

Energy Systems

1. Describe the ATP/PC (alactic) energy system and give one reason why this system is used during high intensity physical activity such as sprinting. [5]

Description of system

1 mark per point max 4:

- I. An anaerobic reaction;
- II. Takes place in the sarcoplasm;
- III. Breakdown of phosphocreatine (high energy phosphate compound);
- IV. Exothermic reaction/energy released;
- V. Energy used to resynthesize approximately one ADP to ATP (endothermic reaction);
- VI. Controlling enzyme, creatine kinase;
- VII. Speed of reaction.

1 mark per point max 1:

- I. Short metabolic pathway/small compound;
- II. PC readily available in the cell;
- III. Reaction does not require oxygen.

