

General Certificate of Secondary Education 2011

Physical Education

[G9741]

TUESDAY 24 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.

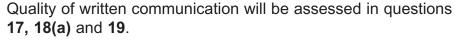
You are provided with a Resource Booklet for use with questions **17** and **18**.

Do not write your answers on the Resource Booklet.

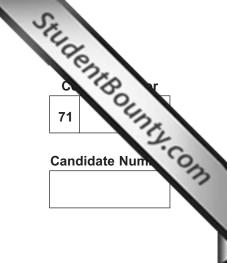
INFORMATION FOR CANDIDATES

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.







For Examiner's use only			
Page Number	Marks		
2–3			
4–5			
6–7			
8–9			
10–11			
12–13			
14–15			
16			
Total Marks			

6599

1 Explain **two** things that a person can do to promote **physical health**.

1	
	[2]
2	
	[2]

Examiner Only Marks Remark

2 Foods are composed of various combinations of carbohydrates, fats, proteins, vitamins, minerals, dietary fibre and water.

Use a tick (\checkmark) to match each of the following foods to its most appropriate component in the table.

	Components						
Foods	Carbohydrate	Fats	Proteins	Vitamins & minerals	Dietary fibre	Water	
Nuts							
Butter							
Chicken meat							
						[3]	

3	Study the following figures and choose which combination (a)–(e) is closest to being a balanced, healthy diet. Underline your answer.		Examin Marks	er Only Remark
	(a) 30% fats; 20% proteins and 50% carbohydrates			
	(b) 25% fats; 15% proteins and 60% carbohydrates			
	(c) 10% fats; 25% proteins and 65% carbohydrates			
	(d) 15% fats; 25% proteins and 60% carbohydrates			
	(e) 20% fats; 30% proteins and 50% carbohydrates	[1]		
4	Explain how the carbon monoxide in tobacco smoke makes the task of climbing stairs more difficult.			
5	Drinking too much alcohol over a prolonged period of time can lead to	 _ [2]		
J	serious health problems. State two.			
	1	[1]		
	2	[1]		

Explain how some foods or drinks which, when taken before going could affect a person's quality of sleep.	to bed, Examiner Marks R
	[2]
Explain why many people today have to plan sufficient and approp exercise into their lifestyles in order to keep their bodies healthy ar good working order.	
	[2]
As a result of regular and appropriate exercise, physical changes to place within the circulatory system . How do these changes help i aerobic performance?	
	[2]

9							•	te the paragra e than once.	ph	Examin Marks	er Only Remark	
	en	durance w	vork n	erves	physic	al effort	urea	musculate	ory			
		oxygen	nutrien	its c	irculator	y brea	thing	respiratory				
	Aer	obic energy	y is produ	uced wi	th the bo	dy's use o	of oxyge	en.				
	Aer	obic energy	y product	ion is d	letermine	d by the a	ability of	-				
	the			an	ıd			systems to				
	deliv	ver			_ and			to the				
	wor	king muscle	es and th	ne abilit	y of the v	vorking m	uscles t	o use the				
	sup	ply.							[2]			
10	max with	maximum Describe t and explai	hing spee effort an he physio in how th etween a	ed then id jump cal dem ie energ	to take o as far as nands of t gy will be	ff from on s possible the run-up produced	e foot o to land o for the l for it (i	in the board in the sand.	y [2]			
	(b)	board and	l explain e importa	the type ince of	e of muse	cular fitne	ss requi	one foot on th ired for it (i.e. r strength and				
6599										[Tur	n over	

11	(a)	Using an appropriate type of exercise, describe how the continuous steady pace method of training can be effectively used to develop aerobic fitness.	[2]	Examine Marks	er Only Remark
	(b)	In using weight training to develop muscular fitness, what decisions do you have to make for each weight training exercise for it to be effective?			
6500					

Intensities	> 95% MHR 80–85% MHR 70–75% MHR 60–65% MHR < 60% MHR
Work times	> 20 minutes 15–20 minutes 3–5 minutes 60–90 seconds 10–30 seconds
Repetitions	Perform once no repetitions 3–5 repetitions 8–10 repetitions 13–20 repetitions >20 repetitions
Work/Recovery	Ratio > 1:10 Ratio of 1:10 Ratio of 1:4 Ratio of 1:1 No recovery time
Sets	5 sets (10 mins rest between) 4 sets (10 mins rest between) 3 sets (10 mins rest between) 2 sets (10 mins rest between) 1 set

Resource 1

Using the information in **Resource 1**, select the most appropriate intensity, work time, number of repetitions, work/recovery ratio and number of sets to show how **interval training** should be used to effectively develop **aerobic fitness** and **anaerobic fitness**. Write your answers in the table below.

Factors to consider	To effectively use interval training to develop aerobic fitness	To effectively use interval training to develop anaerobic fitness
Intensities		
Work times		
Number of Repetitions		
Work/Recovery ratios		
Number of sets		

[10]

[Turn over

Examiner Only Marks Remark **13** Study **Resource 2** below. Show that you can apply the principle of progressive overload appropriately and effectively to **develop muscular power**. Write your answers in the table and explain your decisions.

	Resource 2				
Weeks	Weight	Repetitions			
Weeks 1–3	40 kg	5			
Weeks 4–6					
Weeks 7–9					
	1	1			

The explanation for my decisions:

_____ [4]

Examiner Only

Marks Remark

14		fitness test results to be valid and reliable there are certain principles t must be followed.	Examiner Only Marks Remark
	(a)	Principle 1 The tests selected (or designed by you) should be suitable for the purpose.	
		Using an example explain this principle with regard to the fitness test results being valid.	
			,
	(b)	[3 Principle 2]
	()	The protocol (procedures and rules) for the tests must be followed strictly.	
		Using an example explain this principle with regard to the fitness test	

Using an example explain this principle with regard to the fitness test results being reliable.

