OCR
Oxford Cambridge and RSA

GCSE (9–1) Physical Education

J587/01 Physical factors affecting performance

Practice paper

Time allowed: 1 hour

No additional material is required for this Question Paper

First name										
Last name										
Centre number						Candidate number				

INSTRUCTIONS

- Use black ink.
- Answer **all** the questions.
- Complete the boxes above with your name, centre number and candidate number.
- 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, use the lined page(s) at the end of this booklet. The question number(s) must be clearly shown.
- Do **not** write in the barcodes.

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 (*****).
- This document consists of **16** pages.

Section A

Answer **all** the questions.

1 The knee is an example of a synovial joint.

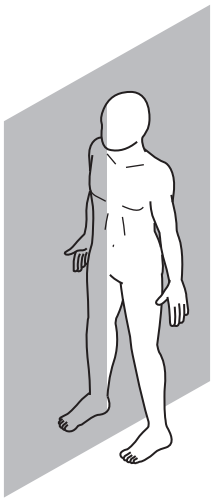
Complete the table below for the knee joint.

Type of joint (other than synovial)	Articulating bones	Movements available
(i).....	Femur and **(ii)**.....	**(iii)**..... and Extension

[3]

2 **Fig. 1** shows a diagram that highlights one plane of movement.

Fig. 1



(a) Name the plane of movement highlighted in **Fig. 1** above.

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[1]

(b) Give a practical example of a skill that passes through the plane of movement above.

.....

[1]

3 Name the fitness component that can be measured using the 'stork stand' test.

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[1]

4 Which **one** of the following muscles is located in the upper part of the human body?
Put a tick (✓) in the box next to the correct answer.

(A) gastrocnemius ☐

(B) gluteals ☐

(C) hamstrings ☐

(D) pectorals ☐

[1]

5 Arteries have a thick layer of muscle compared to the thin muscular walls of veins.

Other than thickness, describe **two** other differences between arteries and veins.

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[2]

6 Footballers will often use jogging as a pulse raiser and stretch various muscles to increase flexibility.

Other than pulse raising and stretching, complete **Table 1** below identifying **two** other key components of a warm up, giving a practical example for each component.

Table 1

Warm up component	Practical example
1.....	.....
2.....	.....

[2]

7 Which **one** of the following are the correct elements of FITT?
Put a tick (✓) in the box next to the correct answer.

(A) Frequency, Intensity, Time and Tedium ☐

(B) Frequency, Interval, Type and Time ☐

(C) Frequency, Intensity, Type and Tedium ☐

(D) Frequency, Intensity, Time and Type ☐

[1]

8 A short-term effect of exercise is the hypertrophy of muscle.

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

True **False**

[1]

9 Which **one** of the following practical examples is **TRUE**?
Put a tick (✓) in the box next to the correct answer.

(A) Concussion is a hazard when a gymnast falls after their vault ☐

(B) Overload is training too hard in an exercise class ☐

(C) A tennis serve is an example of circumduction at the elbow joint ☐

(D) Heading the ball in football is an example of a 2nd class lever ☐

(E) Adduction is a swimmer moving their arms outwards during the breast stroke ☐

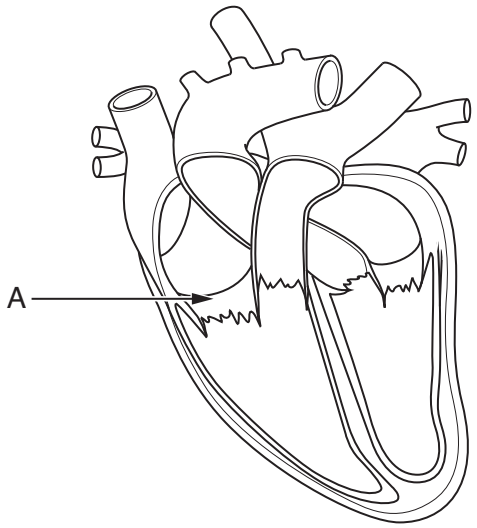
(F) Cooling down after a basketball match prevents the build-up of lactic acid ☐

[1]

10 **(a)** Draw and label an arrow on **Fig. 2** below, indicating the location of the aorta in the heart.

[1]

Fig. 2



(b) Arrow A in **Fig. 2** above shows the location of the tricuspid valve.

Describe the function of the tricuspid valve.

