Date ⇒ 9/09/22

(*) Trishna → (short story)

OE Civil

Unit 1 :-

Population Growth (PG)

- Birth Rate – (per thousand population)
- Death Rate – "
- Imigration Rate –
- Emigration Rate –

* tubectomy (F)
* vasectomy (M)
* weil (Birth control purpose for H_2O)

(Sub Saharan Country → southern part)

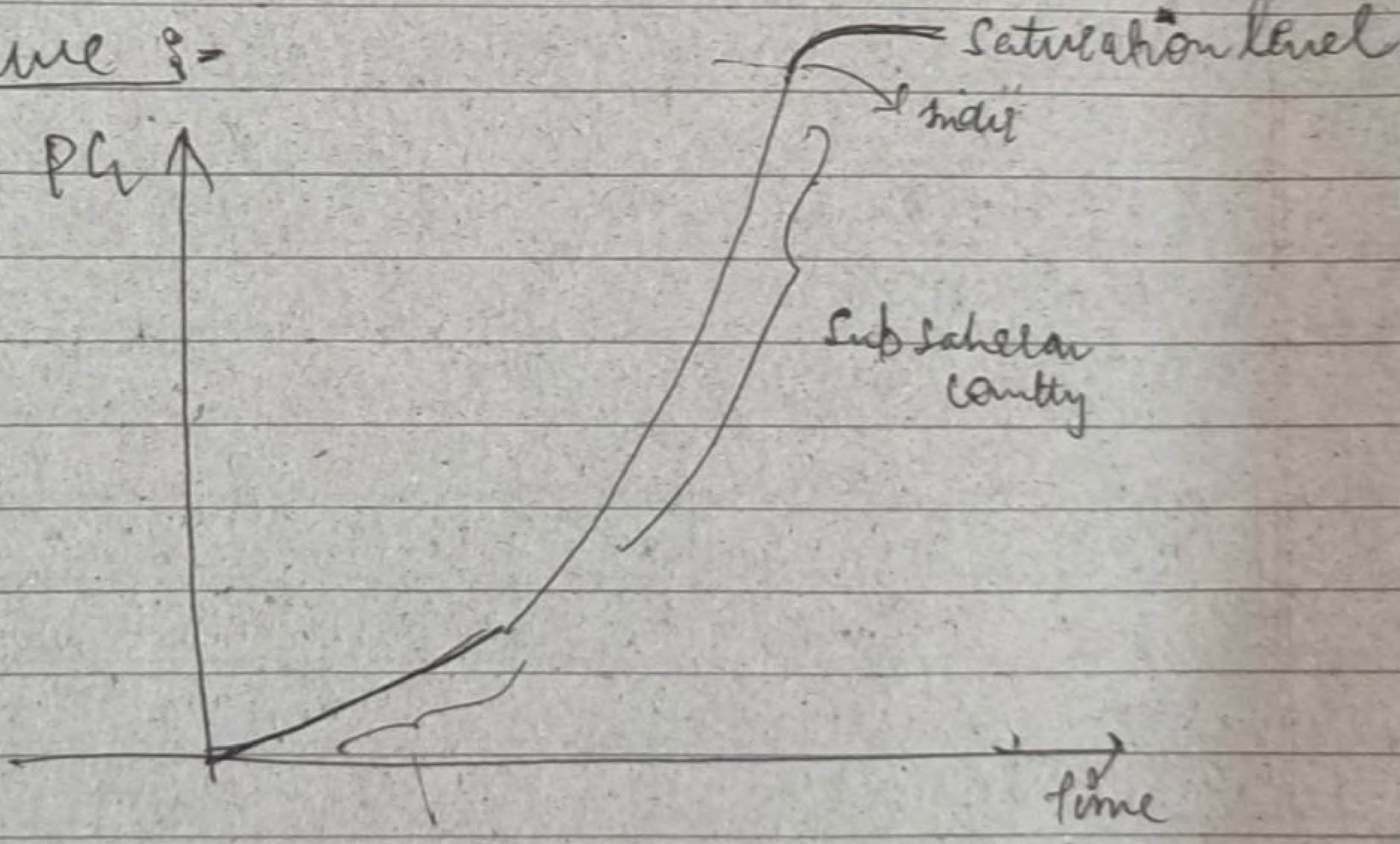
$$PG = [(BR + IR) - (DR + ER)]$$

(Birth Rate)

