

OXFORD CAMBRIDGE AND RSA EXAMINATIONS

Wednesday 15 May 2019 – Morning

GCSE (9–1) Physical Education

J587/01 Physical factors affecting performance

**Time allowed: 1 hour
plus your additional time allowance**

**No additional material is required for this Question
Paper**

Please write clearly in black ink.

Centre number

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Candidate number

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First name(s) _____

Last name _____

READ INSTRUCTIONS OVERLEAF



INSTRUCTIONS

Use black ink.

Answer ALL the questions.

Read each question carefully. Make sure you know what you have to do before starting your answer.

Write your answer to each question in the space provided. If additional space is required, you should use the lined page(s) at the end of this booklet. The question number(s) must be clearly shown.

INFORMATION

The total mark for this paper is 60.

The marks for each question are shown in brackets [].

Quality of extended response will be assessed in the question marked with an asterisk (*).

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SECTION A

Answer ALL the questions.

- 1 A warm up prepares the body for physical activity by increasing the temperature of the muscles.

Describe TWO other physical benefits a warm up has on the muscular system.

1. _____

2. _____

[2]

- 2 (a) State the function of valves in the heart.

_____ [1]

- (b) The bicuspid and tricuspid valves are structures in the heart.

Name ONE other valve in the heart.

_____ [1]

- 3 Identify a synovial joint in the body that allows more than two types of movement.

_____ [1]

- 4 Name the main muscle group used, and the plane of movement passed through, while performing a sit up.

(i) Muscle group:

_____ [1]

(ii) Plane of movement:

_____ [1]

- 5 FIG. 5 shows the performance of a gymnastic move.

FIG. 5



Name the axis of rotation in FIG. 5.

_____ [1]

- 6 Complete the following statement.

The action of a biceps curl is an example of a

_____ class lever. [1]

- 7 FIG. 7 shows a diagram that highlights one plane of movement.

FIG. 7



- (a) Name the movement plane highlighted in FIG. 7.

_____ [1]

- (b) Identify a sporting skill that passes through the movement plane in FIG. 7.

_____ [1]

- 8 Which one of the following describes the correct pathway of air through the respiratory system? [1]**

Put a tick (✓) in the box next to the correct answer.

A Mouth, trachea, bronchiole, bronchi, alveoli

☐

B Nose, trachea, bronchi, bronchiole, alveoli

☐

C Mouth, trachea, alveoli, bronchi, bronchiole

☐

D Nose, bronchi, bronchiole, trachea, alveoli

☐

- 9 A wet and slippery floor in a sports hall is a potential hazard.**

Identify TWO other hazards in a sports hall.

1. _____

2. _____

[2]

- 10 Power is an important component of fitness required in many sports and can be measured by using the standing broad jump test.**

Name another suitable test for power and describe ONE feature of this test.

(i) Name of test:

_____ **[1]**

(ii) Feature of test:

_____ **[1]**

- 11 Describe the following key components of a warm up using a practical example for each.**

(i) Mobility:

_____ **[1]**

(ii) Dynamic movements:

_____ **[1]**

12 A cricket player has just caught a hard ball.

Name a bone in the hand that is at risk from injury as a result of the impact of the ball being caught.

_____ [1]

13 Flexion and extension are two types of movement which are involved to allow circumduction around a joint.

Name the other THREE movements needed for circumduction around a joint to occur.

1. _____

2. _____

3. _____

[1]

14 Describe ONE difference between aerobic and anaerobic exercise.

Give a practical example of each type of exercise.

Difference: _____

Example of aerobic exercise: _____

Example of anaerobic exercise: _____ [2]

15 Define stroke volume.

_____ [1]

16 During exercise cardiac output changes.

(i) Explain what is meant by the term cardiac output.

_____ [1]

(ii) State how cardiac output changes during exercise.

_____ [1]

17 Describe the role of tendons during physical activity.

_____ [1]

18 (a) Describe capillarisation.

_____ [1]

(b) Capillarisation is a short term effect of exercise.

Is this statement true or false? Draw a circle around your answer. [1]

TRUE

FALSE

19 Name the type of interval training used when a performer alternates between short bursts of speed followed by periods of recovery.

