



CLASS IX
HOME SCIENCE
CHAPTER 2
UNIT V
FOOD AND ITS RELATION TO HEALTH

SOLUTIONS

TEXT BOOK QUESTIONS AND ANSWERS

Very short question and answer:

Q1. Which nutrients are common to fish, meat and poultry?

Ans- Proteins, minerals and vitamins.

Q2. In which forms are carbohydrates found in fruits.

Ans- Fructose, Glucose, sucrose and starch.

Q3. Classify proteins on the basis of food sources.

Ans- (a) Animal protein

(b) Vegetable protein

Q4. Name five locally available protein rich foods.

Ans- Fish of any kind, milk, eggs, rajma, soyabean.

Q5. Name some food rich in carbohydrates

Ans- Rice, wheat, potato, oats, banana, mango, etc.

Q6. What percentage of calories should be supplied by carbohydrates?

Ans- 50% to 80%.

Q7. Collect, examine and draw some locally available carbohydrates rich foods.

Ans- Students assignment question.

Q8. Name some vitamins which cannot be absorbed without fats.

Ans- Vitamins A, D, E and K which are fat soluble vitamins.

Q9. Name some fats/oils which are commonly used in our state.

Ans- Dalda, palm oil, mustard oil, refined oil etc.



Short answer:

Q10. Which food sources you suggest for proper supply of Iron in the diet?

Ans- Every cells of the body requires Iron as an integral part of its nucleus. Insufficient quantities of iron in the diet result in **anaemia**. Iron rich foods are liver, kidney, egg yolk, green leafy vegetables, dry fruits, onion stalks, *ragi* and whole wheat etc.

Q11. What happens when a food intake lack Iodine?

Ans- Deficiency of Iodine leads to **goitre**. Its deficiency disturbs the physical and mental well-being to individuals and causes the disease known as cretinism in children. Subnormal basal metabolism over weight, lowered mental ability, nervousness and sluggish movements are due to Iodine deficiency.

Q12. What happens when there is insufficient intake of calcium in the diet?

Ans- Adequate amount of calcium is needed for the growth of children. If sufficient of calcium is not deposited in the growing bones, they will become soft and easily bent, thus resulting **rickets** in children and **Osteomalacia** in adults.

Lack of calcium during pregnancy and lactation will not only affect the growth of the baby but also deplete the calcium in the mother's body. The greater the intake of calcium by the mother during pregnancy and lactation, the stronger and the sturdier the baby will be.

Q13. What are the symptoms of Kwashiorkor?

Ans- **Kwashiorkor** is a protein deficiency disease. Symptoms of this disease are:

- i. Impairment of growth.
- ii. Irritability
- iii. Oedema (which may involve the whole body)
- iv. Dry lustreless hair and skin (which may be cracking and pigmentation).
- v. Diarrhoea.
- vi. Anaemia
- vii. Reduced resistance to infection.
- viii. Enlarged liver which may develop into a condition known as cirrhosis resulting in the dead of a child.



Q14. Define the following terms

- a. FOOD
- b. NUTRITION
- c. NUTRITIONAL STATUS.

Ans:

- a) **Food:** It is a substance which when taken, digested and incorporated into the body tissues. Food provides energy, body building material and protects against diseases. There are different essential nutrients found in food. They are carbohydrates, fats, proteins, vitamins, minerals and water.
- b) **Nutrition:** It can be defined as the process by which an organism ingests, digests, absorbs, utilises and disposes off their end products.
- c) **Nutritional status:** It is the condition of health of an individual as influence by utilization of nutrients in the body.

Long Answers

Q15. For what purpose/functions the following vitamins are needed?

Vitamins A,D,E & K?

Ans-

- (1). **Vitamin A:** It is needed for growth. It helps the healing of wounds, keeping the skin smooth and glossy and **promoting good eye sight.**
- (2). **Vitamin D:** It is essential for the proper growth and **maintenance of normal bone structure. Bone deformities** known as **rickets** in children and **Ostoemalacia** in adults result when the diet is deficient in vitamin D.
- (3). **Vitamin E:** It is **necessary for normal reproduction** in many animal species. It acts as an **anti-oxidant**, helping to protect cell from damage caused by free radical. Free radicals are compound formed when our body converts the food we eat into energy.
- (4). **Vitamin K:** It plays a role in **blood clotting**, bone metabolism and regulating blood calcium level. It may lower the risk of cardio vascular damage and improved overall heart health. It has anti-oxidant properties also.



Q16. State the deficiency diseases caused by the lack of the following vitamins in the diet. Thiamine, Riboflavin, Niacin and Ascorbic acid

Ans- (1). Thiamine Deficiency- Causes loss of appetite, poorly toned muscles and constipation, mental depression, moodiness, irritability, forgetfulness, confusion and fear. Severe deficiency leads to dry and wet **beri-beri**. loss of appetite, paralysis of hands and feet, tingling of legs are symptoms of dry beri-beri. Oedema of legs and abdomen and enlargement of heart are symptoms of wet beri-beri.

