**Chapter 16 Review (Module D)**

**Digestion and absorption**

Outline the features of the principal components of the digestive system.

State the typical pH values found throughout the digestive system.

Describe the function of enzymes in the context of macronutrient digestion.

Explain the need for enzymes in digestion.

List the enzymes that are responsible for the digestion of carbohydrates, fats and proteins from the mouth to the small intestine.

Describe the absorption of glucose, amino acids and fatty acids from the intestinal lumen to the capillary network.

**Water and electrolyte balance**

State the reasons why humans cannot live without water for a prolonged period of time.

State where extracellular fluid can be located throughout the body.

Compare water distribution in trained and untrained individuals.

Explain that homeostasis involves monitoring levels of variables and correcting changes in levels by negative feedback mechanisms.

Explain the roles of the loop of Henlé, medulla, collecting duct and ADH in maintaining the water balance of the blood.

Describe how the hydration status of athletes can be monitored.

Explain why endurance athletes require a greater water intake.

Discuss the regulation of electrolyte balance during acute and chronic exercise.

**Energy balance and body composition**

Define the term basal metabolic rate (BMR).

State the components of daily energy expenditure.

Explain the relationship between energy expenditure and intake.

Discuss the association between body composition and athletic performance.

Discuss dietary practices employed by athletes to manipulate body composition.

**Nutritional strategies**

State the approximate glycogen content of specific skeletal muscle fibre types.

Describe, with reference to exercise intensity, typical athletic activities requiring high rates of muscle glycogen utilization.

Discuss the pattern of muscle glycogen use in skeletal muscle fibre types during exercise of various intensities.

Define the term glycemic index (GI).

List food with low and high glycemic indexes.

Explain the relevance of GI with regard to carbohydrate consumption by athletes, pre and post-competition.

Discuss the interaction of carbohydrate loading and training programme modification prior to competition.

State the reasons for adding sodium and carbohydrate to water for the endurance athlete

Discuss the use of nutritional ergogenic aids in sport.

State the daily recommended intake of protein for adult male and female non-athletes.

List sources of protein for vegetarian and non-vegetarian athletes.

Discuss the significance of strength and endurance training on the recommended protein intake for male and female athletes.

Outline the possible harmful effects of excessive protein intake.