26.11.25

Avinashilingam Institute for Home Science and Higher Education for Women

Deemed to be University Estd.u/s 3of UGC Act 1956, Category A by MHRD (now MoE)
Re-accredited with A++ Grade by NAAC. CGPA 3.65/4, Category I by UGC
Coimbatore-641043, Tamil Nadu, India

Bachelor's Degree Examination – November 2025
III Semester

Class : II UG | **Time : 3 Hours**
Major : Physical Education | **Max. Marks : 100**

23BPEC09 Fitness Training and Nutrition

Course Outcomes:

CO1: Familiarise the student with fitness education and training
CO2: Develop skills to establish daily fitness prescription for the clients
CO3: Acquaint student with principles of sports nutrition
CO4: Understand the relationship between fitness training and nutrition
CO5: Construct individualized nutrition plan for specific events

Part A — **10 x 1 = 10**
Choose the Correct Answer

1. Which of the following is a component of fitness? CO1K1
   a. Balance
   b. Endurance
   c. Flexibility
   d. All of the above

2. The FIIT formula stands for: CO4K1
   a. Frequency, Intensity, Interval, Time
   b. Frequency, Intensity, Time, Type
   c. Flexibility, Interval, Training, Time
   d. Force, Intensity, Training, Type

3. The body needs energy primarily for: CO2K2
   a. Growth and repair
   b. Maintenance of body temperature
   c. Physical activity
   d. All of the above

4. The ATP-PC system is mainly used during: CO3K3
   a. Long-distance running
   b. Short, high-intensity activities
   c. Moderate-intensity exercise
   d. Walking

5. Which of the following is a macronutrient? CO4K2
   a. Vitamins
   b. Minerals
   c. Proteins
   d. Iron

6. A balanced diet includes: CO2K3
   a. Only carbohydrates and proteins
   b. All nutrients in proper proportion
   c. Mainly fats for energy
   d. Vitamins and minerals only

7. The primary function of carbohydrates in the body is: CO3K2
   a. Growth and repair of tissues
   b. Provide quick energy
   c. Absorption of vitamins
   d. Build hormones

8. During long-duration, and low-intensity activity, the main fuel used is: CO4K2
   a. Carbohydrates
   b. Proteins
   c. Fats
   d. Vitamins

9. Which of the following are fat-soluble vitamins? CO4K1
   a. A, D, E, K
   b. B-complex, C
   c. A, B, C, D
   d. D, E, F, G

10. The vitamin essential for blood clotting is: CO4K2
   a. Vitamin A
   b. Vitamin K
   c. Vitamin C
   d. Vitamin D

Part B — 5 x 6 = 30

Answer ALL questions

Each answer should not exceed 400 words or two pages

11.a. Write about the benefits of fitness in daily life.	CO1K1
(or)	
11.b. Explain the importance of warm-up and warm-down in exercise.	CO2K2
12.a. Describe how energy is stored in the body.	CO2K3
(or)	
12.b. Explain the importance of energy transfer in physical activity.	CO3K2
13.a. What is the importance of hydration in sports nutrition?	CO2K3
(or)	
13.b. Define a balanced diet. Write its significance in sports.	CO3K3
14.a. Explain the functions of carbohydrates in the human body.	CO4K3
(or)	
14.b. Write the role of proteins in sports performance.	CO2K4
15.a. Write the sources and importance of minerals in sports performance.	CO4K4
(or)	
15.b. What is a pre-competition diet? Give suitable examples.	CO3K4

Part C — 5 x 12 = 60

Answer ALL questions

Each answer should not exceed 800 words or four pages

16.a. Define fitness. Explain in detail the different components of fitness with suitable examples.	CO4K1
(or)	
16.b. Describe the basic conditioning exercises and their role in developing general fitness.	CO1K3
17.a. How does exercise impact metabolism? Explain with suitable examples.	CO2K2
(or)	
17.b. Describe in detail the three energy systems of the body with suitable examples.	CO3K2
18.a. Define sports nutrition. Discuss the need and importance of nutrition for athletes.	CO3K3
(or)	
18.b. Discuss the basic components of nutrition and their role in sports performance.	CO4K2
19.a. Explain the classification of carbohydrates, proteins, and fats with examples.	CO3K2
(or)	
19.b. What is carbohydrate loading? Explain the process, benefits, and limitations in endurance sports.	CO2K3
20.a. Discuss the effects of vitamin and mineral deficiencies on sports performance with suitable examples.	CO4K3
(or)	
20.b. Discuss the fluid requirements during physical activity. How can dehydration affect Athletic performance?	CO3K4

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