stock vs Flow

II. Production Function



Given input: Maximum output } maximise  
 Given output: Minimum input } profits

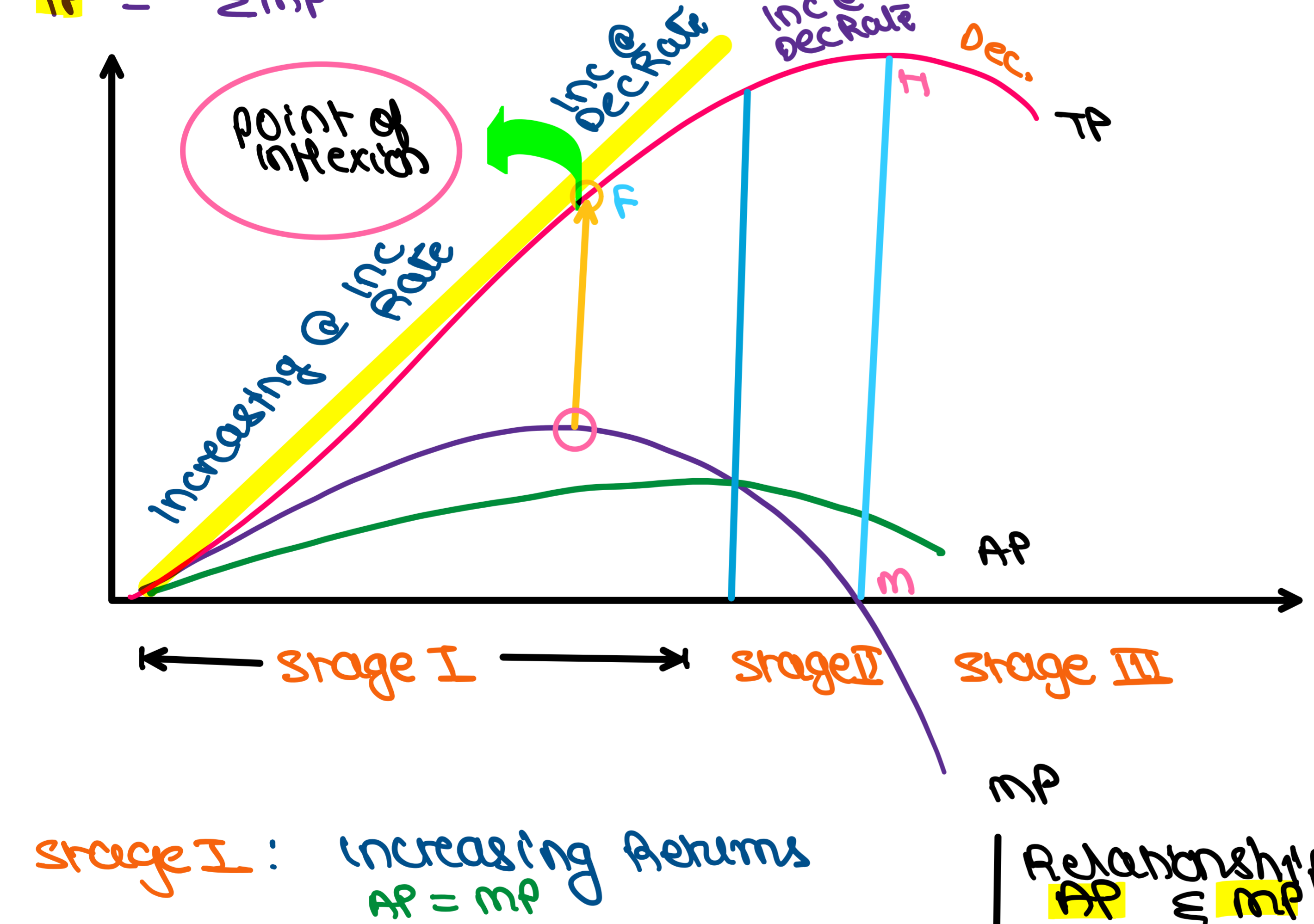


II. Law of variable proportions / Law of Diminishing Returns

Table 1: Product Schedule

Quantity of labour	Total Product (TP)	Average Product (AP)	Marginal Product (MP)
(1)	100	100.0	100
2	210	105.0	110
3	330	110.0	120
4	440	110.0	110
5	520	104.0	80
6	600	100.0	80
7	670	95.7	70
8	720	90.0	50
9	750	83.3	30
10	760	75.0	10
11	740	67.3	-10

MP =  $TP_n - TP_{n-1}$ : Addition made to TP by one extra unit of input  
 AP =  $TP/n$   
 TP =  $\sum MP$



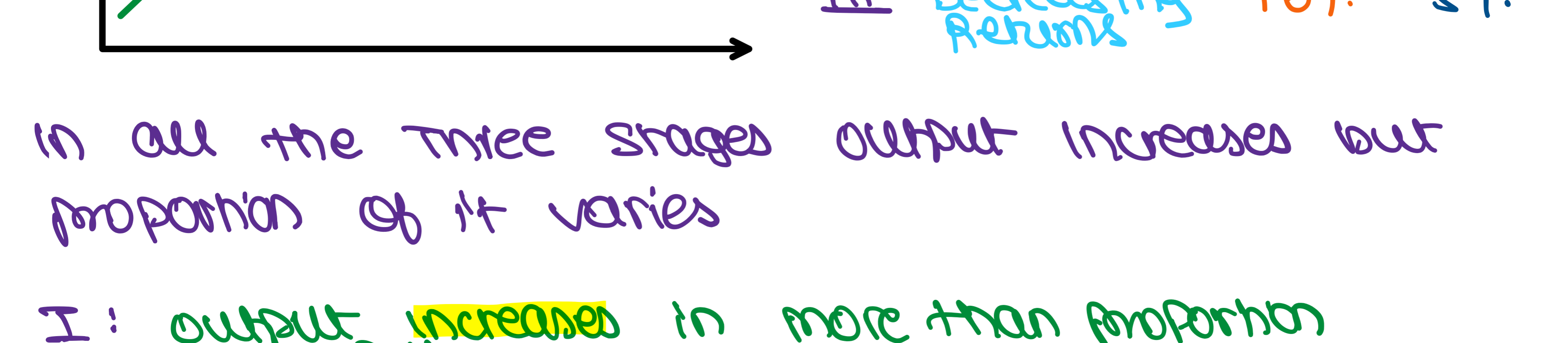
- Stage I: Increasing Returns  
 $AP = MP$
  - Stage II: Diminishing Returns  
 $MP < AP$  &  $TP = \max$
  - Stage III: Negative Returns  
 $MP = -ve$  &  $TP$  is falling
- Relationship between AP & MP:  
 AP ↑      MP > AP  
 AP = max    MP = AP  
 AP ↓      MP < AP

Stage of operation: Stage II

Stage I & Stage III are called as stages of economic absurdity or economic non-sense

II. Law of Returns to scale

- a) This operates in long run
- b) All factors are variable



In all the three stages output increases but proportion of it varies

- I: output increases in more than proportion to input
- II: output increases in same proportion to input
- III: output increases in less than proportion to input

