

Duration: 1 Hour

Maximum Marks: 40

Instructions:

- 1) Start each question on fresh page.
- 2) Figures to the right indicate maximum marks.

Q. 1)

- I. What are the five components of physical fitness as? 2
- II. what does the acronym RICE stand for in the context of injury management in sports? 2
- III. What is the principle of specificity in sports training? 2
- IV. what is the principle of overload in the context of exercise and sports training? 2

Q 2 A) I) Can you list the three macronutrients and briefly describe their roles in the context of a balanced diet for diabetes? 3

OR

Q 2 A) I) What is the primary energy system responsible for short bursts of high-intensity activities in sports, and what molecules does it utilize? 3

Q2 B) I) What is the recommended daily protein intake for a strength athlete based on general guidelines? 3

Q2 C) I). Can you name two common types of exercise used in post-Injury rehabilitation to improve muscle strength and stability. 2

Q.3 A) I). How does the body's energy systems differ when performing short bursts of high-intensity exercises, like sprinting, compared to long-duration, low intensity activities, such as jogging? 3

Or

Q.3 A) I) Discuss the concept of “progressive overload” in the context of rehabilitation exercise. How does it apply to designing effective rehabilitation programs for individuals recovering from injuries? 3

Q.3 B) I) Explain the relationship between muscle imbalances and the risk of injury in athletes. How can a comprehensive assessment help identify these imbalances, and what strategies can be used to address them? 3

Q.3 C) I) Describe the limitations of the phosphagen system in terms of duration and energy output. How might athletes strategically utilize this system in their training and competition based on these limitations. 2

Q.4 A) I) Discuss the role of warm-Up routines and proper stretching techniques in preventing common sports-related injuries. How do these practices help in reducing the risk of injury? 3

OR

Q.4 A I) Describe the role of intrinsic and extrinsic motivation in fitness training. how do these two types of motivation differ? 3

Q4 B I. Can you provide examples of how different tracking techniques for component of physical fitness, such as cardio vascular endurance and muscular strength, are used in real world fitness programs to tailor exercise routines for individual clients? 3

Q4 C I. How would you design periodized training program that incorporates the principle of specificity for personal athlete in specific sport, such tennis or weightlifting? 2

5A) I. compare the dietary requirements of a long-distance runner and a power lifter. How do their macro-nutrients and micro nutrients needs differ based on their fitness goals and activity levels? 3

OR

5A) I. Explain the specific warm-up activates you would recommend for a group of young football players before a practice session. Discuss how these activities benefit their performances and safety. 3

5B) I). Create a work out routine focused on improving anaerobic capacity for a sprinter, taking into account the specific energy system requirements. 3

5C) I. In a strength training program focused on upper body development, recommend three free weight exercises and explain why you chose them. 2