Q ⇒ (India population is Growth is much less then sub Saharan country); B.R ⇒ 1.57

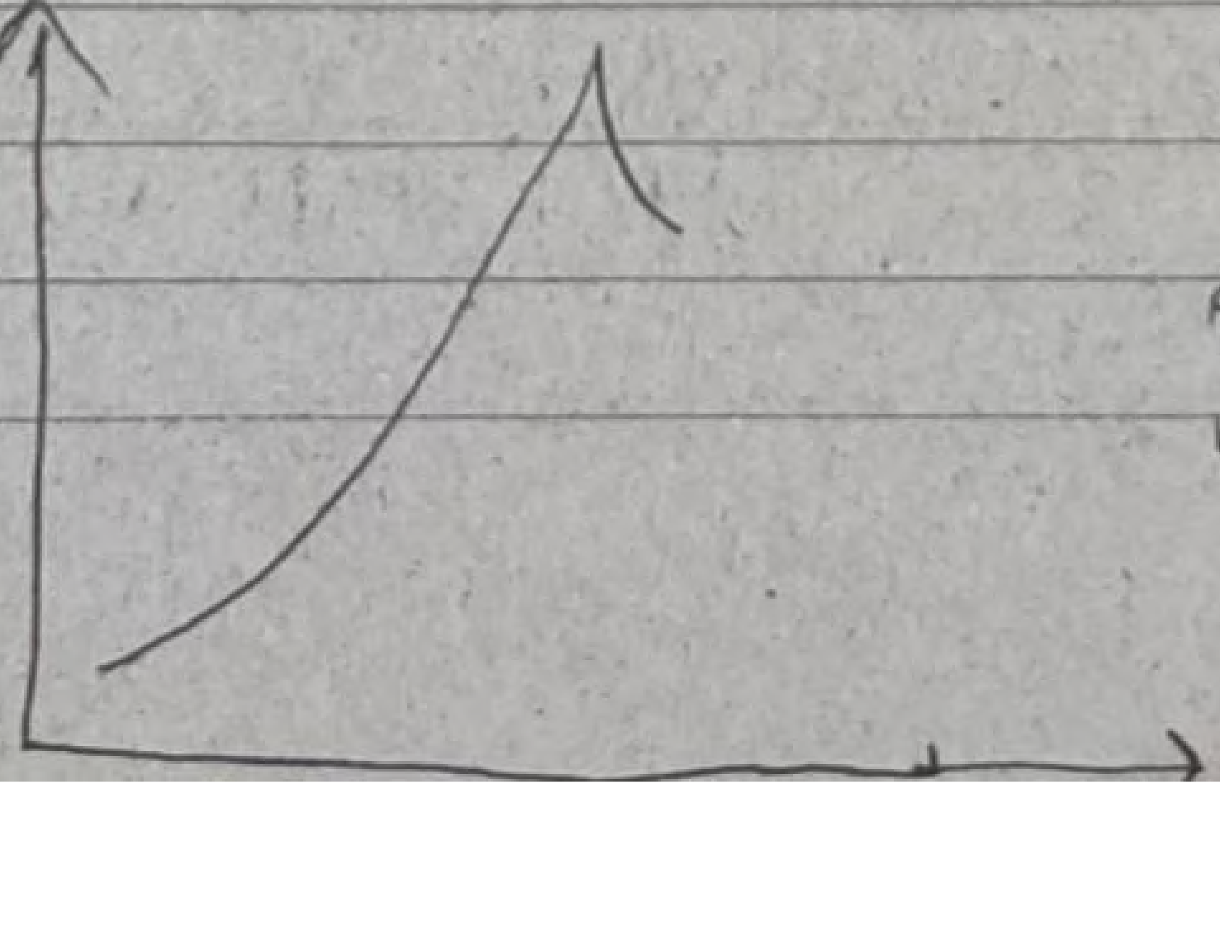
Q ⇒ Australia population ⇒ 1.8 Cr - population.
"We add Australia every year";

(*) PG Curve :-



$\frac{2}{3} \times 100$

(S-Curve)



Eg → (Insect flies after rainy time)

J curve (Pop. ↑ all of sudden and decrease drastically)