_____[3]

[Turn over

15 When a person starts to exercise vigorously the muscles demand more Marks Remark oxygen to allow them to work at this higher work rate. The circulatory system responds to ensure that the working muscles get more oxygen. Explain two of its immediate responses. 1. _____ [2] 2. _____ **16** Exercise is an important part of a healthy lifestyle, but it must be done safely for people to benefit. It is important to be aware of hazards and to be able to deal with them. (a) What do you understand a hazard to be? [2] (b) Give an example of a hazard whilst participating in a sport. _____ [1]

Examiner Only

he following are good reasons for John continuing to play		
	[8]	

b) From the information given in the table in Resource 4 , choose two exercises where you think the resistance is definitely too low to	
b) From the information given in the table in Resource 4 , choose two	
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[6] b) From the information given in the table in Resource 4 , choose two	
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b) From the information given in the table in Resource 4 , choose two	
b) From the information given in the table in Resource 4 , choose two	
effectively develop muscular endurance. Explain your choice.	
[2]	
	1

		[2]	

(c) From the information given in the table in **Resource 4**, choose two

Examiner Only

Identify a wide range of opportunities for a person to do a total of at least 60 minutes of aerobic exercise during a normal day. The exercise is not to include training at a gym or the like. The person should be able to remain in whatever clothes they would be wearing at that time.		Examine Marks	er Only Rema
Explain what could be done, at what intensity and for how long.			
	-		
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[10	0]		
	60 minutes of aerobic exercise during a normal day. The exercise is not to include training at a gym or the like. The person should be able to remain in whatever clothes they would be wearing at that time. Explain what could be done, at what intensity and for how long.	not to include training at a gym or the like. The person should be able to remain in whatever clothes they would be wearing at that time.	60 minutes of aerobic exercise during a normal day. The exercise is not to include training at a gym or the like. The person should be able to remain in whatever clothes they would be wearing at that time. Explain what could be done, at what intensity and for how long.

20	prog follo the prin	evaluate the safety, appropriateness and effectiveness of a training gramme for a specific event or sport you need to judge whether the owing principles of training have been applied safely and appropriate principle of specificity; the principle of progressive overload; and the ciple of rest/recovery and the principle of peaking. Explain how you judge whether the principle of specificity has be applied appropriately.	e tely: ne	Examin Marks	er Only Remark
			[2]		
	(b)	Explain how you judge whether the principle of progressive overload has been applied safely and appropriately.			
			[3]		

	Explain how you judge whether the principle of rest/recovery has been applied safely and appropriately.		Examine Marks	er Only Remar
		[3]		
) 	Explain how you judge whether the principle of peaking has been applied safely and appropriately.			
		[3]		
т	HIS IS THE END OF THE QUESTION PAPER			

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Physical Education

[G9741]



TUESDAY 24 MAY, AFTERNOON

RESOURCE BOOKLET

Do not write your answers on this Resource Booklet

Resource 3

FOR USE WITH QUESTION 17

Do not write your answer on this insert

John has just finished school. He has taken a job at a local petrol station near his home. The petrol station is open 24 hours each day and he can be flexible about when he works.

John, his parents and older brother are members of the golf club which is next door to his home. His parents and brother play regularly. John played golf each weekend with some of his friends. While at school John's parents paid his golf fees.

Also while at school he played on the school volleyball team. This involved two practice sessions per week and one match. Now that he has left school, some of his friends, who live beside the volleyball club but twenty miles from him, want him to play volleyball for the club. The club uses the leisure centre as its base and he would be required to attend two set training sessions per week and to play a match each Saturday night.

Resource 4

FOR USE WITH QUESTION 18

Do not write your answer on this insert

ORGANISATION OF THE CIRCUIT

The purpose or objective of the circuit training programme is **to develop muscular endurance** in the major muscles of the body.

The group consists of 14 boys and 6 girls who are all between 16 to 18 years old and in good health.

The venue booked for the group is a purpose-built fitness gym which has a good range of fixed stations as well as free weights.

The group is organised into pairs and each pair works around the circuit where at each station they perform as many repetitions as they can in 30 seconds. Each person can choose a suitable weight/resistance for themselves. One works and the other counts the repetitions and records the number.

They then swap roles for that station. After each of the pair does the three sets, they move to the next station.

The table below shows one person's average number of repetitions done in each of the sets over the first two weeks of the training programme.

Order of Exercises	Average Reps for 1 st Set	Average Reps for 2 nd Set	Average Reps for 3 rd Set
1 Upper body – shoulder and arm exercise	28	29	28
2 Upper body – chest and arm exercise	17	16	16
3 Upper body – back and arm exercise	29	27	30
4 Upper body – upper arm (front) exercise	8	7	4
5 Upper body – upper arm (back) exercise	30	30	29
6 Trunk – upper stomach exercise	15	14	13
7 Trunk lower stomach exercise	14	14	13
8 Trunk – left side exercise	17	15	14
9 Trunk – right side exercise	15	15	15
10 Trunk – back exercise	15	15	14
11 Lower body – hip exercise	26	27	28
12 Lower body – upper leg (front) exercise	18	12	6
13 Lower body – upper leg (back) exercise	28	27	30
14 Lower body – lower leg (back) exercise	16	15	14
15 Lower body – upper and lower leg exercise	8	5	3