



# UNIQUE STUDY POINT

## Components of Food

**Question 1:** Name the major nutrients in our food.

**Answer:** The major nutrients in our food are named carbohydrates, proteins, fats, vitamins and minerals. In addition, food contains dietary fibres and water which are also needed by our body.

**Question 2:** Name the following:

- (a) The nutrients which mainly give energy to our body.
- (b) The nutrients that are needed for the growth and maintenance of our body.
- (c) A vitamin required for maintaining good eyesight.
- (d) A mineral that is required for keeping our bones healthy.

**Answer.**

- (a) Carbohydrates
- (b) Proteins
- (c) Vitamin A
- (d) Calcium

**Question 3:** Name two foods each rich in:

- (a) Fats
- (b) Starch
- (c) Dietary fibre
- (d) Protein

**Answer.** (a) Ghee, oil, butter, cheese, chocolates

(b) Potatoes, rice, beans, peas

(c) Carrot, cabbage, carrot, split peas

(d) Milk, egg, fish, meat, pulses

**Question 4:** Tick (✓) the statements that are correct.

(a) By eating rice alone, we can fulfil nutritional requirement of our body,

- (b) Deficiency diseases can be prevented by eating a balanced diet.
- (c) Balanced diet for the body should contain a variety of food items.
- (d) Meat alone is sufficient to provide all nutrients to the body.

**Answer.** (a) By eating rice alone, we can fulfil nutritional requirement of our body. (×)  
(b) Deficiency diseases can be prevented by eating a balanced diet. (√)  
(c) Balanced diet for the body should contain a variety of food items. (√)  
(d) Meat alone is sufficient to provide all nutrients to the body. (×)

**Question 5:** Fill in the blanks.

- (a) \_\_\_\_\_ is caused by deficiency of Vitamin D.
- (b) Deficiency of \_\_\_\_\_ causes a disease known as beri-beri.
- (c) Deficiency of Vitamin C causes a disease known as \_\_\_\_\_ .
- (d) Night blindness is caused due to deficiency of \_\_\_\_\_ in our food.

**Answer:**

- (a) **Rickets** is caused by deficiency of Vitamin D.
- (b) Deficiency of **Vitamin B1** causes a disease known as beri-beri.
- (c) Deficiency of Vitamin C causes a disease known as **Scurvy**.
- (d) Night blindness is caused due to deficiency of **Vitamin A** in our food.

### Extra Questions

#### Very Short Answer Questions

**Question 1:** Which of the following food items does not provide any nutrient?  
Milk, Water, Orange juice, Tomato soup

**Answer:** Water

**Question 2:** Define the term nutrient.

**Answer:** The components of food that are needed for proper working of body are called nutrients.

**Question 3:** Name two complex carbohydrates.

**Answer:** Cellulose and starch.

**Question 4:** List the water-soluble vitamins.

**Answer:** Vitamin B and C.

**Question 5:** Name fat-soluble vitamins.

**Answer:** Vitamin A, D, E and K.

**Question 6:** What causes obesity?

**Answer:** Eating more food than required by the body causes obesity.

**Question 7:** What does PEM stand for?

**Answer:** Protein Energy Malnutrition

**Question 8:** What is roughage?

**Answer:** Roughage is the fibrous indigestible material that adds to the bulk of food.

**Question 9:** Which vitamin needs sunlight for its preparation?

**Answer:** Vitamin D

**Question 10:** Raghav puts a food sample on a piece of paper and crushes it. The paper becomes translucent. In which nutrient/supplement is the food rich in?

**Answer:** The food is rich in fat.

**Question 11:** What is a balanced diet?

**Answer:** A balanced diet contains all the nutrients in appropriate proportions.

**Question 12:** Sunil took some egg white in a test tube. He added 2-3 drops of Benedict solution to it and heated it. It turned red-orange in colour. Which nutrient is it rich in?

**Answer:** Proteins

**Question 13:** Which chemical reagent is used to test bread and rice?

**Answer:** Iodine solution

**Question 14:** What do you mean by vitamins?

**Answer:** The substances which are essential for the proper growth and nutrition but required in small quantity are called vitamins.

**Question 15:** Give two methods of cooking that destroy nutrients in food.

**Answer:** Boiling in excess water and frying destroy nutrients in food.

### **Short Type Questions & Answers**

**1: Write the name of sources of protein and what are their functions in our body?**

**Answer:** Sources of protein are beans, soyabeans, gram etc. Proteins are needed for growth and repair of our body.

**2: Write two functions of Vitamins?**

**Answer:** Two functions of vitamins are:

- a) Vitamins help in protecting our body against diseases.
- b) Vitamins help in keeping our eyes and gums healthy.