_____ [1]

20 Give ONE example of personal protective equipment that will protect the cranium.

_____ [1]

SECTION B

Answer ALL the questions.

- 21 (a) FIG. 21.1 shows the national norms for the sit and reach test for 16–19 year olds.

FIG. 21.1

Gender	Excellent	Above average	Average	Below average	Poor
Male	>14	11–14	7–10	4–6	<4
Female	>15	12–15	7–11	4–6	<4

FIG. 21.2 shows a set of sit and reach results for a GCSE PE class.

FIG. 21.2

Name	Gender	Age	Measurement
Emma	Female	16	15.5
Abdul	Male	16	9.5
Olivia	Female	16	11
Noah	Male	16	12
Farah	Female	16	16
Liam	Male	16	3.5

- (i) Name the fitness component that is measured using the sit and reach test.**

_____ **[1]**

- (ii) Using the values in FIG. 21.1 state how many students in FIG. 21.2 are in the average range.**

_____ **[1]**

- (iii) Analyse the results in FIG. 21.2 and suggest reasons for the differences between students who were scored as excellent compared to those who were given a poor rating.**

_____ **[2]**

(b)* Specificity is one principle of training that would allow a gymnast to focus on relevant exercises suited to their routine.

Using practical examples, explain the use of other principles of training in a gymnastic training programme.

Evaluate reasons why some gymnasts may use beta blockers within their training programme. [6]

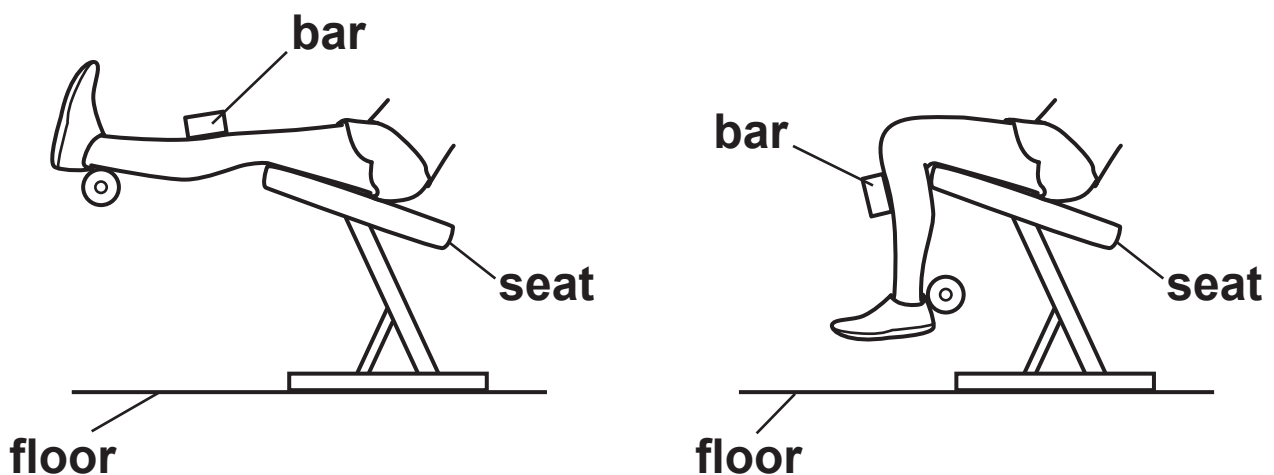
22 (a) Describe, using a sporting example for each, how the skeleton allows the following functions.

Protection:

Movement:

[2]

(b) FIG. 22



(i) Name the leg muscle that contracts during the extension phase of the exercise in FIG. 22.

[1]

(ii) Explain how the pair of muscles at the knee work together during the extension phase of the exercise in FIG. 22.

