



1.a The Skeletal System/1.b The Muscular System

Mark Scheme

Q1. The carpals are located at which joint in the body? **(1 mark)**

- A – Hip
- B – Elbow
- C- Knee
- D – Wrist

Mark One – D

Q2. The ‘fixator’ muscle can be described as what? **(1 mark)**

- A – The agonist
- B – The muscle responsible for movement
- C – A muscle acting as a ‘stabiliser’ during movement
- D – The muscle relaxing/resting

Mark One – C

Q3. Explain the antagonistic muscle action that allows flexion and extension at the elbow and knee. **(4 marks)**

Mark One – At the elbow the bicep contracts and the tricep relaxes to cause flexion.

Mark Two – The bicep relaxes and the tricep contracts to cause extension.

Mark Three – At the knee the quadriceps contract and the hamstring relaxes to cause extension.

Mark Four – The hamstring contracts and the quadriceps relax to cause flexion.

Q4. Complete the following statement about hinge joints.

- (i) The is an example of a hinge joint in the body.

Mark One – – knee/elbow

- (ii) Give an example of a specific sporting action produced at this joint.

Mark One – Knee = Squat/Kicking a football. Elbow = Bicep curl/Throwing a dart

Accept other appropriate answers

Q5. Several muscles are listed in the table below.

Abdominals	Triceps	Gastrocnemius	Gluteals
Latissimus dorsi	Pectorals	Quadriceps	Trapezius

Using the muscles in the table, match the correct muscle to the stated action in the following statement.

Extends the angle from the knee (extension)

(1)

Mark One – Quadriceps

Q6.

Describe **two** roles of tendons within joints when performing a physical activity. (2)

Mark One – Join muscle to bones

Mark Two – Important for movement/Creating a large range of movement for sporting actions

Mark Three – Prevent muscles moving too far/prevent injury

Q7.

Name two ball and socket joints in the body. Suggest how each example is important to a specific sporting performance. **(4 marks)**

1. **Mark One** – Shoulder

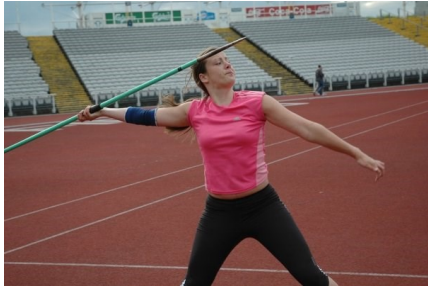
Mark Two – Provides rotation as a bowler bowls a cricket ball

2. **Mark One** – Hip

Mark Two – Provides rotation as a discus thrower throws a discus

Accept other appropriate answers

Q8.



Analyse the muscle action at the elbow of the throwing arm for each performer pictured above. **(4 marks)**

Mark One – The elbow of the javelin thrower is showing extension

Mark Two – The tricep is contracting and the bicep is relaxing.

Mark Three – The elbow of the shot putter is showing flexion

Mark Four - The bicep is contracting and the tricep is relaxing.

Q9. Name the articulating bones found at the elbow joint. **(3 marks)**

Mark One – Humerus

Mark Two – Radius

Mark Three – Ulna

Q10. Define what is meant by a ‘synovial joint’. **(2 marks)**

Mark One – An area where two or more bones meet

Mark Two – Allowing a wide range of movement

Q11. The skeleton has many functions.

Name two functions of the skeleton and explain how these functions are provided by the skeleton.

Justify why these functions are relevant to performance in a sporting activity of your choice. **(6 marks)**

A01 = 2, A02 = 2, A03 = 2

A01 – Knowledge of the functions of the skeleton e.g.

- One function of the skeleton is protection
- A further function of the skeleton is movement

A02 – Explanation of how these functions are provided by the skeleton

- Protection is provided by (flat) bones/ligaments and tendons provide protection at joints/cartilage provides protection
- Joints allow movement to occur/tendons join muscles to bones, allowing movement to occur

A03 – Justifications of the relevance of the function to performance. Example given for the sport of rugby

- Rugby involves tackling whereby poor technique can result in a bang to the head. The cranium is important to protect the brain in this instance/ If a player is tackled offensively by an opponent in the midriff, their ribs will be required to protect them from damage to their lungs
- Joints such as the knee allow players to use flexion to crouch down to make a tackle/tendons and ligaments allow for a wide range of movement, meaning a player can get low enough to scrummage effectively

Accept other appropriate answers – these may relate to other functions of the skeleton and other examples from within sport