**3: What is the importance of water in our body?**

**Answer:** Water helps our body to absorb nutrients from food. It also helps in throwing some wastes from body as urine and sweat.

**4: Name the food sources rich in dietary fibres?**

**Answer:** Food sources rich in dietary fibres are whole grains, pulses, potatoes, fruits, and vegetables. These are mainly provided by plant products in our food.

**5: Why proteins are called 'building blocks' of body?**

**Answer:** Proteins are called 'building blocks' of body because they are needed for growth and repair of our body.

**6: Choose the correct option**

- a. Oil is rich in \_\_\_\_\_. (fats/protein)
- b. Lemon contains \_\_\_\_\_. (Vitamin C /Vitamin D)

**Answer:** a. Fats  
b. Vitamin C

**7: Why is roughage essential component of our food?**

**Answer:** Roughage is essential component of our food and adds to its bulk as this helps our body to get rid of undigested food.

**8: What is balanced diet?**

**Answer:** The diet that contains all the nutrients in right quantities and it also contain good amount of roughage and water is called balanced diet.

**9: What are deficiency diseases?**

**Answer:** Diseases that occur due to lack of nutrients over long period of time are called deficiency diseases.

**10: Match the following**

| VITAMINS                     | SOURCES                                     |
|------------------------------|---|
| 1. A<br>2. B<br>3. C<br>4. D | a. Sun<br>b. Lemon<br>c. Carrot<br>d. Liver |

**Answer:**  
A-carrot  
B-Liver

C-Lemon

D-Sun

### **11: Why are minerals essential for our body?**

**Answer:** 11. Minerals are essential for proper growth of body and to maintain good health.

### **12: Which disease is caused by deficiency of –**

**a) Vitamin A**

**b) Vitamin C**

**c) Vitamin D**

**Answer:** a) Night blindness

b) scurvy

c) rickets.

### **13. What are nutrients?**

**Answer:** The components of food that are necessary for growth and development of our body are called nutrients.

### **14. Which are the nutrients essential for our body?**

**Answer:** Carbohydrates, fats, proteins, vitamins, minerals, roughage and water are the nutrients essential for our body.

### **15. What is nutrition?**

**Answer:** The process of taking nutrients from our food for the growth and development of body and to obtain energy is known as nutrition.

### **16. Write the functions of food.**

**Answer:** The functions of food are as follows:

- Food provides nutrients for proper growth and functioning of the body.
- Food gives protection against diseases.
- Food provides energy to carry out physical activities.

### **17. How will you test for starch in a food sample?**

**Answer:** Take a small quantity of a food sample, put 2-3 drops of iodine solution on it. A blue-black colour indicates that the food sample contains starch.

**18. How will you test for protein in a food sample?**

**Answer:** Take a small quantity of food sample in a test tube, add 10 drops of water to it and shake the test tube, after that add two drops of solution of copper sulphate and ten drops of caustic soda. A violet colour indicates presence of protein in the food sample.

**19. How will you test for fat in a food sample?**

**Answer:** Put the sample of food on a piece of paper and crush it. If the paper at that spot becomes translucent and greasy, the sample contains fat.

**20. What are the main carbohydrates found in our food?**

**Answer:** The main carbohydrates found in our food are in the form of starch and sugars.

**21. Name two energy-producing nutrients.**

**Answer:** The two energy-producing nutrients are:

- Carbohydrates
- Fats.

**22. Name two nutrients which protect the body from diseases.**

**Answer:** The two nutrients which protect the body from diseases are:

- Vitamins
- Minerals.

**23. Name two food items which provide fats.**

**Answer:** The two food items which provide fats are:

- Oil
- Ghee.

**24. Name the food each rich in:**

- **dietary fibre**
- **sugar**
- **protein**
- **starch**
- **fat and oil.**

**Answer:** Dietary fibre: Spinach, cabbage, ladyfinger.

Sugar: Milk, banana, sugarcane.

Protein: Milk, meat, fish, egg.

Starch: Rice, wheat, bajara.

Fat and oil: Butter, ghee, cheese, groundnut.

## **25. Name the food needed:**

- **for strong bones and teeth**
- **to prevent scurvy**
- **to avoid constipation**
- **for warmth**
- **for growth.**

**Answer:** The bones and teeth are made up of salts of calcium and phosphorus. Calcium is found in milk, buttermilk, cheese, green leafy vegetables, ragi. While cereals, pulses, fish and meat are good sources of phosphorus.