Date → 16/09/23 OG

* Population Growth :-

Region	BR	DR	
India	22	9	11
developing	11	10	1
Developed	25	9	16
Africa	38	14	24
N. America	14	9	5
Europe	10	11	-1
Asia	22	8	14
South Am.	24	6	18

Stationary phase (Developed, Europe)

→ Tribes (Shewtinel and shompen)
⇓
Andeman & Nicobar Island

(*) 1) 16.9 % world population
2) 2.40% a
3) 305 pers/km² Pop. density — 1999 → No. of person residing in 1 km²
415 persons/km² — 2025

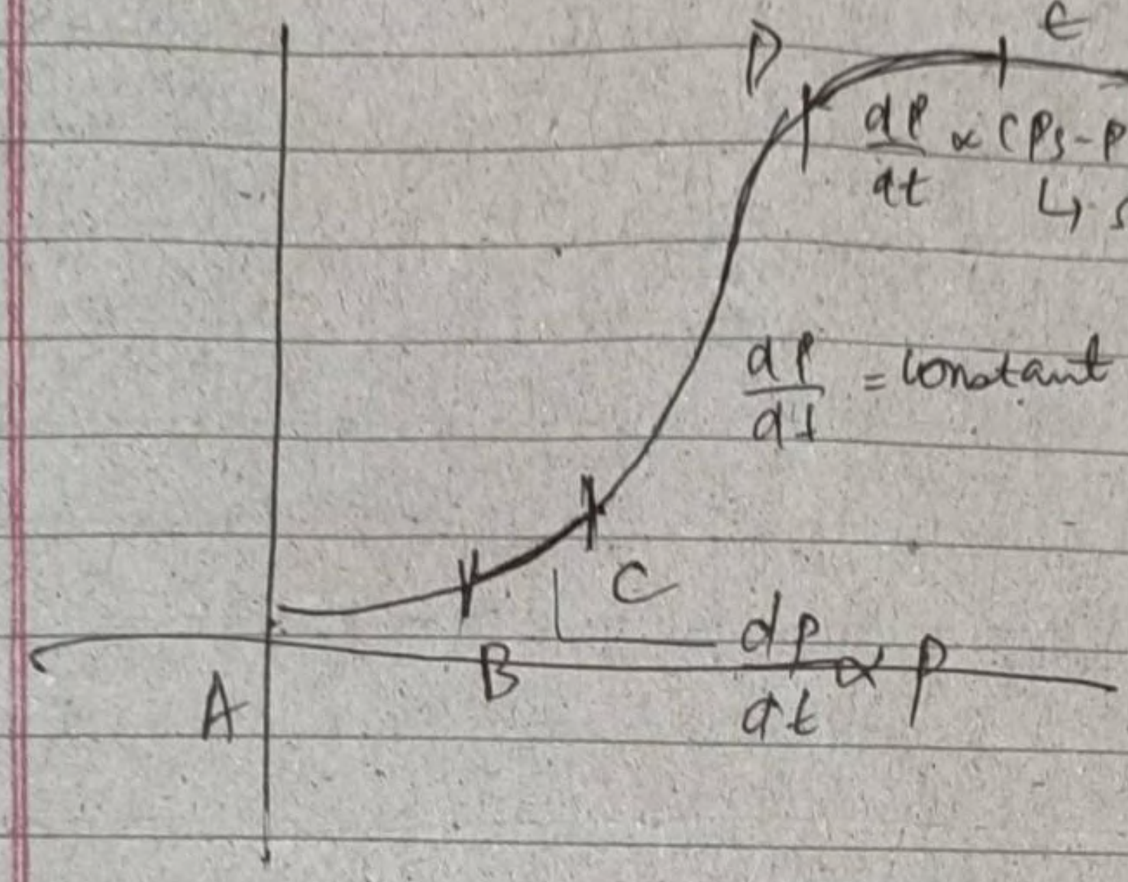
*- Reasons of Population Growth
a) early puberty
b) early marriages
c) Social pressure for desire of male child
d) Hesitation in adoption of family planning measures
- Tubectomy (Female)
- Vasectomy (Male)
- MTP.
e) Polygamy
f) Improved health care
g) Diff B/w BR and DR

Scanned by TapScanner

tubectomy - Fallopian tube

Vasectomy - Vasadifference tube

MTP - Medical termination of pregnancy (Abortion)



AB - lag phase

BC - fue accelel

CD - exponential pha

DE = (-ve) accelerated phase.

