SPECIMEN ASSESSMENT MATERIAL

GCSE
PHYSICAL EDUCATION

Paper 1 – The human body and movement in physical activity and sport

2018 Morning Time allowed: 1 hour 15 minutes

Materials
For this paper you must have:
- a calculator

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 78.
- 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 _____

Answer **all** questions.

For questions with four responses only **one** answer per question is allowed.

For each answer completely fill in the circle alongside the appropriate answer.

CORRECT METHOD  WRONG METHODS 

If you want to change your answer you must cross out your original answer as shown. 

If you wish to return to an answer previously crossed out, ring the answer you now wish to select as shown. 

0 1 Which **one** of these is an immediate effect of exercise?

A Improvement in muscular endurance ⬭

B Improvement in stamina ⬭

C Increase in aerobic fitness ⬭

D Increase in heart rate ⬭

[1 mark]

0 2 Which **one** of these performers relies most heavily on their cardiovascular endurance?

A 200m runner ⬭

B 10 000m runner ⬭

C Discus thrower ⬭

D Long jumper ⬭

[1 mark]

0 3 Which **one** of these shows how to calculate the mechanical advantage of a lever?

A Effort arm x weight (resistance) arm ⬭

B Effort arm ÷ weight (resistance) arm ⬭

C Effort arm + weight (resistance) arm ⬭

D Effort arm - weight (resistance) arm ⬭

[1 mark]

0 4 Which **one** of these describes flexibility?

A Changing direction at speed with control ⬭

B Combination of strength and speed ⬭

C Range of movement possible at a joint ⬭

D Supplying oxygen to the working muscles ⬭

[1 mark]

Turn over for the next question

0 5 Which **one** of these causes plantar flexion at the ankle?

A Gastrocnemius ⬭

B Hamstrings ⬭

C Quadriceps ⬭

D Tibialis anterior ⬭

[1 mark]

0 6 Which bones are found at the shoulder joint?

A Femur and tibia ⬭

B Humerus and radius ⬭

C Scapula and humerus ⬭

D Tibia and fibula ⬭

[1 mark]

0 7 Which bones are found at the elbow joint?

A Femur and tibia ⬭

B Humerus and radius ⬭

C Scapula and humerus ⬭

D Tibia and fibula ⬭

[1 mark]

0 8 Using an example from a sport of your choice, identify the **two** types of movement that can occur at a hinge joint.

[4 marks]

1.

2.

0 9 Breathing enables gaseous exchange to occur at the alveoli.

Outline how **two** features of the alveoli assist in gaseous exchange.

[2 marks]

1.

2.

1 0 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.

1 1 **Figure 1** Shows a young athlete running. The running action involves the use of many joints within the body.

Figure 1

1 1 . 1 Identify the type of synovial joint working at the shoulder.

[1 mark]

1 1 . 2 Outline how **two** of the features of the shoulder joint aim to prevent injury occurring.

[2 marks]

1.

2.

1 1 . 3 Identify the plane **and** the axis about which the running action takes place.

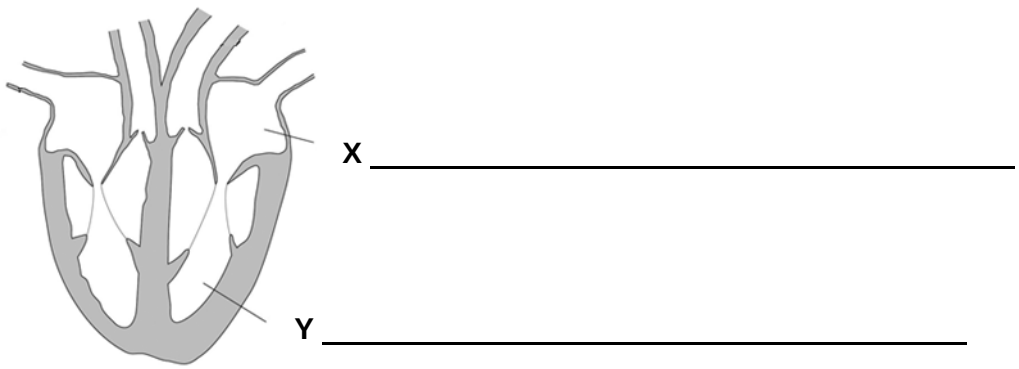
[2 marks]

1 2 **Figure 2** shows a diagram of the heart.

Using **Figure 2**, identify the names of the chambers of the heart labelled **X** and **Y**.

[2 marks]

Figure 2



1 3 Define cardiac output.

[1 mark]

1 4 In 1999, Michael Johnson set a new world record for the 400m with a time of 43.18 seconds.

1 4 . 1 Justify why his performance was mainly aerobic or anaerobic.

[4 marks]

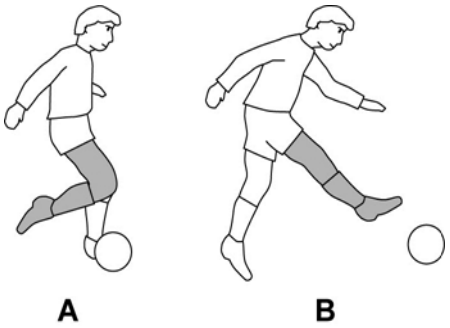
1 4 . 2 Athletes work at a percentage of maximal heart rate when training.