To prevent scurvy, vitamin C is required, which is found in citrus fruits, green and red peppers.

To avoid constipation, roughage is very important. Roughage is mostly given by the food derived from plants, which contains enough cellulose. Most of the vegetables, fruits and whole grain provide roughage in our food.

For warmth: ghee, butter, meat, fish, etc.

For growth: milk, green leafy vegetables.

## **26. What are the roles of**

- (a) carbohydrates,**
- (b) fats,**
- (c) vitamins and**
- (d) minerals.**

**Answer:** (a) Role of carbohydrates: Carbohydrates provide us energy.

(b) Role of fats: Fats provide us energy.



(c) Role of vitamins:

- Vitamins are necessary for various physiological activities.
- Vitamins keep us healthy and protect us from many diseases.
- Vitamins are required for the proper functioning of body parts.

(d) Role of minerals:

- Minerals help us to make our bones and teeth strong.
- They help to prepare blood.

### **27. What do you mean by staple food?**

**Answer:** The main food that we eat to provide us energy is called staple food. In our country, rice, chapati and bread are staple food.

### **28. What is the function of vitamins?**

**Answer:** Vitamins only help in the proper utilization of other nutrients such as carbohydrates and fats. Many vitamins help enzymes in their action and are called co-enzymes.

### **29. Name any two sources of Vitamin B.**

**Answer:** The two sources of Vitamin B are:

- Milk
- Soybean.

### **30. Name the vitamin present in orange.**

**Answer:** Vitamin C.

### **31. What is the role of Vitamin C?**

**Answer:** Vitamin C helps in proper growth, healthy teeth, gums and joints and helps the body fight against the diseases.

### **32. Write the names of fat soluble vitamins.**

**Answer:** Vitamin A and Vitamin D.

### **33. Write the names of any two water soluble vitamins.**

**Answer:** The two water soluble vitamins are:

- Vitamin B
- Vitamin C.

**34. Write the sources of fat.**

**Answer:** ats are found in vegetable oil, ghee, butter, milk, cheese, meat, fish, cod-liver oil, etc.

**35. What are the sources of carbohydrates?**

**Answer:** Rice, wheat, maize, potatoes, sugar and jaggery are the sources of carbohydrates.

**36. What is roughage? Why its presence in our food is important?**

**Answer:** The rough, fibrous content of food is called roughage. Green vegetables like spinach, cabbage, ladyfinger and beans contain a good amount of roughage:

Role of roughage: Roughage helps in the movement of bowel. Roughage prevents constipation.

**37. Name the main constituent of roughage.**

**Answer:** Cellulose is the main constituent of roughage.

**38. Which among the following provides maximum roughage to the diet if taken in equal amount?**

**Egg, cucumber, grapes, cabbage.**

**Answer:** Cabbage.

**39. Name the minerals which make our teeth and bones.**

**Answer:** Calcium and Phosphorus.

**40. How are vitamins classified?**

**Answer:** Vitamins are classified into two categories:

Water soluble vitamins, e.g., vitamins B and C.

Fat soluble vitamins, e.g., vitamins A, D, E and K

**41. What is a balanced diet?**

**Answer:** A diet in which every component of food (carbohydrates, fats, proteins, vitamins, minerals, water and roughage) is present in proper amount is known as a balanced diet.

**42. How many calories does a 12-year old boy or girl need each day? How can the boy or girl get this in his/her diet?**

**Answer:** A 12-year old boy or girl needs 2000-2200 calories per day.

The boy or girl can get this by a diet including daal, rice, roti, green vegetables, ghee and a bit of jaggery.

**43. Why does a growing child need more minerals?**

**Answer:** A growing child needs more minerals like calcium and phosphorus for the formation of bones.

**44. What is obesity?**

**Answer:** When a person eats too much fat-containing food, then the fats get deposited in his body and he may end up suffering from a condition called obesity.

**45. Explain why people who eat sea-food do not suffer from goitre.**

**Answer:** Goitre is caused due to iodine deficiency. Sea-food is a rich source of iodine and prevents the occurrence of goitre in people who eat sea-food.

**46. What is marasmus? What are its symptoms?**

**Answer:** Marasmus is caused by the deficiency of proteins and carbohydrates in children.

**Symptom:** The child becomes so thin that loose folds of skin can be seen all over the body.

**47. What is anaemia? What are the symptoms of anaemia?**

**Answer:** The deficiency of iron in the diet leads to a disease called anaemia.

**Symptoms:** looks pale, gets tired easily, loses weight and nails turn white.

**48. Why is it advised to take iodised salt?**

**Answer:** Iodised salt contains iodine. Iodine deficiency results in the enlargement of thyroid gland, retarded growth and mental disability. Iodized salts help us to overcome iodine deficiency.