[2]

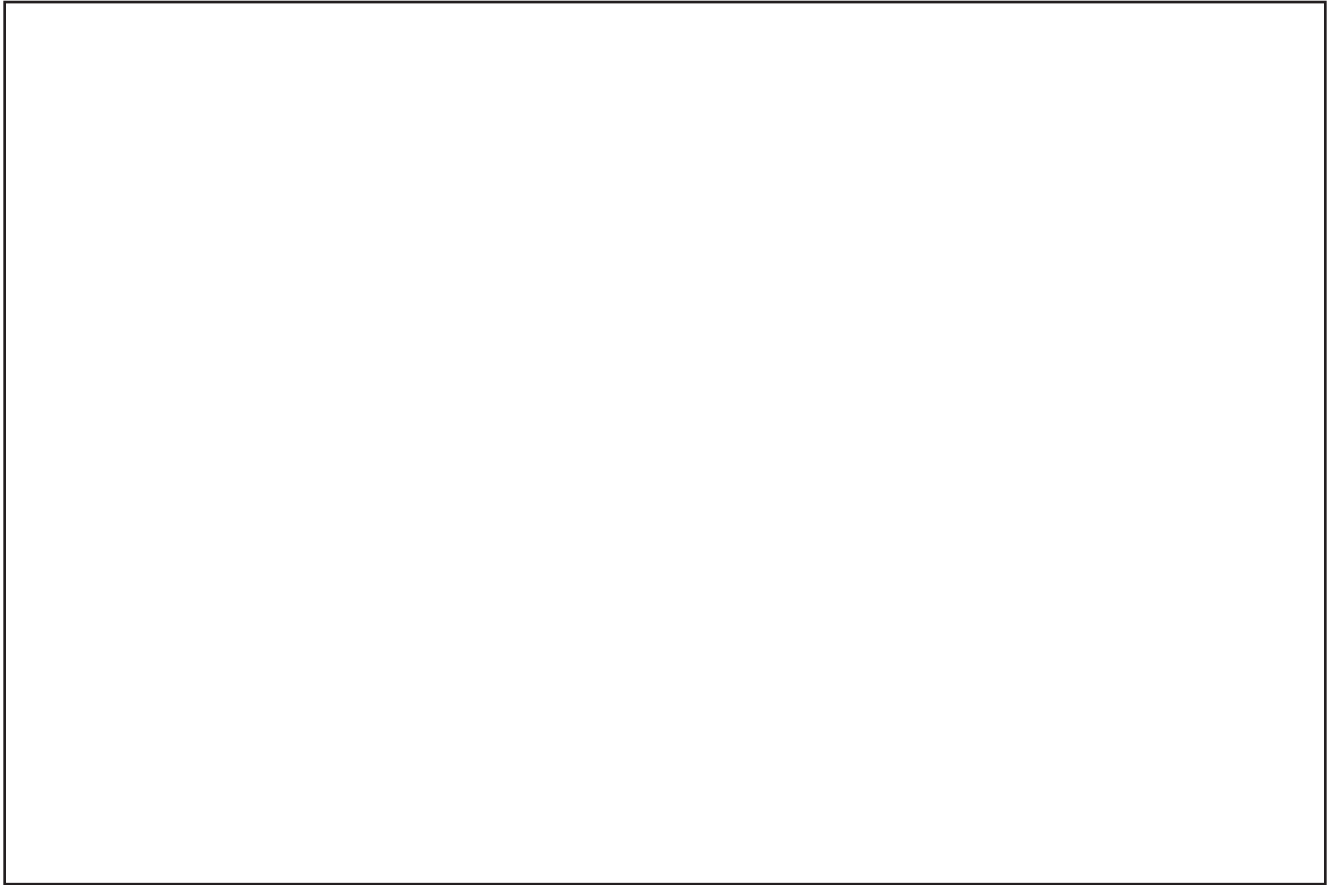
(iii) Name the TWO articulating bones at the hip during the movement in FIG. 22.

1. _____

2. _____

[2]

(c) In the box below, draw and label the lever system used at the neck when heading a ball in football. [3]



[5]

(b) (i) Describe the differences between the pulmonary artery and the pulmonary vein.

[4]

(ii) Name the blood vessel responsible for returning deoxygenated blood back to the heart and into the right atrium.

_____ [1]

END OF QUESTION PAPER

ADDITIONAL ANSWER SPACE

If additional space is required, you should use the following lined page(s). The question number(s) must be clearly shown in the margin(s).



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