

General Certificate of Secondary Education 2013

71
Candidate Num

Physical Education

[G9741]

TUESDAY 14 MAY, AFTERNOON



TIME

1 hour 30 minutes.

INSTRUCTIONS TO CANDIDATES

Write your Centre Number and Candidate Number in the spaces provided at the top of this page.
Answer **all** questions.

INFORMATION FOR CANDIDATES

The total mark for this paper is 100.

Figures in brackets printed down the right-hand side of pages indicate the marks awarded to each question or part question. Quality of written communication will be assessed in questions 12 and 25(a).

	miner's only
Page Number	Marks
2–3	
4–5	
4–5 6–7	

10-11

12–13 14–15 16–17

18-19

Total	
Marks	



1	Complete the stater following list.	ment belov	v by choosing	the correct word from	the	Examiner Only Marks Remark
	at	ttitude	happiness	health		
	av	vareness	physical	shock		
	The World Health C	rganisatio	n defines hea	lth as a state of		
	complete		,	mental and social well-	being. [1]	
2	Over the past year,	John ran l	ots of 10 km r	aces.		
	Underline the state improvement in ph			emonstrates John's		
	(a) John doesn't fe	el tired at t	he end of his	10km races.		
	(b) John keeps run	ning the 10	0km races wi	th improving running te	chnique.	
	(c) John is not out	of breath a	it the end of h	nis 10 km races.		
	(d) John's heart rat zone.	e during 1	0 km races st	ays within his target he	art rate	
	(e) John keeps run	ning perso	nal best time	s in his 10 km races.	[1]	
3	Which one of the fo	ollowing ter	ms is most cl	osely linked with learn	ing a	
	pr	actice	strength	diuretics		
	flex	kibility	peaking	relaxation		
	The term		i:	s most closely linked w	ith	
	learning a skill.				[1]	
4	Calcium is a minera take as it helps kee			d in the food/drinks that properly.	it we	
	Name one other makeep our bodies fur	-		ed from our food/drink to	o help	
					[1]	

Vhich one of the terms, high in carbohydrate , high in fat , or high protein best describes potatoes ?	Marks R
Potatoes are best described as being high in	
	[1]
The number of kilocalories that a person needs depends on a numb actors. One factor is the person's metabolism .	er of
Vhat is a person's metabolism?	
A person's metabolism is	
	[1]
Vhich one of the following should be part of a normal, healthy diet	?
high salt intake high fat intake	
high fibre intake high sugar intake	
is linked with a healthy d	liet. [1]
Which one of the following terms is normally linked with long-term of eating?	over-
anorexia nervosa obesity bingeing	
health bulimia malnutrition	
	[1]

9	vvn	ich component of cigarette smoke:		Examine Marks	er Only Remark
	(a)	takes the place of oxygen in the red blood cells?		Marks	Remark
			[1]		
	(b)	carries the irritants that damage the cilia?			
			[1]		
	(c)	raises the heart rate?	F.4.3		
			[1]		
10		nking too much alcohol over a prolonged period of time can affect a son's health.			
		re one reason to account for the limit for "low-risk drinking" being up ee units per day for men but only up to two units per day for wome			
			[1]		
11	and	te two effects that sleep deprivation (lack of sleep) can have on head/or performance.			
	1				
	2				
			[1]		

12	We all have personal characteristics that distinguish us from others, for example, introverts compared to extroverts. Likewise, sports have characteristics that distinguish them from others, for example, archery compared to ice hockey.	Examii Marks	ner Only Remark
	Explain why the sport of archery may best suit introverts and why the sport of ice hockey may best suit extroverts .		
		_	
		_	
		_	
		_	
		_	
		_	
		_	
		_	
		_	
	[6]	

Examiner Only Marks Remark

(a)	Energy of	can be prod	duced aero	bically or	anaerobica	lly.		Examiner Only Marks Rema
				_		st matches he by elite athle		
	Choose	from the fo	llowing eve	ents				
SI	hot put	100 m	200 m	800 m	5000 m	Marathon		
			Tal	ble 1				
	Aerobic	/Anaerobi	c Ratio		Event			
	50% Aero	bic/50% A	naerobic				-	
3	85% Aero	bic/15% A	naerobic					
,	1% Aerob	ic/99% An	aerobic				[3]	
							[3]	
(c)	Running	can be eit	her an aero	bic activit	y or an anae	robic activity.		
	What ma	akes runnir	ng an anae i	robic activ	vity?			
	Running	is an ana	erobic activ	vity when _				
							_ [2]	

Nar	ne the component of physical fitness that:	Examiner Only Marks Remark
(a)	contract and relax quickly.	[4]
(b)		
1	Aerobic energy production Anaerobic energy production	
	Muscular power Muscular strength	
	Muscular endurance Flexibility	
(a)	Sprinting flat out for 50 metres.	
	This is an example of	[1]
(b)	Slowly lifting a heavy object up off the floor.	
	This is an example of	[1]
	(a) Usin fitne	(b) produces maximum force, or a considerable force, with speed in an explosive effort. Using the following list, choose the correct component of physical fitness for each of the activities given below. Aerobic energy production Anaerobic energy production Muscular power Muscular strength Muscular endurance Flexibility (a) Sprinting flat out for 50 metres. This is an example of

