

CBSE Test Paper 03
CH-02 Sports and Nutrition

1. Explain the importance of fluid intake during competition.
2. Critically explain the use of dietary supplements and heavy dose for a longer duration. Justify your answer with two suitable examples.
3. Enlist two sources for Calcium and Iron separately.
4. Define Balanced diet.
5. Define nutrition.
6. Mention the uses of any two minerals in our diet.
7. What is the major goal of a pre-competition meal? When should it be taken and why?
8. Briefly explain the functions and sources of fat-soluble vitamins.
9. Diet for a sportsperson is important. What should be the aims of preparing diet for sportsperson?
10. What is the “Role of Diet on performance” of a player?

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Answer

1. Importance of Fluid Intake:

- To maintain water balance.
- Help to transport nutrients throughout the body
- Help to remove waste from the body.

2. Dietary supplements if taken in heavy doses can be toxic and cause serious side effects.

For example:

- i. Too much of extra proteins and extra calorie to your diet which may lead to gaining unwanted weight.
- ii. Too many vitamins and minerals adversely affect your well being and can cause liver abnormalities or any other organ damage.

3. (a) Sources of Calcium: Milk and milk products such as curd, paneer etc.

(b) Sources of Iron: Apple, pomegranate, green leafy vegetables.

4. Nutrition components of diet are proteins, carbohydrates, fats, vitamins and minerals. All these nutrients constitute a balanced diet of a person. They are also called primary components of diet.

5. Nutrition is the science of food and its relationship to health.

6. Use of minerals in our diet:

1. Iodine for creativity as well as the proper activity of the thyroid gland, iodine is essential. Its deficiency may stop the growth of hair. It is found in rich quantity in sea fish. Iodised salt is normally the main source of iodine in a normal diet.
2. Calcium is helpful in the formation of teeth and bones. It helps in clotting of blood. It also maintains the balance between acids and bases in our bodies. Milk, cheese, oranges, and green vegetables have a rich amount of calcium.

7. The major goal of a pre-competition meal is to maximize carbohydrate stores in the muscles and liver and to top up blood glucose stores. This meal should preferably be taken about three hours prior to the start of the competition. If taken later than this, it results in performing with a full stomach, which causes nausea – the body's attempt to

cease exercise so that it can redirect blood flow back to the stomach. An exception is of consuming carbohydrate immediately prior to the start of a game in the form of a sports drink 5 or 10 minutes before competition.

8. **Functions of fat-soluble vitamins: Vitamin A** - It helps your vision, immune, and reproductive systems. It is essential to bone growth and tooth development. It also keeps your heart, lungs, and kidneys working properly.

Vitamin D - It along with calcium, keeps your bones strong by preventing diseases such as rickets, a disorder that causes bones to become soft and weak in children. It also helps prevent osteoporosis, which makes your bones weak and more likely to break. Vitamin D also helps your muscles move, improves your immune function and helps reduce inflammation.

Vitamin E - It acts as an antioxidant that protects your body from free radicals, which are molecules that damage your cells. It also boosts your immune system and keeps blood moving through your blood vessels without clotting.

Vitamin K - It allows your blood to clot. It also helps your body by making proteins for healthy bones and tissues.

Sources of fat soluble vitamins:

Vitamin A - It Can Be Obtained Through Natural Sources. Some Sources Include Fish Liver Oil, Liver Of Animals, Butter, Kale, Carrots, Spinach.

Vitamin D - Fish Oil, Fatty Fish, Mushrooms Exposed To Ultraviolet Light, Fortified Dairy Products.

Vitamin E - Wheat Germ Oil, Sunflower Seeds Or Oil, Hazelnuts, Almonds.

Vitamin K - Vitamin K-1 And K-2 Are Found In A Variety Of Sources. Some Of These Sources Include Kale, Liver, Spinach, Parsley, Butter, Egg Yolks.

9. For a sportsperson, taking proper diet is very essential The aims of preparing a diet for a sportsperson are as follows:-
1. Maintaining body weight and body composition desired for that specific sport
 2. Maintaining adequate pool of nutrient levels in the body
 3. Adopting healthy nutritional practices during training and competition.
 4. Carrying on with healthy nutritional practices during offseason as well i.e when competition is not taking place.
10. Role of Diet on performance: The energy the quality of sports diet depends on correct proportion of carbohydrates, proteins, fats, vitamins, salt and minerals which

constitutes main nutrients of the diet.

- i. **Proteins:** Proteins are the main building food and they form main constituents of muscles, tissues and blood. They supply the building material for the body during the growth process and also repair the wear and tear of muscles, ligaments and tendons. Hence, they are most essential for an athlete. The ideal sports diet should have both animal and vegetable proteins in adequate quantities.
- ii. **Carbohydrates:** They form the main bulk of the sportsman's diet and are main sources of energy for physical activities. These are the sources of 'instant energy' for athletic activities. This is the reason why athletes are advised to take glucose during physical activities. Glucose should be taken in specific dilution in water for people who are physically active, at least 50% to 60% of calories should come from carbohydrates.
- iii. **Fat:** Fat is considered as a major source of fuel for light to moderate level of activity. There is different proposition of fat requirement for maximum performance, For example there is normal fat requirement for distance runner, high jumper and a Gymnast because if they add weight it will hinder their performance.
- iv. **Mineral:** Excessive sweating during exercise, especially in hot climate, cause loss of optimum amount of sodium and more potassium from the body. Hence, fruit juices should be added to the fluids taken during and after exercise. Iron requirement of Indian athletes are comparatively higher due to increased sweating, chances of worm infestation, etc.
- v. **Vitamins:** During sports activities, the requirement of various vitamins increases particularly vitamin A, vitamin B complex and vitamin C. In sports vitamins are often used against one's better judgement in the hope of improving performance. Drink small volume of water frequently rather than large volumes infrequently e.g., 6-8 ounces every 15 minutes. Water makes 70% of our body weight. Sports persons should drink enough water to replace the water they lose through sweating.