Topic: **FOOD, NUTRITION AND HEALTH**

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Minerals

1. Calcium

Calcium makes up between 1.5-2% of body weight. Almost 99% of this calcium is found in the hard tissues of the body, namely the bones and teeth.

Functions

1. It is essential for the formation of bones and teeth.

2. It is essential for clotting of blood.

3. It regulates the permeability of capillary walls.

4. It is essential for the contraction of heart and muscle.

5. It regulates the excitability of nerve fibres and nerve centres.

6. It acts as an activator for the enzymes present in the gastric juice.

Table- 4, Sources of calcium

Food stuffs	Calcium (mg/100g)
Rich sources	
Milk powder, sesame seeds with husk and small dried fish	1.20-1.45
Good sources	
Ragi, milk and green leafy vegetables and small fish eaten with bone	0.10-0.33

2. Phosphorus

Phosphorus constitutes approximately 1% of the weight of the human body, up to 90% of this is found within calcium phosphate crystals in the bones and teeth.

Functions

1. It is necessary for the formation of bones and teeth.

2. It is essential for carbohydrate metabolism.

3. It is a constituent of certain co-enzymes.

4. It is an essential constituent of nucleic acids and nucleoproteins which are integral parts of the cell nuclei.

Table- 5, Sources of Phosphorus

Food stuffs	Phosphorus (g/100g)
Cereals, Millets, Pulses, nuts and Oilseeds	0.20 - 0.65
Dried fish	1.2 - 1.3
Milk powder	0.76 - 0.82
Meat, fish and eggs	0.31 - 0.41
Milk	0.09 - 0.11

3.Iron

Most of the iron in the body is found in the blood, but some is present in every cell bound to iron containing enzymes.

Functions

1. It is required for the transport and storage of oxygen in cells & tissues.

2. It acts as co-factors of enzymes and other proteins.

3. It is required for the formation of red blood cells.

Table- 6, Sources of iron

Food stuffs	Iron (mg/l00g)
Rich sources	
Sesame seeds, jaggery and green leafy vegetables.	10-20
Good sources	
Cereals and millets	3-8
Liver	7-9
Meat and egg	2-3

4. Iodine

Functions

Iodine is a constituent of thyroxine, the active principle of the thyroid gland. The thyroid gland plays an important role in energy metabolism and in the growth of the body.

Sources

Iodine is present only in small amounts in common foods, the quantity of iodine present depending on the iodine content of the soil. Iodised salt and sea fish are good sources of iodine.