EF - Stationary phase

AC:

[OE]

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* Climate change - IPCC (Inter governmental panel on climate change)

Reasons
- Anthropogenic
- Monsoon.
- Phenomena
  - El Nino
  - La Nino

* indices index.

→ Intiatives to control climate change :-

(*) UNFCC - United Nation framework on climate change.

[(Stockhome) (Capital of sweden)]

CoP (Conference of Parties) - Berlin
CoP2 - Genava (Switzerland)
CoP3 - Kyoto.
CoP4 - Capital of.
CoP5 -
CoP6 -
CoP7 - Morocco
CoP8 - India
CoP

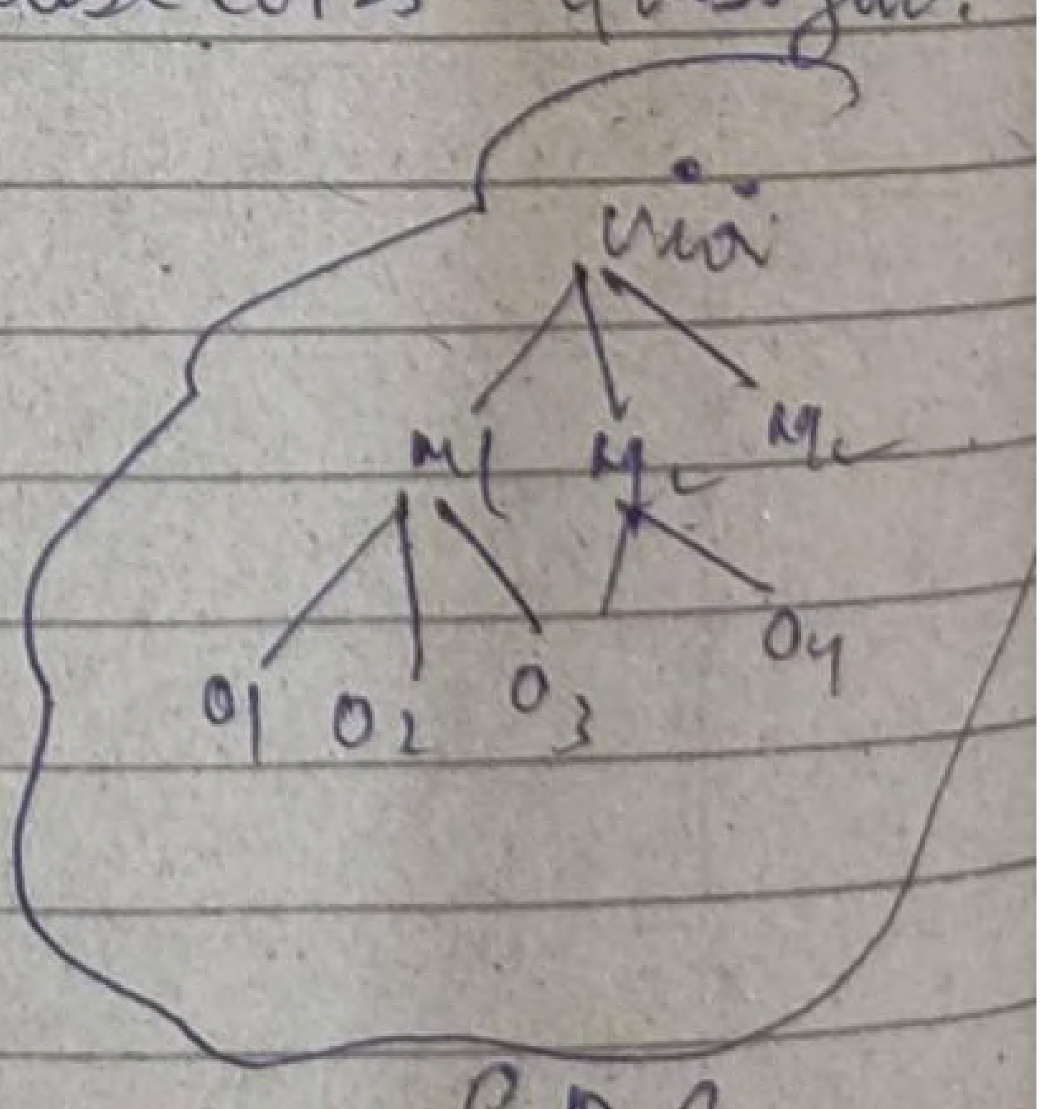
[Brazil Cap. Rio de Janeiro]

(*) Rio Earth Summit

latest CoP25 - Glasgow.

