Question 22 (continued)

(b) Discuss the role of supplementation in meeting the dietary needs of athletes. **6**

Some athletes and coaches often believe that dietary supplementation is necessary due to a belief that their training load is too strenuous to be met by a normal diet or a belief that their diet is inadequate for their performance needs. Usually this is a waste of effort, concern and money, as supplementation is usually unnecessary if a balanced diet is followed.

Vitamin supplementation is common among athletes. Vitamins do not supply energy, rather they act as catalysts, helping to release energy from carbs, fats and proteins in the digestion process. They are not produced by the body, and must be supplied by the diet. Supplementation is usually unnecessary and potentially dangerous. The body has no use for excess vitamins. water soluble vitamins are excreted, whilst excess fat soluble vitamins are stored in fat and can be potentially toxic. Excess can lead to nausea, headaches and dizziness, whilst an deficiency absence of vitamins can lead to fatigue, all vitamin needs can be met by a diet rich in fruits and vegetable & carbohydrates.

Mineral supplementation is also common, but usually unnecessary. minerals often are used in and calcium normal bodily functions and aid in muscular contraction and nutrient transport. Iron and calcium are commonly supplemented. Iron deficiency is common in menstruating women, athletes with heavy training loads, adolescent males and vegetarians. Iron helps with oxygen transport, thus a deficiency can lead to fatigue. however, iron requirements usually can be met by eating iron rich foods such as lean meat & green leafy veg. calcium deficiency in common in women especially ammenorrheics and women whose menstrual cycles have ceased. Normally however, eating calcium rich foods such as dairy can provide all necessary calcium. Electrolytes are lost in sweat and are sometimes supplemented (eg sodium & potassium) however this is discouraged as excessive supplementation can lead to heart & kidney failure & irritation of stomach lining. Before an athlete starts to taking supplements, they should consult a dietician. Normally deficiencies can be corrected with a balanced diet, rather than consuming potentially harmful supplements.