

UNIT – 2

SPORTS AND NUTRITION

Key Points:

Balanced Diet and Nutrition: Macro and Micro Nutrients.
Nutritive and Non-nutritive components of diet.

Q.1. What is Balanced Diet ? Explain the component of diet.

Balanced Diet

A diet which contains the proper amount of each nutrient, i.e. like carbohydrate, fat, protein etc is called Balanced Diet.

A diet which consists of all the essential food constituents' viz. protein, carbohydrates, fats, vitamins, minerals and water in correct proportion is called balanced diet.

A balanced diet contains sufficient amounts of fiber and the various nutrients (carbohydrates, fats, proteins, vitamins, and minerals) to ensure good health. Food should also provide the appropriate amount of energy and adequate amounts of water.

2.1 A. Balanced Diet: - A complete food, a diet contains adequate amounts of all the necessary nutrients required for proper growth & maintenance of body.

B. Nutrition: - Nutrition is a dynamic process in which the body is made healthy by the consumption of food.

It is the process of obtaining & consuming food or breaking down food & substances taken in by the mouth to use for energy in the body.

C. Nutrients: - The energetic food in our diet consists of various types of essential chemicals for our body termed as nutrients: - e.g. Protein, fat, carbohydrates, vitamins & minerals.

Goals of nutrition

- (i) stay hydrated
- (ii) provide immediate fuel
- (iii) boost performance
- (iv) preserve muscle and
- (v) improve recovery.

Sports nutrition

It is the study and practice of nutrition and diet as it relates to athletic performance. It is concerned with the type and quantity of fluid and food taken by an athlete, and deals with nutrients such as vitamins, minerals, and organic substances such as carbohydrates, proteins and fats.

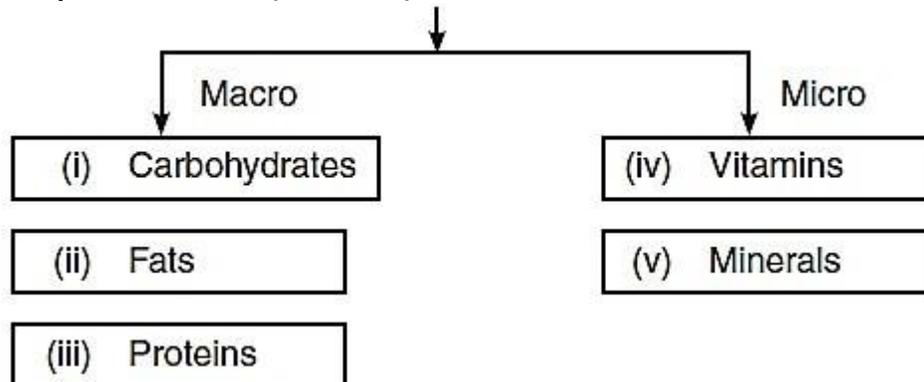
Macro nutrients

Macro nutrients mainly include carbohydrates, proteins and fats and also water which are required in large quantities and their main function being the release of energy in body. Macro nutrients include Carbon, Oxygen, Hydrogen, and Nitrogen.

Micro nutrients

Micronutrients mainly comprise vitamins and minerals which are required in minute quantities. However, both macro nutrients as well as micro nutrients are essential. Micro nutrients are chlorine, iron, manganese, zinc, boron, sodium, copper, molybdenum and nickel.

Components of Diet (Nutrients)



Q.2. What are the Nutritive and Non-Nutritive components of diet ? Explain.

2.2 Nutritive components of diet & Non-Nutritive Components of Diet

Nutritive components of diet

CARBOHYDRATES:- Carbohydrates are needed to provide energy during exercise.

Carbohydrates are stored mostly in the muscles and liver. Complex carbohydrates are found in foods such as pasta, bagels, whole grain breads, and rice. They provide energy, fiber, vitamins, and minerals. These foods are low in fat. Simple sugars, such as soft drinks, jams and jellies, and candy provide a lot of calories, but they do not provide vitamins, minerals, and other nutrients.

PROTEIN:-Protein is important for muscle growth and to repair body tissues. Protein can also be used by the body for energy, but only after carbohydrate stores have been used up. Only strength training and exercise will change muscle. Athletes, even body builders, need only a little bit of extra protein to support muscle growth. Athletes can easily meet this increased need by eating more total calories (eating more food).