7 - h
8 - s
9 - s
10 - s

* Learn about CoP$_3$ - Kyoto
→ [Emission Trading]



SDG
(*) Sustainable development goals.

* Cap and Trade

* [NAPCC] :-
National action Plan on climate change
→ June 8th / 2008

(SDG-6- Issues of water and sanitation problems)

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NAPCC

60

1) Mission for solar mission
2) Enhanced energy efficiency.
3) Sustainable habitat.
4) Sustainable agriculture.
5) Water mission.
6) Mission for Green state
7) Strategic knowledge mission
8) Mission for sustaining Himalaya ecosystem.

60x40

2400

#UNFCC

#NAPCC

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Purest pt on earth ⇒ Mariana trait.

Biosphere

ecosystem

Ecology -

Unit 2

Water Pollution

Physical
- pH
- temp.
- Smell
- Odour
- Taste

Chemical
- Heavy metals
- Alkane
- Acidity
- Minerals
  - Metal
  - Nonmetal
- Organic
- Hardness

* Chromium is used in tannery

* Iron

Sources -
- * fluoride.
- * Nitrate.
- * chromium.

* Minamata bay - Incident
  ↳ Death of thousand of fishes.

* n

OE ⇒ 04/11/22

Water pollution :-

Before WP, GWP water pollution

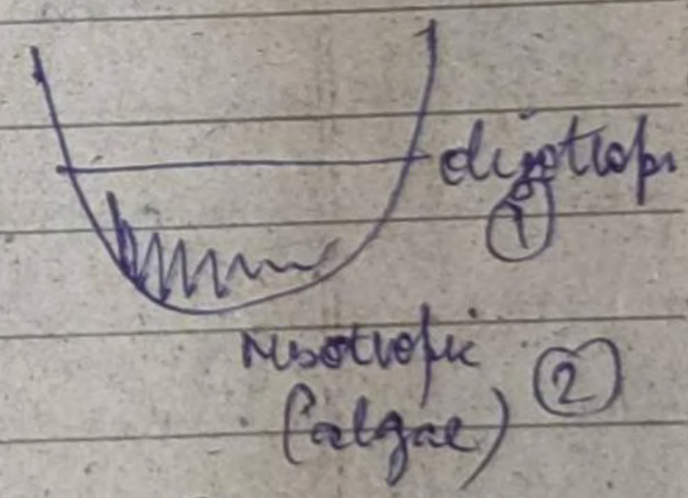
* Sources — Physical, Chemical, Biological.

Classification :-

Nitrate contamination

* Eutrophication → (Lakes) (Process of Natural aging of lakes)

a) Oligotrophic
   → No Pollution
   → No N & P & clear Lake



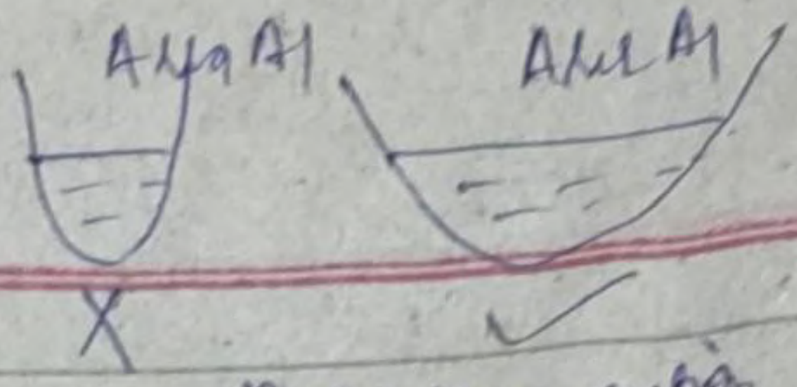
b) Water hyacinth

Organic :- BOD, COD

* Dissolve of O_2 - Health of water Bodies

time of lake — these all are stages
1) Oligotrophic
2) Mesotrophic
3) Eutrophic
4) Marshy (Swamp)

BOD - Biochemical oxygen demand
COD - Chemical Oxygen demand
DO - Dissolve oxygen.