## Long Type Questions and Answers

**Question 1.** Why does our body need nutritious food?

**Answer:** We know that food is needed for the growth of our body. Food gives us energy to work and play. It gives us resistance against diseases. The components of food are carbohydrates, proteins, fats, vitamins, minerals, fibre and water. Nutrients are the components of food that the body needs in adequate amounts for growth, to reproduce and to lead a normal healthy life. All types of nutrients have their own functions to perform, but the different nutrients must act together. So nutritious food provides energy for all the activities of body.

**Question 2.** Name the different food groups.

**Answer:** Food can be broadly sub-divided into the following three groups:

- Energy giving food. For example, carbohydrates and fats.
- Body building food. For example, proteins.
- Protective food. For example, vitamins and minerals.

**Question 3.** Write three important properties of a balanced diet.

**Answer:** A balanced diet has the following properties:

- It is rich in essential nutrients such as vitamins, minerals and certain amino acids,
- It provides enough material to take care of the needs of growth, repair and replacement of cells, tissues and organs of the body.
- It provides energy required by the body.

**Question 4.** What is malnutrition? What are its harmful effects?

**Answer:** Malnutrition is the physical state of a person resulting either from an imbalanced diet or from physical inability to absorb nutrients properly due to some diseases.

The harmful effects of malnutrition are:

- Deficiency of any of the nutrients in our diet causes diseases.
- Deficiency of protein causes kwashiorkor disease.
- Deficiency of carbohydrate and protein causes marasmus.

**Question 5.** What is the effect of protein deficiency on the health of children?

**Answer:** If a child does not get enough protein in his food for long time, he is likely to suffer from protein deficiency. Children suffering from protein deficiency have light brown hair, face like that of an old man, always hungry, and distended stomach. They are underweight and skinny with very little flesh on bones. This disease is called Kwashiorkor.

**Question 6.** What are various functions of proteins?

**Answer:** Functions of proteins are:

- Proteins are the building materials of our body.
- Proteins are the constituents of enzymes.
- Proteins make our muscles, skin, hair and nails.
- Proteins form a red pigment in blood which acts as an oxygen carrier.
- Proteins like fibrin help in clotting of blood.
- Proteins help in repairing damaged cells, replacing wornout or dead cells and tissues.
- Proteins help to develop resistance of the body against various infections.

**Question 7.** Write the sources and deficiency diseases of the vitamin 'A', 'B' complex, C, D, E and K.

**Answer:**

| Vitamins             | Sources  | Deficiency diseases                     |
|----------------------|--|---|
| 1. Vitamin A         | Milk, butter, yellow fruits and vegetables, egg yolk, liver oil of fish.                 | Xerophthalmia, Night blindness, anaemia |
| 2. Vitamin B complex | Milk, egg, green vegetables, cheese, meat, germinating seeds, yeast and unpolished rice. | Beriberi                                |
| 3. Vitamin C         | Citrus fruits, green and red peppers.  | Scurvy                                  |
| 4. Vitamin D         | Milk, egg, fish, liver oil, sunlight.  | Rickets                                 |
| 5. Vitamin E         | Vegetable seeds, eggs, sweet potatoes, oil, meat, sprouted grains.                       | Sterility                               |
| 6. Vitamin K         | Egg yolk, liver, cheese, tomato, cabbage, soybean, cauliflower.                          | Improper coagulation of blood           |

**Question 8.** Match the following items given in Column A with that in Column B:

| Column A               | Column B                  |
|------------------------|---------------------------|
| (a) Energy giving food | (i) Vitamins and minerals |

|                        |                                       |
|------------------------|---------------------------------------|
| (b) Body building food | (ii) Iodine                           |
| (c) Protective food    | (iii) Fats, carbohydrates             |
| (d) Test for fat       | (iv) Copper sulphate and caustic soda |
| (e) Test for starch    | (v) Oily patch on paper sheet         |
| (f) Test for protein   | (vi) Proteins                         |

**Answer:**

| Column A               | Column B                              |
|------------------------|---------------------------------------|
| (a) Energy giving food | (iii) Fats, carbohydrates             |
| (b) Body building food | (vi) Proteins                         |
| (c) Protective food    | (i) Vitamins and minerals             |
| (d) Test for fat       | (v) Oily patch on paper sheet         |
| (e) Test for starch    | (ii) Iodine                           |
| (f) Test for protein   | (iv) Copper sulphate and caustic soda |

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