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[1]

11 Using practical examples, describe **two** physical benefits of a cool down.

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[2]

12 Give **one** example of personal protective equipment that will help prevent injury in a physical activity.

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[1]

13 Complete **Table 2** below by using an example to explain how a performer can minimise injury by lifting and carrying heavy sports equipment safely in a fitness centre.

Table 2

Prevention of injury	Example of how risk of injury can be minimised
Lifting and carrying equipment safely	

[1]

14 The heart is divided into the left and right ventricles, which prevents the mixing of oxygenated and deoxygenated blood.

Name the part of the heart that allows this to happen.

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[1]

15 Give **one** practical example of an anaerobic physical activity.

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[1]

16 Use **two** words from the box below to complete the description of plyometrics.

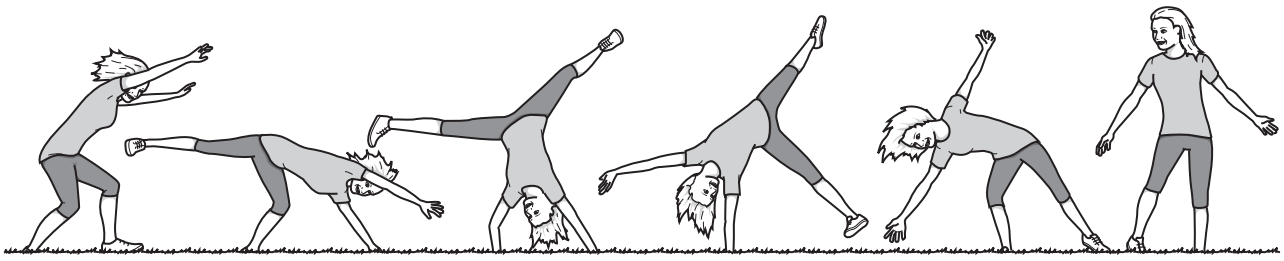
Plyometric exercises consist of ..... and .....

jogging	sprinting	bounding	flexing	frequency
hopping	intensity	extending	stretching	weight training

[1]

17 The performer in **Fig. 3** has just performed a cartwheel.

Fig. 3



Identify the main plane of movement that the performer has passed through during the execution of the skill shown in **Fig 3**.

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[1]

18 Describe the role of the diaphragm during inspiration and expiration whilst taking part in physical activity.

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[2]

19 **Fig. 4** shows a footballer preparing to kick the ball.

Fig. 4

Explain the role of the quadriceps and hamstrings as the footballer prepares to kick the ball.

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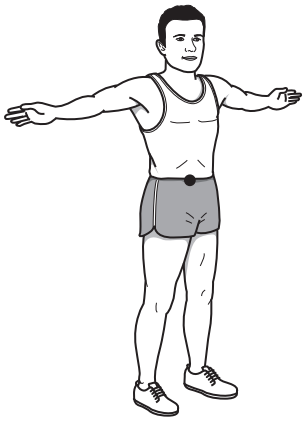
[2]

20 **(a)** Using **Fig. 5** below, draw a line through the centre of the body that represents the longitudinal axis of rotation.

Fig. 5



[1]

(b) Give a practical example of a movement in sport that uses this axis of rotation.

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[1]

Section B

Answer **all** the questions.

21 (a)* Using practical examples from sport, explain the principles of training and goal setting to optimise a personal training programme.

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[6]

(b) The Illinois Agility Test is a suitable test that can measure a performer's agility.

(i) Complete **Fig. 6** by drawing the specified route taken by a performer completing the Illinois Agility Test. **[1]**