Below cross section

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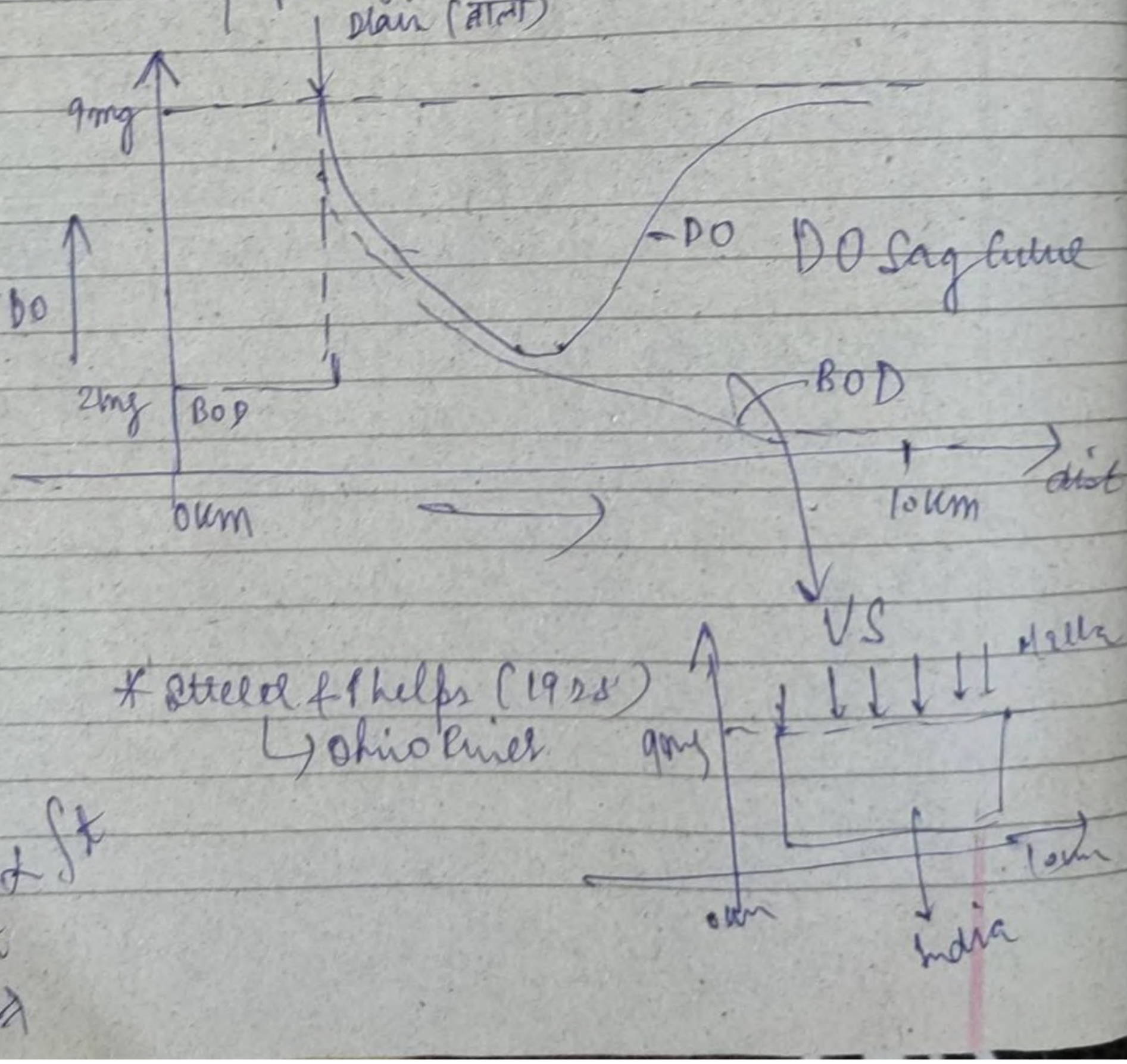
* Hydrogeometery :-

BOD - Amt of O2 to oxidise organic matter present in waste water.

