



St Mary's AQA GCSE PE

Mid Topic Test – Applied Anatomy & Physiology

Time Allowed: 60 minutes

Materials for this paper you must have:

- a pen, a pencil and ruler

Instructions

- Use black ink or black ball-point pen. Pencil should only be used for drawing.
- Fill in the boxes at the bottom of this page.
- Answer all questions. You must answer the questions in the space provided. Do not write outside the box around each page or on blank pages.
- Do all rough work in this book. Cross through any work you do not want to be marked.

Information

- The marks for questions are shown in brackets.
- The maximum mark for this paper is 62.
- Questions should be answered in continuous prose. You will be assessed on your ability to:
 - use good English
 - organise information clearly
 - use specialist vocabulary where appropriate.

Please write clearly, in block capitals, to allow character computer recognition.

Centre number

Candidate number

Surname

Forename(s)

Candidate signature

Multiple-choice questions

/ 4

Types and functions of bones/ skeleton

/ 14

Synovial joints – structure and function

/ 3

Antagonistic muscle pairs/ movement

/ 16

Muscle contractions

/ 6

Cardio-respiratory system/ Gaseous Exchange

/ 13

Extended writing questions

/ 15

Target

Mark /62

%

Q1. Which **one** of these causes plantar flexion at the ankle?

(1 mark)

A Gastrocnemius

☐

B Hamstrings

☐

C Quadriceps

☐

D Tibialis anterior

☐

Q2. Which bones are found at the shoulder joint?

(1 mark)

A Femur and tibia

☐

B Humerus and radius

☐

C Scapula and humerus

☐

D Tibia and fibula

☐

Q3. Which bones are found at the elbow joint?

(1 mark)

A Femur and tibia

☐

B Humerus and radius

☐

C Scapula and humerus

☐

D Tibia and fibula

☐

Q4. Identify which **one** of the following statements about the structure of alveoli is true. **(1 mark)**

A Muscular wall

☐

B Carried in the blood

☐

C Has valves

☐

D Thin-walled

☐

Q5. Physical activity requires movement using bones and muscles.

(i) Name **three** major bones which are located in the leg. **(3 marks)**

Bone 1

Bone 2

Bone 3

(ii) Name **two** muscles which are also located in the leg. **(2 marks)**

Muscle 1

Muscle 2

Q6. Movement is one of the functions of the skeleton.

(i) Name **three** other functions. **(3 marks)**

1. _____

2. _____

3. _____

(ii) Explain the function of cartilage in relation to movement. **(2 marks)**

Q7. Flat bones provide a protective function within the body.

Name **two** flat bones **and**, using a sporting action of your choice, suggest how these bones provide protection during performance. **(4 marks)**

1. _____

2. _____

(Total 14 marks)

Q8. The image shows a young athlete running. The running action involves the use of many joints within the body.



(a) Identify the type of synovial joint working at the shoulder.

(1 mark)

(b) Outline how **two** of the features of the shoulder joint aim to prevent injury occurring.

1.

2.

(2 marks)

(Total 3 marks)

Q9. The image shows a performer weight training. This movement is brought about by the muscular and skeletal systems working together.



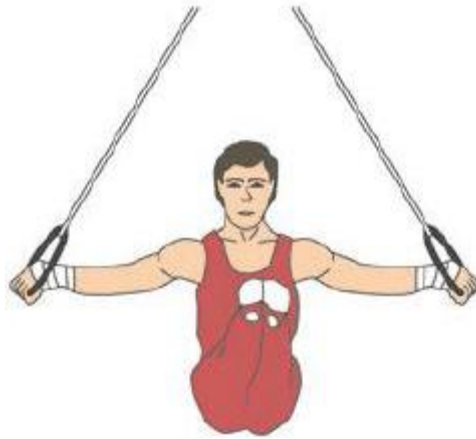
Position A



Position B

Explain how the muscles and bones work together to produce the movement from position A to position B. **(3 marks)**

Q10. The image below shows a gymnast in a crucifix position on the rings.



Complete the table below to identify the type of joint, the main agonist and the joint action at the gymnast's shoulder when in the crucifix position. **(3 marks)**

Type of joint	Main agonist	Joint action

Q11. Movement occurs through a combination of the skeletal system and the muscular system working together

(i) **Explain** what is meant by extension.

Extension

(2)

(ii) Give **two** examples of sporting situations where extension occurs.

Example 1

Example 2

(2)

(iii) Explain what is meant by plantarflexion.

(2)

(iv) Using an example, explain how muscles and bones work together to produce movement.

Example _____

(4)

(Total 16 marks)

Q12. Isotonic muscle contractions produce movement around joints which allow us to participate in many sports.

(i) Identify the two types of isotonic muscle contraction

(2)

(ii) Describe the difference between the two isotonic contractions you have identified above

(4)
(Total 6 marks)

Q13. Describe one function of the cardio-respiratory system.

(2 marks)

Q14. The trachea is a vital part of the respiratory system. Its structure helps it to perform its function.

(i) Explain the function of rings of cartilage and cilia in the trachea

(2 marks)

Q14. Describe what happens during inspiration at rest in the respiratory system.

(3 marks)

Q15. In order for respiration to take place air must be taken in.

(i) **Name two** of the air passages which allow air to enter the body.

One _____

Two _____

(2 marks)

(ii) **Describe** the process of gaseous exchange at the muscles.

(4 marks)

(Total 13 marks)

Q16.

Q17. Jenny is a talented basketball player and plays competitively for her local club. She relies on her cardiovascular system and respiratory system working together effectively.

- (i) Explain fully how the cardio-respiratory system works effectively to supply her with oxygen and get rid of waste products.

[illegible]

