CHAPTER: BIOMOLECUOLES
Vitamins & Hormones

1. Define Vitamins.

Ans. Vitamins: Organic compounds required in the diet in small amounts to perform specific biological functions for normal maintenance of optimum growth and health of the organism. Example: Vitamin A

2. Why are vitamin A and vitamin C essential for us?

Ans. Because deficiency of vitamin A and vitamin C causes night blindness and scurvy respectively.

3. Name a water soluble vitamin which is a powerful antioxidant. Give its one natural source.
Ans. Water soluble vitamin: Vitamin C

Natural source: Amla

4. Name the only vitamin which can be synthesized in our body. Name the disease caused due to the deficiency of this vitamin.

Ans. Vitamin which can be synthesized in our body: Vitamin A Its deficiency causes Xerophthalmia.

5. Name the only vitamin which can be synthesized in our body. Name one disease that is caused due to the deficiency of this vitamin.

Ans. Vitamin that can be synthesized :Vitamin B_{12}

Disease due to the deficiency of Vitamin B_{12}: Pernicious anaemia.

6. Write the name of the vitamin responsible for the coagulation of blood.

Ans. Vitamin K is responsible for the coagulation of blood.

7. Why Vitamin C cannot be stored in our body?

Ans. Vitamin C is mainly ascorbic acid which is water soluble and is readily excreted through urine and thus cannot be stored in the body,.

8. Why water-soluble vitamins must be supplied regularly in the diet? Give one example of it.

Ans. Water soluble vitamins must be supplied regularly in the diet because they are regularly excreted in urine and cannot be stored in the body. For eg. Vitamin C Vitamin B, etc.

9. Give reasons of the following observations: Water soluble vitamins must be taken regularly in diet.

Ans. Water soluble vitamins dissolve in water and are not stored by the body. Moreover, they are eliminated from the body in the form of urine, so we require a continuous supply of these vitamins in our diet.

10. Write the name of vitamin whose deficiency of which vitamin causes night-blindness?

Ans. Vitamin A causes night blindness

11. Write the name of vitamin whose deficiency of which vitamin causes rickets?

Ans. Deficiency of Vitamin D causes rickets

12. Write the name of vitamin whose deficiency of which vitamin causes scurvy?

Ans. Vitamin C causes scurvy

13. Write the name of vitamin whose deficiency causes bones deformities in children.

Ans. Vitamin D

14. Write the name of the disease caused by the deficiency of Vitamin B_{12}

Ans. Disease caused by the deficiency of Vitamin B_{12} is Pernicious anaemia.

15. Name the deficiency diseases resulting from lack of Vitamins A and E in the diet.

Ans. Deficiency of Vitamin A causes Xerophthalmia and deficiency of Vitamin E causes Sterility.

16. Name one oil soluble vitamin which is a powerful antioxidant and give its one natural source.

Ans. Oil soluble Vitamin: Vitamin D Natural source: Fish liver oil, butter, milk, eggs etc.

17. What are hormones?

Ans. Hormones are organic substance, which are produced in endocrine glands.

18. Name the hormone, which reduce sugar level in the blood?

Ans. Insulin hormone.

19. Name the hormone, which increase sugar level in the blood?

Ans. Glucagon

20. Name the hormone, which is responsible preparing the uterus for implantation of fertilised eggs.

Ans. Progesterone hormone.

21. What is the function of hormone, which is released by gonads?

Ans. Hormones released from gonads are responsible for secondary sexual characters.

22. Name the diseases which is caused by lack of secretion of thyroxine hormone.

Ans. Goitre

SA-1 (2 Marks)

23. Name two water soluble vitamins, their sources and the diseases caused due to their deficiency in diet.

Ans.

	Vitamins	Sources	Deficiency disease
1.	Vitamin B, (Riboflavin or Lactoflavin)	Milk, yeast, green	Retards growth causes inflammation of tongue(glossitis), dermatitis and cheilosis (cracking

		vegetables, meat, liver, kidney, egg white etc. Daily dosage is 2-3mg.	of fissuring) at corners of mount and lips.
2	Vitamin C (Ascorbic acid)	Citrus fruits, green leafy vegetables chillies, sprouted pulses and germinated grains. Daily dosage is 75 mg.	Scurvy (bleeding) of gums), pyorrhoea (loosening and bleeding of teeth)

24. Name two fat soluble vitamins, their sources and the diseases caused due to their deficiency in diet.

	Vitamins	Sources	Deficiency disease
1.	Vitamin A)	Milk, butter, eggs, fish, liver oil, rice, kidney, green vegetables etc.	Xerophthalmia (hardening of cornea), night blindness and xerosis (drying of skin)
2	Vitamin D	Fish liver oil, butter, milk, eggs, liver and meat.	Rickets, osteomalacia (soft bones and joint pain).

25. How are vitamins classified? Name the vitamin responsible for the coagulation of blood.

Ans. Vitamins are classified into two types:

(i) Water insoluble vitamins: These are fat soluble substances E.g. Vitamin A, D, E and K.
(ii) Water soluble vitamins: These include Vitamin B-Complex and Vitamin C (except B_{12})-

Vitamin K or phylloquinone is responsible for the coagulation of blood.

26. How are hormones and vitamins different in respect of their source and function?

Ans. Hormones are synthesized in our body and helps in regulation of our body system, while vitamins are synthesized artificially in the laboratory or obtained from the food helps in controlling many diseases.

27. What are the functions of hormones?

- Ans. Hormones helps to maintain the balance of biological activities in the body.
- Hormone Insulin keeping the blood glucose level.
- Hormone Glucagon tends to increase the glucose in the blood.
- Hormones Epinephrine and norepinephrine mediate responses to external stimuli.
- Growth hormones and sex hormones play role in growth and development.