COD - Amt of O2 Require to oxidise Organic/inorganic matter present in Water.

Longitudinal profile of Dissolve Oxygen :-



* Streeter & Phelps (1925)
↳ Ohio River

$\frac{dt}{dt} \propto \int t$

$\Rightarrow dt$

$\Rightarrow$

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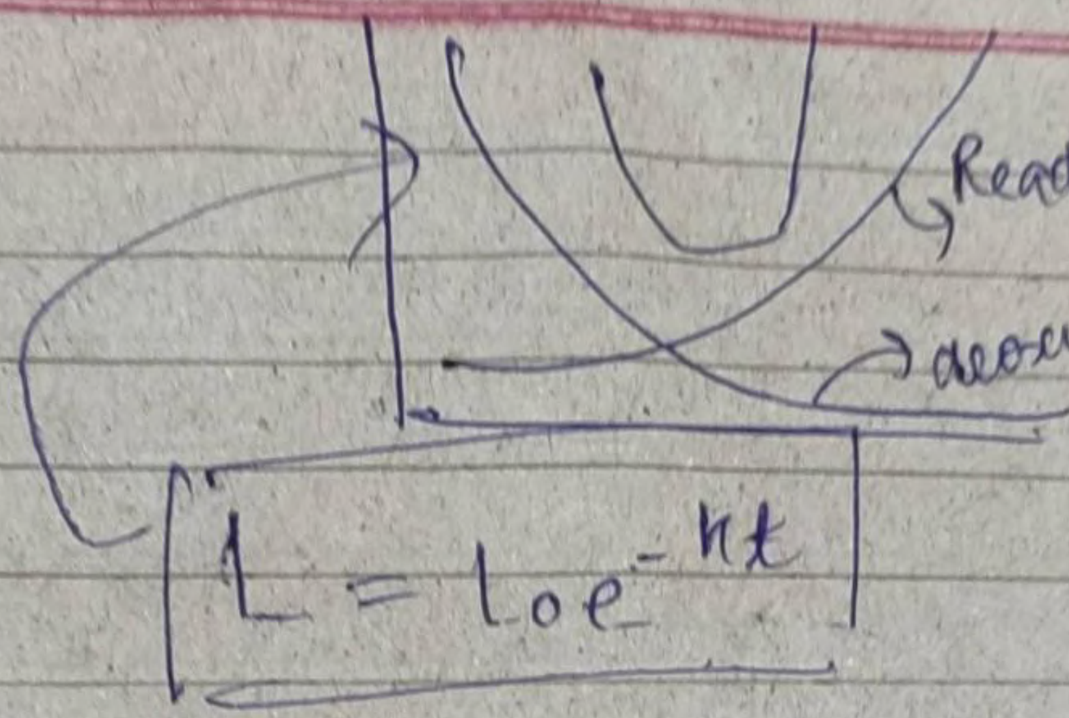

$$L = L_0 e^{-kt}$$

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OE

(MPN/100ml sample)

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#Water Bodies

#CPCB — Headquater Delhi → (MOEF & CC)

- State Dept.
- ** Water Bodies in 5 classes :-

DO
BOD
↑
effect on water Bodies

1) Drinking water

	DBU	Class	Criteria
1)	Drinking water w/o Conventional source	A	DO ≥ 6 and BOD ≤ 6. NPN ≤ 50. 6.5 ≤ pH ≤ 8.5.
2)	Organised Outdoor	B	DO ≤ 5 ; BOD ≤ 3 MPN per 100ml < 500, pH 11
3)	Drinkng water with Conventional source	C	DO ≥ 4 ; BOD ≤ 5.5 MPN ≤ 5000 ; 6 < pH < 9.
4)	Wildlife propagation	D	pH : 6.5 to 8.5, DO ≥ 4 BOD ≤ 2; Ammonia N ≤ 0.2
5)	Irrigation industry & controlled disposal of waste	E	pH - 6 to 8.5 ; EC - 2.25 micro moles/cm. SAR ≤ 25 ; Boron ≤ 2 ↓ sodium absorption Ratio

↓

(Classification of SWR Based on Designated Best & use criteria)