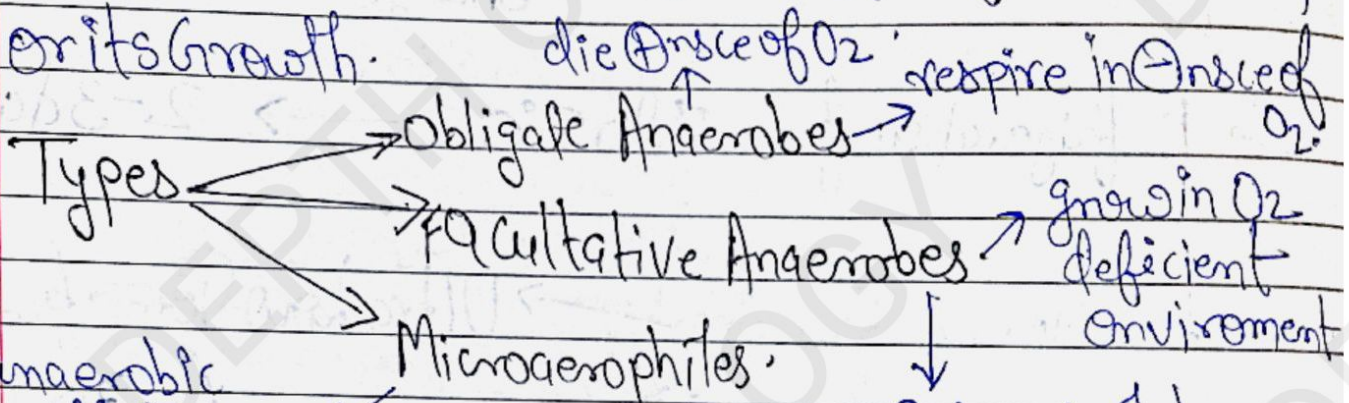


# # Cultivation of Anaerobes.

## Growth Or Growth of Anaerobes.

[DEPTH OF BIOLOGY]

→ Organism who doesn't req. oxygen for its survival or its growth.



These anaerobic bacteria that grow under reduce oxygen & grow in presence of  $H_2$  or  $CO_2$  level.

# # Method of Cultivation of Anaerobe ⇒ ⇒

## ① Candle Jar Method ⇒

[DEPTH OF BIOLOGY]

→ One of the simple method for obtaining  $CO_2$  environment for the growth of anaerobes.

Organism like → Neisseria gonorrhoea

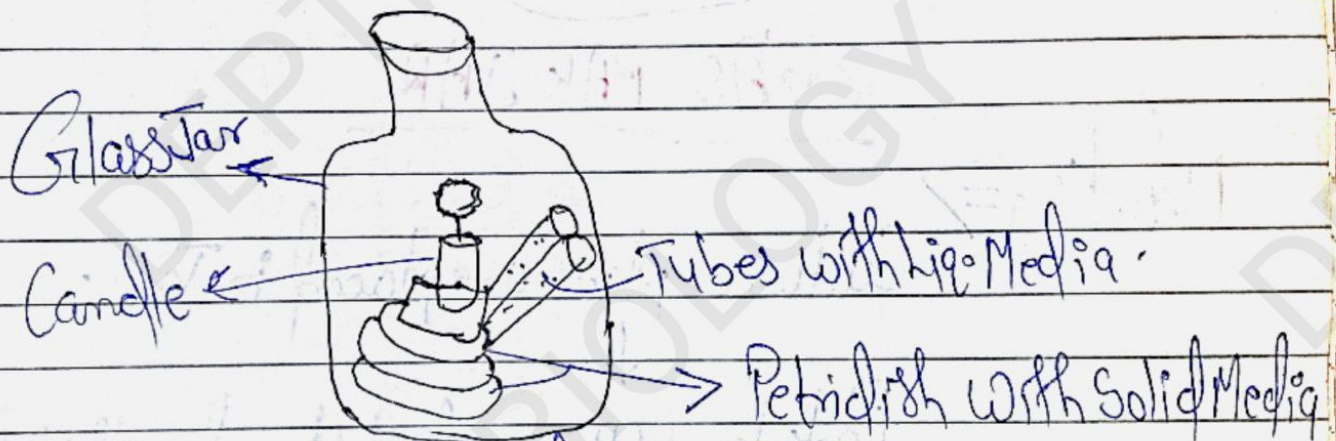
Can be easily grown by this method. Streptococcus pneumoniae.