How is maximal heart rate calculated?

[1 mark]

1 5 **Figure 3** shows a person kicking a football.

Figure 3



1 5 . 1 Complete **Table 1** to show the joint action occurring at the knee from position **A** to position **B and** the agonist muscle group that causes this action.

[2 marks]

Table 1

Joint action	Agonist muscle group

1 5 . 2 The vertical jump test measures leg power.

Discuss the suitability of this test for a football player.

[3 marks]

1 6 Zack is a 16-year-old GCSE PE student. He is just about to play a game of basketball for his school team.

1 6 . 1 Zack's respiratory system will experience a number of changes before and during the game of basketball.

Define the terms tidal volume **and** residual volume.

[2 marks]

1 6 . 2 Outline what will happen to Zack's tidal volume **and** residual volume once exercise starts.

[2 marks]

1 6 . 3 **Figure 4** shows a basketball player jumping to execute a shot.

Figure 4

Draw the lever system which operates at the ankle joint in the space below. Label the fulcrum, effort and load.

[1 mark]

1 6 . 4 Discuss the appropriateness of continuous training for a games player like Zack.

[4 marks]

1 7 Training in sport is often structured into seasons.

Outline **two** reasons why performers take part in pre-season training.

[2 marks]

1.

2.

1 8 Fitness testing is often used as a motivational tool.

1 8 . 1 State **two** other reasons why fitness testing is carried out.

[2 marks]

1.

2.

1 8 . 2 The Illinois Agility Test is a maximal test that measures agility.

Describe how to carry out this test.

[2 marks]

1 9 Before carrying out a weight training session using heavy weights, Robert carries out an appropriate warm up, including stretching of the major muscles that will be used.

1 9 . 1 Explain what other factors Robert should consider to reduce the chance of injury occurring during the session.

[3 marks]

1 9 . 2 **Figure 5** shows a performer weight training. This movement is brought about by the muscular and skeletal systems working together.

Figure 5

Position **A** Position **B**

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

[3 marks]

1 9 . 3 After performing any period of training, a cool down is important.

Identify **two** parts of an effective cool down.

[2 marks]

1.

2.

2 0 **Table 2** shows the heart rates recorded by a 20-year-old athlete. Heart rates have been recorded every two minutes.

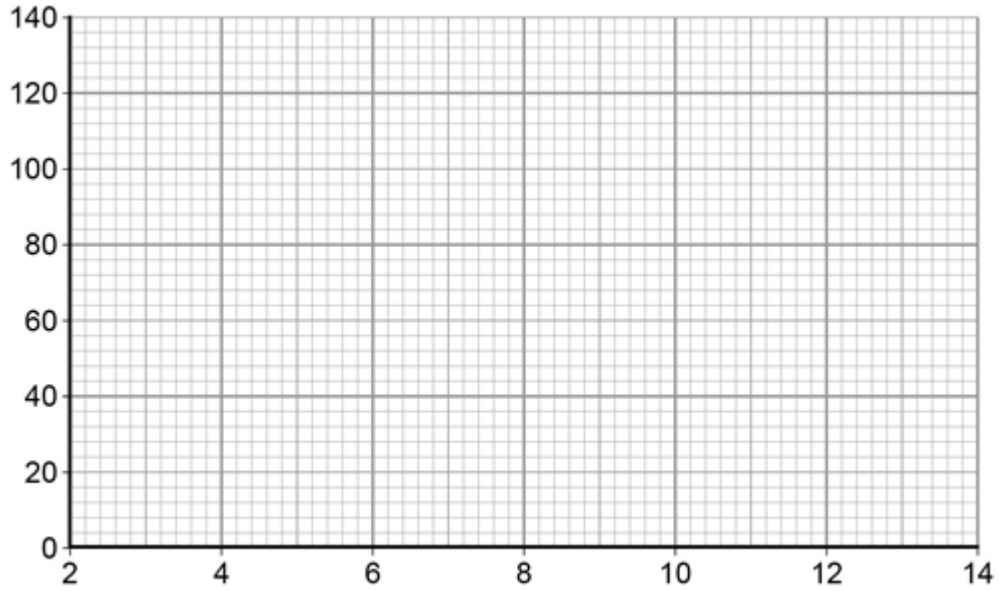
2 0 . 1 Plot the information shown in **Table 2** on the graph paper below to show how heart rate has changed over time. Label the axes and join up the points to make a line graph.

[3 marks]

Table 2 – heart rates recorded by a 20-year-old athlete

Time (minutes)	2	4	6	8	10	12	14
Heart rate (bpm)	80	85	110	115	115	115	85

Heart rates recorded by an athlete



2 0 . 2 Analyse the data shown in **Table 2**. Consider what has happened to the athlete between:

- 4 and 6 minutes
- 6 and 12 minutes.

[2 marks]

2 1 Using your knowledge of agility and reaction time, evaluate the importance of these components of fitness for performers in the 100m sprint.

[6 marks]

Extra space

Turn over for the next question

2 2 With reference to a named sporting activity, outline what plyometric and fartlek training are, and justify why they are both relevant to performers in that activity.

[9 marks]

Extra space

END OF QUESTIONS

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Figure 5 – Copyright © istock images.