(2). Riboflavin deficiency- Causes **sores on the lips**, scaliness around the nose and ears, cracks in the corners of the mouth, inflammation of the tongue, burning sensation in the eyes, digestive disturbances, impaired growth and lack of vigour.

(3). Niacin deficiency- Causes **pellagra** (rough skin). Pellagra is called the disease of three D's (diarrhoea, dementia and dermatitis). Dementia includes mental depression, confusion and disorientation. Dermatitis includes skin lesions along symmetrical portions of the body such as palms or cheeks.

(4). Vitamin C/Ascorbic acid deficiency- Its deficiency leads to **scurvy**. Symptoms of scurvy are weakness, irritability, bleeding under the skin and in the joints, bleeding gum, delay in the healing of wounds, **anaemia** and weak bones.

Q17. What important functions are observed by water in the body?

Ans- There is no important nutrient in our body than water. Every tissue and organ in the body contains water. It transports nutrients through the body, moisten eyes, mouth and nose can help maintaining pH and electrolyte balance and participate in many chemical reactions. It helps in maintaining normal body temperature, reduces the chances of kidney stones and may reduce constipation. Water removes waste.

The amount of water unit depends on variety of factors, including the climate you live in and how physically active you are and whether you are experiencing and illness or any other health problems. It is important to rehydrate by drinking fluids and eating foods that contain water.

Q18. Write the different functions of food.

Ans- The different functions of food are:

1. Physiological function
2. Psychological function
3. Social function



1. Physiological function:

- a) **Energy-giving:** the first function of food is to provide energy. It is required for the voluntary and involuntary function (function of organs).
- b) **Body- building:** Food provides that helps in tissue building, growth and different part of body muscles, bones and organs. Minerals like Iron, Calcium, Phosphorus helps in the formation of blood, tissue and bone etc.
- c) **Protecting and regulating:** Food rich in protein, vitamins and minerals have protecting and regulating functions in the body. Example: maintaining body temperature and water balance.

2. Psychological function: In addition to satisfying physical and social needs, food must satisfy certain emotional needs. These include psychological sense of security, love and affection. Thus familiar foods make us feel secure. Anticipating needs and fulfilling these are expressions of love and attention. These sentiments are the basis of the normal attachment to the mother's cooking.

3. Social functions: It has been a part of our community, social and cultural life. Special foods are distributed as Prasad in the religious functions in homes, temples and churches. Feast are given at specific stages of life such as birth, naming ceremony, birthdays etc. As food is an integral part of our social existence this function is important in daily life. Refreshments served at get-together or meetings create a relaxed atmosphere. The menu for such get together should bring people together rather than divide them.

EXTRA QUESTIONS & ANSWERS

Q1. There are about..... mineral elements in the body.

- (A) 50 (B) 15 (C) 30 (D) 60

Ans: (C) 30

Q2. The daily requirement of copper in adult is.....

- (A) 1 to 2 mgm
(B) 1 to 4 mgm
(C) 1 to 5 mgm
(D) 1 to 6 mgm

Ans: (A) 1 to 2 mgm



Q3. The daily requirement of sodium in infant is.....

(A) 130-400 mg

(B) 150-400 mg

(C) 140-400 mg

(D) 150-600 mg

Ans: (B) 150-400 mg

Q4. How much gram of protein is recommended by ICMR for an adult?

Ans: 1gm. per kg. body weight

Q5. Why pellagra is called the 3D's disease?

Ans: Pellagra is called the 3D's disease because it causes dermatitis (skin disease), diarrhoea and dermentia (failure to maintain normal mental status).

Q6. What is another name of vitamin B2?

Ans: Riboflavin is another name of vitamin B2.

Q7. What are the causes of deficiency of proteins in diet in adults?

Ans: In adults, deficiency of proteins in diet causes the following:

(i) Lose of weight.

(ii) Anaemia.

(iii) Reduced resistance to infections.

(iv) Oedema of the feet and accumulation of free fluid in the abdomen.

Q8. Write the function of protein.

Ans: The functions of protein are promotion of growth, repair of wear and tear of tissues, production of metabolic and digestive enzymes and blood protein, production of hormones, production of antibodies i.e. building up the body defences against infection.

Q9. Write the function of fats.

Ans: Fats give energy along with carbohydrates and are stored in the body beneath the skin (subcutaneous fat) and to some extent in other parts of the body. It serves as a carrier for the fat soluble vitamins (A, D, E and K). It also supplies certain essential fatty acids.