

①. Name Some trace elements in biological system. What are the general roles of Na, Mg, Cu, Zn, Fe in biological system.

Ans.

The name of some trace element present in biological system are-

$Fe^{+2}$ ,  $Fe^{+3}$ ,  $Co^{+2}$ ,  $Co^{+3}$ ,  $Mn^{+2}$ ,  $Cu^{+2}$ ,  $Zn^{+2}$ ,  $Mo^{+6}$

The general roles of the following elements are given below:

Metal Ion.	Function
1) Na	Nerve impulse transmission through electrical potential gradient across cell membrane. Osmotic pressure, acid-base equilibrium of the cell.
2) Mg	Muscle contraction and nerve regulation. Control the osmotic pressure, acid base equilibrium of the cell. Prosthetic group in chlorophyll, physiological activator of enzymes which utilize ATP.
3) Cu	It present in various proteins and enzymes and perform different action; namely Oxygen transport protein: hemocyanin; Copper storage protein: Ceruloplasmin; enzyme: Cytochrome C oxidase, ascorbic acid oxidase; amine oxidase, prostaglandin synthetase.
4) Zn	Enzymes: Carbonic anhydrase, carboxy peptidases, alkaline phosphatase, various dehydrogenases; enzyme activator: enolase, peptidase, histidine deaminase, arginase.
5) Mo	Enzymes: Nitrogenase, hydrogenase, nitrate reductase, xanthine oxidase, aldehyde oxidase, sulphite oxidase.