FAT:-It provides the highest concentration of energy of all the nutrients. One gram of fat equals nine calories. One pound of stored fat provides approximately 3,600 calories of energy.

Saturated fats are found primarily in animal sources like meat, egg yolks, yogurt, cheese, butter, milk. This type of fat is often solid at room temperature.

Unsaturated fats include monounsaturated and polyunsaturated fats, which are typically found in plant food sources and are usually liquid at room temperature.

VITAMIN :-A well-planned and nutritionally adequate diet should meet an athlete's vitamin and mineral needs. Supplements will only be of any benefit if your diet is inadequate or you have a diagnosed deficiency, such as an iron or calcium deficiency. Use of vitamin and mineral supplements is potentially dangerous and they should not be taken without the advice of a qualified health professional.

MINERALS : - Mineral are very essential in our diet. Four percent of our body weight is made up minerals. These are required for healthy teeth, bones and muscles. It is also used by body for various activities such as transmission of nerve, impulses formation of hormones and maintenance of heart beat etc.

Macro Minerals: - **(a) Calcium:** Calcium is among the top macro-minerals in terms of growth and development of our bones and teeth. It helps in blood clotting. Its deficiency may cause rickets. The sources are cheese, milk, orange, juice, eggs, green leafy vegetables and cereals.

(b) Potassium: Potassium is one of the most required minerals in diet. It is helpful in keeping the nervous system and muscular system firm and active all the time. It helps in maintaining the amount of water in blood and tissues. Its main sources are banana, tomatoes, green leafy vegetables, beans etc.

(c) Sodium: It helps in muscular activities. It also helps in transmission of nerve impulses. The sources are table salts, pickles and butter etc.

(d) Magnesium: It repairs and maintains body cells. It is found in meat, brown rice, beans and whole grains etc.

(e) Phosphorus: Phosphorus helps in the formation of bone and teeth. It keeps the muscles and nerve activities normal. The sources are egg, fish, liver, milk, and unpolished rice etc.

Micro Minerals:- (a) Iodine: It produces the hormones for the thyroid gland. It is also significant for proper growth and development. Lack of iodine can cause goiter (swollen thyroid gland) and mental retardation. The sources are iodized salt, fish and sea food.

(b) Iron: It is essential in the production of hemoglobin. Its deficiency causes anemia. The sources are meat, egg, dry fruits, spinach, banana and green leaf vegetables.

(c) Chromium: It is essential in the production of hemoglobin. Its deficiency may cause diabetes. The sources are soya beans, black gram, carrot, tomato, groundnuts, bajra and barley.

Non nutritive components of diet

- (a) Fiber or Roughage
- (b) Water
- (c) Colour Compounds
- (d) Flavour Compounds
- (e) Plant Compounds

Non-Nutritive components of diet has no nutritive value. It is undigested part of the food or it can be said that it cannot be digested by human intestinal tract. It consists of water and improves intestinal function by adding bulk to the food. It helps the individual to satisfy the appetite. It prevents constipation.

ASSIGNMENT EXERCISES

UNIT – 1 : PLANNING IN SPORTS

Q.1. What do you mean by Specific Sports Programmes ? Explain about health runs and run for unity in detail.

Q.2. What is a League Tournament ? Draw a fixture of six teams using round robin method.

Q.3. Draw a Knock-Out fixture of 21 teams mentioning all the steps involved.

Q.4. Elucidate the Pre, During and Post games responsibilities of officials of various committees for org Post games responsibilities of officials of various committees for organizing a sports tournament smoothly.

UNIT – 2 : SPORTS AND NUTRITION

Q.1. What do you mean by macro nutrients ? Explain about any four macro nutrients.

Q.2. What do you mean by micro nutrients ? Explain in brief about minerals as micro nutrients in detail.

Q.3. What do you mean by nutritive components of diet ? Explain about any three of them in brief.

Q.4. What do you mean by non-nutritive components of diet ? Explain any four non-nutritive components in brief.

Note :- All assignments to be done in separate assignment copy ,which has to be submitted on commencement of session,2020-21.