[DEPTH OF BIOLOGY]

⇒ Enclose the Inoculated plates in an air tight Jar with a Burning Candle as the candle burns. The  $O_2$  content reduce leaving a  $CO_2$ .

→ Candle itself act as Indicator as conc. of  $CO_2$  ↑ as candle gets extinguished.

[DEPTH OF BIOLOGY]



[DEPTH OF BIOLOGY]

→ ये शर्तों में सबसे सस्ती में Bacteria grow ✓

② Gas Pak Jar Method ⇒

It consists of Inoculated plate ①

② Packet of Chemical containing  $NaHCO_3$  &  $NaBH_4$ .

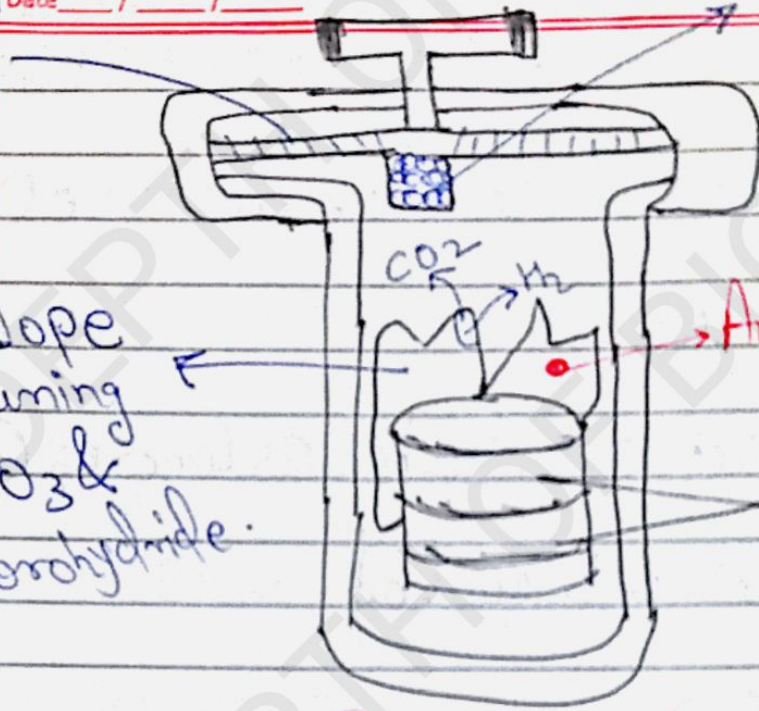
③ Methylene Blue Indicator

[DEPTH OF BIOLOGY]

④ Lid with Pellets of Palladium Catalyst located underneath the lid.

Lid with O-ring gasket.

Palladium Catalyst Pellets.



Envelope containing  $\text{Na}_2\text{CO}_3$  & Sod. Borohydride.

Anaerobic Indicator (Methylene blue).

Petri Plates.

[DEPTH OF BIOLOGY]

## GAS PAK JAR

Working  $\Rightarrow$

Culture plates are placed in Jar.

↓  
Packets of Chemical Moistened with Water.

↓  
 $\text{H}_2\text{O}$  react with Chemical in packets produce  $\text{H}_2$  &  $\text{CO}_2$

↓  
Hydrogen combine with free Oxygen in Chamber.

to produce  ~~$\text{H}_2\text{O}$~~   $\text{H}_2\text{O}_2$  (in the form of  $\text{H}_2\text{O}_2$ ) or  $\text{H}_2\text{O}$ .

$\Rightarrow$  Note  $\rightarrow$  In this way Oxygen is removed completely from this Chamber.

[DEPTH OF BIOLOGY]

$\Rightarrow$   $\text{CO}_2$  formation in anaerobic condition

$\Rightarrow$  Methylene blue doesn't undergo any colour change In the  $\ominus$  side for it change