

# GCSE (9–1) Physical Education

J587/01 Physical factors affecting performance

# Wednesday 16 May 2018 - Morning

Time allowed: 1 hour







First name	
Last name	
Centre number	Candidate number

#### **INSTRUCTIONS**

- Write your name, centre number and candidate number in the boxes above. Please write clearly and in capital letters.
- · 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.
- · 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	Describe the function of alveoli.	
		[2]
2	Fig. 1 below shows a diagram of the heart.	
	D. pulmonary vein  tricuspid valve  A. septum	
	Fig. 1	
	Identify the part of the heart that is labelled incorrectly in Fig. 1.	
		[1]
3	Give a definition of a synovial joint.	
		[1]
4	A rugby player will use their shoulder joint when making a tackle.	
	Name the <b>two</b> articulating bones in the shoulder joint that are at risk of injury during a rultackle.	gby
	1	
	2	[2]

		· · · · · · · · · · · · · · · · · · ·	
5	Rev	versibility is a principle of training.	
	Usi	ng a practical example, explain what is meant by the term 'reversibility'.	
			[2]
6		ich <b>one</b> of the following shows the correct distances for the multi-stage fitness test and tl speed?	ne test
	Put	a tick (🗸) in the box next to the correct answer.	
	Α	30 m for the multi-stage fitness and 25 m for the speed test	
	В	20 m for the multi-stage fitness and 25 yards for the speed test	
	С	20 m for the multi-stage fitness and 30 m for the speed test	
	D	30 m for the multi-stage fitness and 30 yards for the speed test	
			[1]
7	Fig	. 2 shows a diagram of the lower leg.	

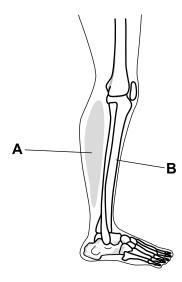


Fig. 2

Identify muscle **A** and bone **B**.

(i)	Muscle A:	[1]
(ii)	Bone <b>B</b> :	[1]

8	Identify <b>two</b> potential hazards in a swimming pool.											
	1											
	2											[2]
9		ation.		•	•							ıdinal axes of
												[3]
10	Giv	eap	ractical	exampl	e where a	erobic end	urance is	s importa	ant in sp	ort.		
				-				-				[1]
11	(a)	Circ	cuit train	ing is a	training me	ethod that	consists	of a ser	ies of ex	xercise st	ations	
		Des	scribe <b>o</b>	ne othe	r feature of	circuit tra	ining.					
												[1]
	(b)				cuit training of the nam					dy by com	pletin	g the diagram
		E	Bicep cu	rls	Lunges	Squa	ats	Press u	ıps	Pull up	S	Step ups
W	/arm	up		Stat	tion 1	Sta	ation 2	<b></b>	Stati	on 3		Cool down

12		rtilage plays an important role in the skeletal system. sess how cartilage helps a marathon runner during performance.	
			[2]
13	Wh	nich class of lever will a weightlifter be using when performing a bicep curl?	
			[1]
14		e performer in <b>Fig. 3</b> below has performed a movement that has passed through thene.	ne frontal
		Fig. 3	
	ls t	this statement true or false? Draw a circle around your answer.	
		True False	
			[1]
15	Wh	nich one of the following statements is false?	
	Put	t a tick (✓) in the box next to the correct answer.	
	A	Fixators help stabilise a joint and prevent unnecessary movement	
	В	Most lever systems in the body are 3 <sup>rd</sup> class	
	С	A common hazard in rugby is concussion	
	D	Fartlek training improves speed and endurance	
			[1]

**16 Fig. 4** shows a diagram that highlights one plane of movement.

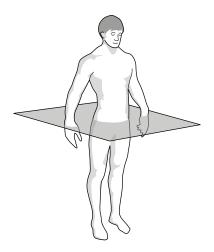


Fig. 4

	Name the movement plane highlighted in <b>Fig. 4</b> above.	
		[1]
17	Describe a suitable cool down for a dancer.	
		[-]
18	Give a practical example of how an appropriate level of competition can prevent injury t performer in a sport or physical activity.	o a
		F41

19 Fig. 5 shows a picture of the foot of a long jumper taking off.

Label Arrows A and B to correctly identify the components of this lever system.

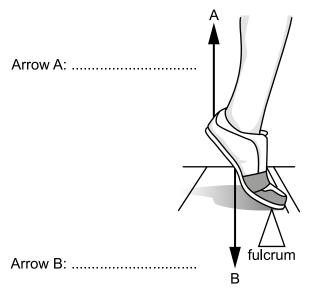


Fig. 5

[1]

**20** The human heart is part of a single-circulatory system.

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

True False

[1]

### Section B

## Answer all the questions.

21	(a)		lain the short term effects on the heart and the blood of a swimmer performing a 100 m t crawl.
			[5]
		(i)	What is meant by the term 'muscular hypertrophy'?
			[1]
		(ii)	Describe other muscular benefits the six month training programme might have for the swimmer.
			[4]

22	(a)	Reaction time and speed are important fitness components required for a 100 m sprinter.	
		Define the fitness components of reaction time and speed and explain their importance 100 m sprinter.	
			[4]

ć	Before an athlete participates in a sprint they will complete a warm up to prepare their and mind for the race.
	Using practical examples, describe the components of a warm up and evaluate the differential preparation techniques that could be used to fully prepare the athlete for the race
•	
•	
•	
•	
•	
•	

23 Fig. 6 below shows the respiratory rate for two hockey players before, during and after a match.

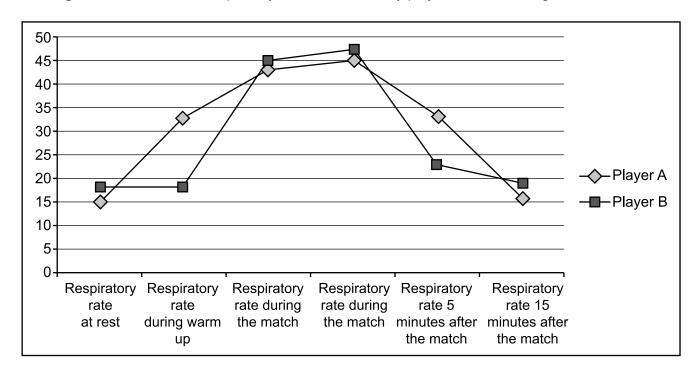


Fig. 6

(a)	Using the information in <b>Fig. 6</b> , analyse how the two players' respiratory rates compare and why they may be different.
	[3]

(b)	Explain the role of respiratory muscles during inspiration while player A is performing in the hockey match.
	[4]
(c)	Analyse the effects that lactic acid could have on the performance and recovery of the hockey players.
	[3]

#### 13

### **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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