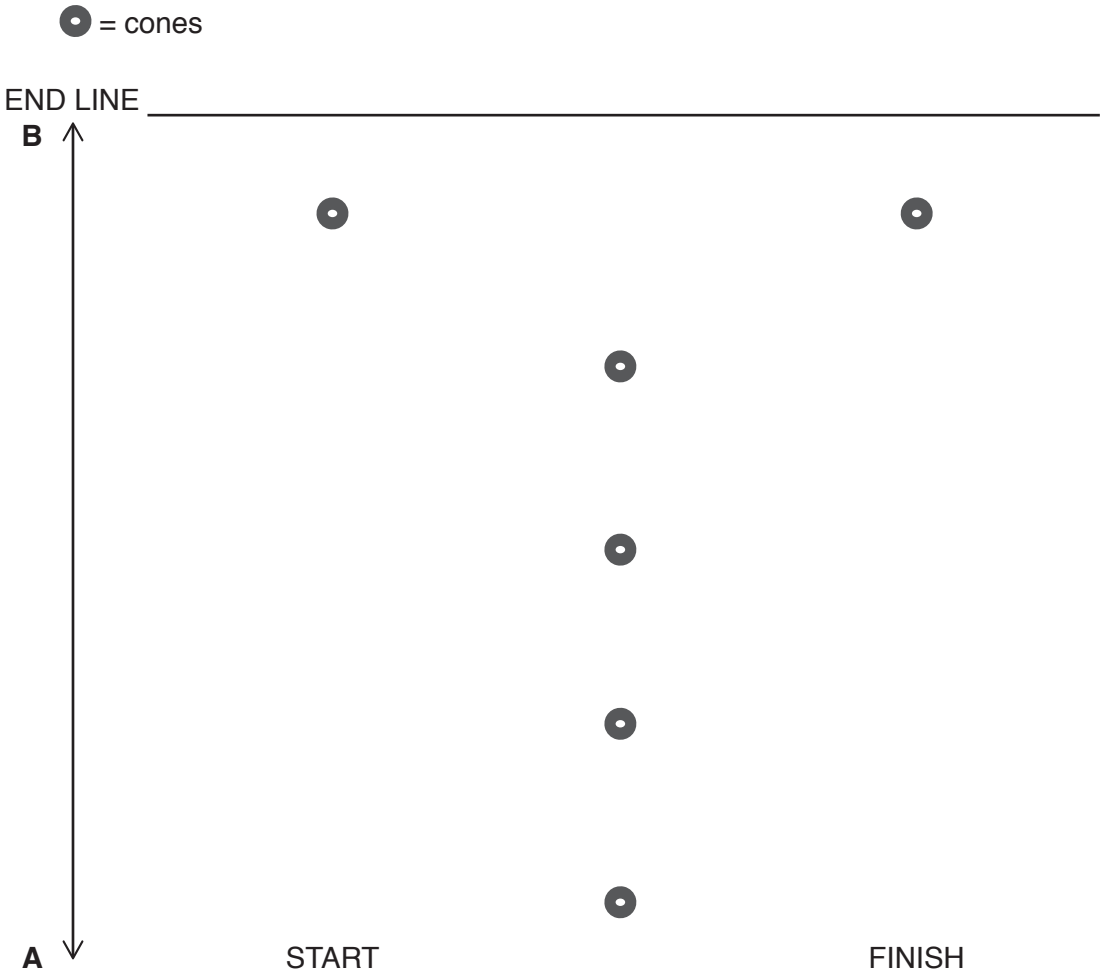

Fig. 6

(ii) Using the Illinois Agility Test, a basketball coach assessed the agility of an under eighteen male and female basketball team. After a 6 week training programme both teams were retested.

Use the tables below to analyse the data and answer the following questions.

Agility Test Rating		
Males	**Females**	**Rating**
<15.2	<17.0	Excellent
16.1-15.3	17.9-17.1	Good
18.1-16.2	21.7-18.0	Average
18.3-18.2	23.0-21.8	Fair
>18.3	>23.0	Poor

Males	Time	Retest time	Females	Time	Retest time
Martin	18.4	18.0	Fayha	17.8	17.7
Paul	15.3	15.2	Mary	22.2	22.4
Andrew	23.5	22.5	Sheila	18.5	18.5
Aakash	17.7	18.1	Siobhan	24.1	23.2
Brian	16.1	16.1	Janet	17.1	17.2

Identify the male with the slowest agility time and the female with the quickest agility time.

Slowest Male:

.....

Quickest Female:

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[1]

(iii) Identify the players who are rated 'good' following the retest.

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[1]

(iv) Identify the player who made the most improvement from the first test to the retest.

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[1]

22 **(a)** Describe the long-term effects of exercise on the respiratory system and how these effects may benefit a marathon runner.

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[5]

(b) Using practical examples, describe the redistribution of blood during exercise.

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[5]

23 (a) (i) Name a practical example from sport of a 3rd class lever system.

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[1]

(ii) In the box below, sketch and label a diagram of a 3rd class lever system.

[3]

(b) Explain the differences between a 2nd class and a 3rd class lever system and describe how they operate to produce movement in sport.

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[4]

(c) Identify the **two** different types of movement that can take place at the shoulder joint.

1. .....

2. .....

[2]

END OF QUESTION PAPER

Additional Answer Space

If you require additional space to complete an answer please use this page. The question number(s) must be clearly shown.