7 (a)	Explain how the heart rate reacts over a period of 30 minutes of continuous steady pace training. Use heart rates to help you exp this.	lain	Examin Marks	er Or Rem
		_ [2]		
(b)	Explain how the heart rate reacts over a period of 30 minutes of fartlek training. Use heart rates to help you explain this.			
		[2]		

Interval training can be used to improve anaerobic fitness.			Examiner Only		
change and explain why you woul	d change them to make the workout		Marks	Remark	
Explain how static flexibility exerc	sises are performed passively .				
		[2]			
	Study the following interval training change and explain why you would most effective for improving anaer. Interval training workout Distance: Intensity: Repetitions: Recovery time between repetitions:	Study the following interval training workout. State two things you would change and explain why you would change them to make the workout most effective for improving anaerobic fitness. Interval training workout Distance: 200 m Intensity: 75% of maximum heart rate Repetitions: 4 Recovery time between repetitions: 20 seconds	Study the following interval training workout. State two things you would change and explain why you would change them to make the workout most effective for improving anaerobic fitness. Interval training workout Distance: 200 m Intensity: 75% of maximum heart rate Repetitions: 4 Recovery time between repetitions: 20 seconds [6] Explain how static flexibility exercises are performed passively.	Study the following interval training workout. State two things you would change and explain why you would change them to make the workout most effective for improving anaerobic fitness. Interval training workout Distance: 200 m Intensity: 75% of maximum heart rate Repetitions: 4 Recovery time between repetitions: 20 seconds [6] Explain how static flexibility exercises are performed passively.	

(a)	Explain the principle of overload that is used to develop physical fitness.	Exami Marks
(b)	Explain how the "FITT" principle can be used to apply the principle overload to improve physical fitness.	
		[3]

21	(a)		plain the two different ways you can use time and distance to stests to monitor aerobic fitness levels.	set	Examin Marks	er Only Remark
		Firs	st way			
				[3]		
		Sec	cond way	1-1		
				[3]		
	(b)		ich components of physical fitness would the following tests asure?			
		(i)	Test 1 The number of press-ups or push-ups done in 60 secon	nds.		
			This test would measure muscular	[1]		
		(ii)	Test 2 The Standing Broad Jump (two footed long jump)			
			This test would measure muscular	[1]		

22 (a)	$\label{eq:Ventilation} \textbf{Ventilation} = \textbf{Frequency of breaths/minute} \times \textbf{volume of air taken in each breath.}$	Examiner Only Marks Remark
	When you start to exercise, e.g. run, your ventilation increases. Explain this.	
	[2]	
(b)	As a result of regular aerobic exercise, you are able to take more oxygen into your lungs with each breath. Explain what physical changes take place to allow this to happen.	
	[2]	
(c)	As a result of regular aerobic exercise, the surface area for gaseous exchange is increased. Explain what physical changes take place to allow this to happen.	
	[2]	

	Clearly describe four different things that a sports person can do to minimise the risk of getting injured from playing four different sports . Examine Marks						
1.	Name of sport						
Ad	ction to minimise the risk of injury in this sport						
		_ [1]					
2.	Name of sport						
Ad	ction to minimise the risk of injury in this sport						
		_ [1]					
3.	Name of sport						
Ad	ction to minimise the risk of injury in this sport						
		_ [1]					
4.	Name of sport						
Ad	ction to minimise the risk of injury in this sport						
		_ [1]					

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(Questions continue overleaf)

24	Study the following cool-down which was suggested as being appropriate after a hard weight training workout in the gym. The purpose of the workout was to improve muscular strength. Answer the question that follows.		Examin Marks	er Only Remark
	 Details of the cool-down: Do 5 minutes hard running on the treadmill; 5 minutes hard cycling; 5 minutes hard rowing and 5 minutes hard work on a cross-trainer. This will provide a change from the weight training and will gradually lower the pulse rate. Do 2 sets of 30 repetitions for each of the exercises performed in the weight training workout but with a lighter weight (15 RM). This will be easy work for the muscles and will also help the person to develop muscular endurance. Do 2 minutes of mobility exercises for each of the major joints. These will warm up the synovial fluid surrounding the joints and allow the joints to move freely. Do static flexibility exercises to stretch the major muscles of the body. Hold each stretch for 20–30 seconds. Repeat each exercise once. Evaluate (judge) the suitability of each stage of the cool-down. Explain what you find right or wrong with each stage and what you would recommend should be done. 			
		-		
		_		

	Examin Marks	er Only Remark
[12]		

25	Your 60 m	friend wants to complete a 10 km charity fun run in 6 weeks time . friend can consistently and without too much effort run 10 km in inutes, so the challenge is to complete this charity 10 km run in inutes.	Examiner On Marks Rem	
		State and briefly explain the advice that you would give to your friend with regard to the following:		
		The type of exercise that your friend should do in the workouts over the six weeks. The method of training that would be most appropriate for your friend to use over the six weeks. The frequency of the workouts over the six weeks. The intensities of the workouts over the six weeks. The times to be spent exercising in the workouts over the six weeks.		
		[10]		

(b) Apply your advice to what would, in reality, be done over the training period. Complete the following grid to show what your friend has to do in each work out. [9]

Examiner Only					
Remark					

	Sun	Mon	Tue	Wed	Thu	Fri	Sat
Week 1							
Week 2							
Week 3							
Week 4							
Week 5							
Week 6							

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