

## **B.Sc second year Zoology (Honours)**

### **Paper- 4**

#### **Vitamins**

Vitamins and minerals are micronutrients required by the body to carry out a range of normal functions. However, these micronutrients are not produced in our bodies and must be derived from the food we eat. Food vary in the kind and amount of vitamins they contain. Therefore, we must have a balanced diet to supply the vitamins needs.

Vitamins are organic substances that are generally classified as either fat soluble or water soluble.

Fat soluble vitamins- Vitamin A, Vitamin D, vitamin E and Vitamin K.

Water soluble vitamins- Vitamin B complex and vitamin C.

In 1911, Dr. Casimir Funk found that certain substances, apart from ordinary nutrients, are present in foods. They seemed to be necessary for normal growth and body activity and in the prevention of certain diseases called deficiency diseases. He called these substances vitamins.

#### **Minerals**

Minerals are inorganic elements present in soil and water, which are absorbed by plants and consumed by animals. Calcium, Sodium and Potassium, there is a range of other minerals including trace minerals (e.g. Copper, Iodine and Zinc) they are needed in very small amounts.

#### **Vitamin E**

Vitamin E is fat –soluble vitamin with several forms, but alpha tocopherol is the only one used by the human body. Vitamin E was discovered in 1922, isolated in 1935 and first synthesized in 1938.

Recommended amounts: The Recommended Dietary Allowance for vitamin E for males and females ages 14 year and older is 15mg daily (or 22 international units, IU).

Food sources: Vitamin E is found in plant- based oils, nuts, fruits and vegetables.

Signs of Deficiency:

Retinopathy (damage to the retinal of the eyes that can impair vision).

Peripheral neuropathy (damage to the peripheral nerves, usually in the hands or feet, causing weakness or pain).

Ataxia (loss of control of body movements)

Decreased immune function.