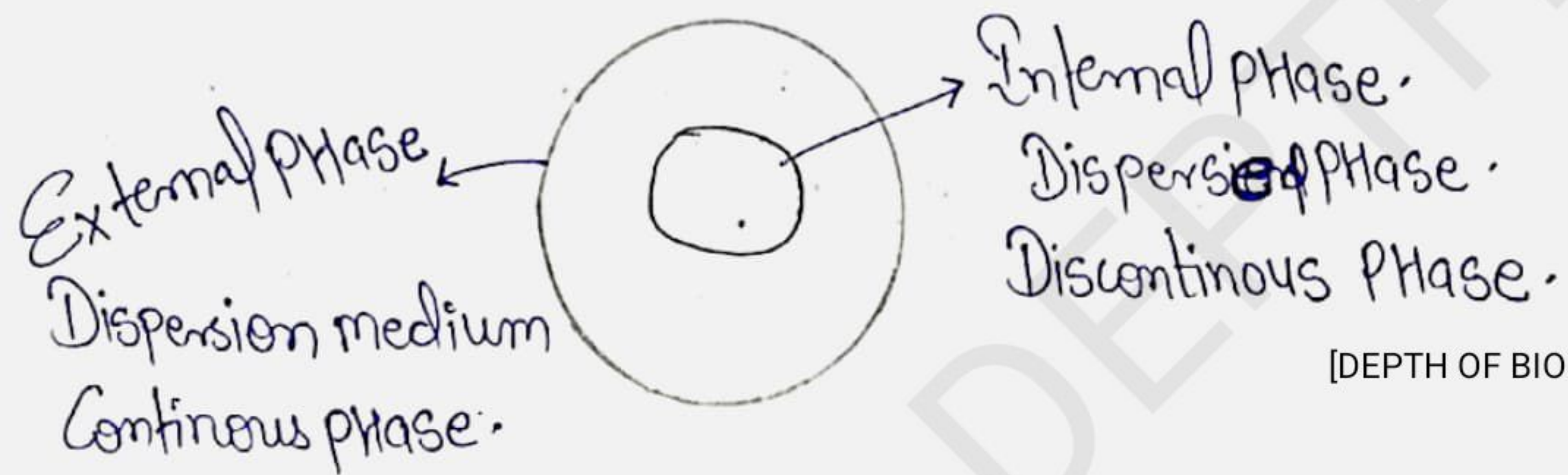


Emulsion → Thermodynamically Unstable
 But Presence of emulsifying agent makes it stable.

Any Mixture of Liq. that do not Normally Mix. Together. [Such as oil & H₂O].

⇒ In emulsion droplet size (diameter) ranges from 0.1 μm – 100 μm.



[DEPTH OF BIOLOGY]

Classification.

⇒ Depending on dispersed phase. ⇒

① Water in oil Emulsion → Mainly used externally Lotion or Creams.

Here oil is dispersed phase & H₂O = Dispersed medium.

Eg = Butter.

Egg Yolk contains two emulsifiers → Lecithin
 → Cholesterol.

Promotes H₂O in Oil Emulsion.

② Oil in H₂O Emulsion ⇒

Oil = Dispersed phase. [DEPTH OF BIOLOGY]

H₂O = Dispersion medium.

Used for both $\begin{cases} \text{Ext. Use} = \text{Benzyl benzoate emulsion} \\ \text{Int. Use} = \text{Liq. Paraffin in H}_2\text{O} \end{cases}$

③ Microemulsion ⇒

These are Clear dispersion of oil in H₂O or H₂O in oil.

Here diameter of dispersed Globule ranges from 100Å - 600Å
(0.01 μm)

- It is free from stability Problems. [DEPTH OF BIOLOGY]

④ Multiple Emulsion ⇒

Emulsion within emulsion $\begin{cases} \rightarrow \text{w/o/w} \\ \rightarrow \text{o/w/o} \end{cases}$ emulsions.

Advantage & Disadvantage [DEPTH OF BIOLOGY]

① Inedible oil → edible oil.

② flavouring is possible in aq. phase emulsion.

③ more rapidly absorbed than solid form.

④ Sterile stable Intravenous emulsion containing fat, Carbohydr. & Vitamin can be

⑤ Injection to Patient, who are unable to take them orally.

① Uniform dose distribution they are shaken prior to administ.

② If not shaken well = Dose Accuracy ↓

③ Dispersion med. affected if emulsion not stored properly.

④ Bulky = Difficult to transport

⑤ Chances of microbial contamination ↑↑

Application of Emulsion



[DEPTH OF BIOLOGY]

- ① They are Used to conceal the Unpleasant taste & odour of diff. oily drugs like Liq. Paraffin, Castor Oil.
- ② The O/W emulsion are known to enhance the drug absorb. through G.I.T. [DEPTH OF BIOLOGY]
- ③ Nutrient oil which are difficult to swallow can be injected I.V emulsion.
- ④ In agricultural Industries emulsion are used as delivery vehicles for Insecticides, fungicides & Pesticides. [DEPTH OF BIOLOGY]