17394

BRAINWARE UNIVERSITY

Term End Examination 2025-2026
Programme – B.Sc.(FND)-Hons-2023
Course Name – Sports Nutrition
Course Code - BFD50203
(Semester V)

Full Marks : 60 **Time : 2:30 Hours**

[The figure in the margin indicates full marks. Candidates are required to give their answers in their own words as far as practicable.]

Group-A

(Multiple Choice Type Question) 1 x 15=15

1. *Choose the correct alternative from the following :*

(i) What is the main byproduct of the lactic acid system that causes muscle fatigue?

a) ATP b) Carbon dioxide
c) Lactic acid d) Oxygen

(ii) What is the role of NADH and FADH2 produced in the Kreb's cycle during prolonged exercise?

a) Store energy in muscles b) Carry electrons to the electron transport chain
c) Produce lactic acid d) Release carbon dioxide

(iii) Which of the following sports is most reliant on the phosphagen system for energy?

a) Marathon running b) Soccer
c) 100-meter sprint d) Cycling

(iv) Select the type of physical fitness is essential for activities such as dancing or playing sports.

a) Skill-related fitness b) Health-related fitness
c) Strength-related fitness d) Flexibility-related fitness

(v) Select the optimal time for carbohydrate intake after exercise.

a) Immediately after exercise b) 30 minutes after exercise
c) 1-2 hours after exercise d) 4-6 hours after exercise

(vi) What is the primary benefit of consuming carbohydrates during prolonged endurance events?

a) Reducing muscle damage b) Preventing dehydration
c) Preventing hypoglycemia d) Improving mental focus

(vii) Which condition is characterized by an excessive loss of sodium due to overhydration?

a) Hyperkalemia b) Hyponatremia
c) Hypernatremia d) Hyperglycemia

(viii) Which type of fat is preferred in the diet of athletes for providing a steady source of energy without causing inflammation?

a) Trans fat
b) Saturated Fat
c) Omega 3 fatty acids
d) Hydrogenated Fat

(ix) Which mineral is particularly important for athletes in high-intensity sports for maintaining muscle contraction?

a) Phosphorus
b) Magnesium
c) Sodium
d) Potassium

(x) What is the primary focus of nutritional management for sports-related injuries?

a) Fat loss
b) Muscle recovery
c) Weight loss
d) Energy recovery

(xi) Which disorder is characterized by extreme restriction of food intake and intense fear of gaining weight?

a) Bulimia
b) Anorexia nervosa
c) Binge eating disorder
d) Orthorexia

(xii) What is a potential consequence of excessive weight loss in athletes?

a) Increased energy levels
b) Loss of muscle mass
c) Decreased performance
d) Increased endurance

(xiii) Arginine supplementation is known to support:

a) Fat burning
b) Nitric oxide production
c) Bone strengthening
d) Calcium absorption

(xiv) Ready-to-drink protein shakes (RTDs) are beneficial for:

a) Increase fat
b) Convenient nutrition
c) Weight gain only
d) Reduce water

(xv) The use of anabolic steroids can lead to which harmful effect?

a) Improved digestion
b) Hair growth
c) Liver damage
d) Increased bone density

Group-B

(Short Answer Type Questions) 3 x 5=15

2. Discuss the advantages and disadvantages of protein supplement to athletes. (3)
3. Write down the process how selenium and zinc function as part of the body's antioxidant defense system during exercise. (3)
4. Discuss the differences between aerobic & anaerobic exercise. (3)
5. Define B.M.I. (3)
6. Illustrate the effects of exercise-induced oxidative stress on muscle tissue. (3)

OR

Explain free radicals, and how are they related to exercise-induced oxidative stress. (3)

Group-C

(Long Answer Type Questions) 5 x 6=30

7. Discuss phosphagen system along with the energy production in this cycle. (5)
8. Write down a short note on carbohydrate loading. (5)
9. Compare and contrast whey, casein, and soy protein in terms of absorption rates and amino acid profiles. (5)
10. Justify the ergogenic benefits of creatine and BCAA. (5)
11. State the factors affecting flexibility. (5)
12. Deduce the term- Sports Anaemia. (5)

OR

Conclude the relationship between osteoporosis and physical activity. (5)