



## II. SHORT ANSWER TYPE QUESTIONS

1. What are nutrients? Name major nutrients.

Ans: The components of food which are needed by our body for growth and development are called nutrients. The major nutrients are:

- (i) Carbohydrates
- (ii) Fats
- (iii) Proteins
- (iv) Vitamins
- (v) Minerals

2. What are the functions of carbohydrates?

Ans: They complete the energy requirements of the body so they are called energy providing food.

3. Write test for detecting the presence of starch.

Ans: Take a piece of the food item. Put 2-3 drops of dilute iodine solution on it. If the colour of the food item becomes blue-black, then it indicates the presence of starch in the food item.

- (i) Food + Iodine → Blue-black colour (starch present)
- (ii) Food + Iodine → No blue-black colour (no starch present)

4. What are the functions of proteins?

Ans: Proteins are the most important nutrient. They are called body-building food. They help in the growth and repair of damaged cells and tissues of the body. They also help our body to fight against infections. Proteins make our nails, hair and muscles.

5. How can you test presence of proteins in a given food item?

Ans: Take a small quantity of the food item. If the sample is solid, grind it. Put some part of this in a clean test tube, add 10 drops of water to it and shake the test tube. Now, with the help of a dropper, add two drops of solution of copper sulphate and 10 drops of solution of caustic soda to the test tube. Shake well and place the test tube in test tube stand for a few minutes.

Observe colour of the contents of test tube. If colour of the contents turns violet, the food item contains protein.

Note: Copper sulphate and caustic soda solutions are harmful. Handle them with care. Food + water + copper sulphate + caustic soda → violet colour → protein is present.

6. What are fats? Name some fat-containing substances.

Ans: The energy rich sources of food are called fats. They provide energy to the body. All types of nuts, mustard seeds, milk and butter are the major sources of fat. Like carbohydrates, fats also contain carbon, hydrogen and oxygen but fats contain less oxygen than carbohydrates.

7. Write test for detecting, presence of fat.

Ans: Take small quantity of the food item. Rub it on a piece of white paper. Observe carefully, you will find that the piece of white paper shows an oily patch on it which indicates that the food item contains fat.

8. What are vitamins? Write various kinds of vitamins.

Ans: They are protective compounds with no energy value. They help in proper body functioning and are required by the body in very small quantities. Various kinds of vitamins are—Vitamin A, Vitamin B-complex, Vitamin C, Vitamin D, Vitamin E and Vitamin K.

9. People who eat sea-food do not suffer from Goitre. Explain.

Ans: It is so because sea-food is a rich source of Iodine and Goitre is a deficiency disease caused due to lack of Iodine.

10. Excess intake of fats is harmful for the body because it causes obesity. Would it be harmful for the body to take too much of proteins or vitamins in the diet?

Ans: Yes, excess intake of proteins and vitamins in the diet is harmful and may lead to other diseases.

11. Name the vitamin that our body prepares in the presence of sunlight.

Ans: Vitamin D.

12. Name a vitamin that is not present in milk.

Ans: Vitamin C.

13. A patient had stunted growth, swelling on face, discolouration of hair and skin disease. Doctor advised him to eat a lot of pulses, grams, egg white, milk etc. What is wrong with the patient? Explain.

Ans: The intake of protein is not enough in his diet and all these symptoms are caused due to deficiency of proteins.

14. A small child became very thin and lean and later he became so weak that he could not move. Which nutrients should he eat so as to improve his health?

Ans: Both carbohydrates and proteins.

15. What are the functions of minerals?

Ans: Minerals are protective part of foods occurring naturally and are needed by our body in small amount. Minerals are essential for proper growth of the body and to maintain good health. They do not provide energy. Milk, salt, eggs and green leafy vegetables are the main sources of minerals.

16. Write the functions of water in our body.

Ans: Water helps our body to absorb nutrients from the food. It also helps in removing the waste from the body in the form of urine and sweat. We get water from various types of liquids, fruits and vegetables.

17. What is obesity?

Ans: When a person eats too much fat-containing foods, then the fat gets deposited in his body and he may end up suffering from a condition called obesity.

18. What are deficiency diseases?

Ans: When a person eats such a food continuously for a long time which may not contain a particular nutrient, then this condition is called deficiency of that nutrient. Deficiency of one or more nutrients can cause diseases or disorders in our body. Such type of diseases are known as deficiency diseases.

### III. LONG ANSWER TYPE QUESTIONS

1. List various types of nutrients and write the functions of each.

Ans: The various types of nutrients are:

(i) Carbohydrates: They are mainly energy-providing nutrients.

(ii) Fats: They provide energy for the body. They give much more energy than carbohydrates if consumed in same amount.

(iii) Proteins: They are called body-building foods. Proteins help in the formation and repairing of body parts. Skin, hair, muscles,

enzymes are made up of proteins.

(iv) Vitamins: Vitamins help in protecting our body against disease. They also protect eyes, bones, teeth and gums.

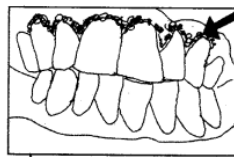
(v) Minerals: Minerals are essential for proper growth of body and to maintain good health.

2. What is a balanced diet? Write the components of balanced diet.

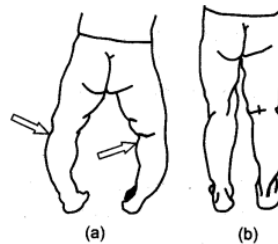
Ans: A diet which provides the right proportion of all the nutrients that our body needs along with roughage and water is called balanced diet. The various components of balanced diet are carbohydrates, fats, proteins, vitamins, minerals, roughage and water.

3. Prepare a chart to show various vitamins and minerals and the disorders caused by their deficiency.

<b>Ans.</b>	<b>Vitamin/mineral</b>	<b>Deficiency disease/disorder</b>	<b>Symptoms</b>
	Vitamin A	Loss of vision	Poor vision, loss of vision in darkness (night), sometimes complete loss of vision
	Vitamin B1	Beri-beri	Weak muscles and very little energy to work
	Vitamin C	Scurvy (See Fig. 2.1)	Bleeding gums, wounds take longer time to heal
	Vitamin D	Rickets (See Fig. 2.2)	Bones become soft and bend easily
	Calcium	Bone and tooth decay	Weak bones, tooth decay
	Iodine	Goitre	Glands in the neck appear swollen, mental disability in children
	Iron	Anaemia	Weakness



**Fig. 2.1** Arrow-head indicates swollen and spongy gums and loose teeth



**Fig. 2.2** (a) Infantile rickets indicated by arrow head before treatment (b) two years later after vit. D therapy.

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