

GCSE

Edexcel GCSE

Physical Education (1827)

Summer 2005

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Mark Scheme (Results)

2005 PHYSICAL EDUCATION MARK SCHEME 1827

				REJECT	SUBDIVISION	MARKS
SECTION 1						
1.	a.	D			1	
	b.	C			1	
	c.	B			1	
	d.	A			1	
	e.	B			1	
	f.	B			1	
	g.	C			1	
	h.	D			1	
	i.	C			1	
	j.	A			1	10
SECTION 2						
2.	(a)	(i)	Social		1	3
		(ii)	Physical		1	
		(iii)	Mental		1	
	(b)	(1)	Social e.g.- Co-operation/work with others/ <u>new</u> friends/equiv.	Reasons given in 2(a)	2	6
		(2)	Mental e.g.- Competition/Challenge/working at a higher level/ relieve stress/ increase confidence/ feel better about shape/ equiv.		2	
		(3)	Physical e.g. - Improving performance/ increase fitness/ health/ improve any stated component of H-R exercise e.g strength / equiv. Note to examiners - one mark for each correct benefit, <u>and</u> one mark if benefit matches given category.		2	

				REJECT	SUBDIVISION	MARKS
3.	(a)	(i)	Should increase fitness, therefore improve performance/ equiv. i.e must explain outcome		1	
		(ii)	Better fitness should lead to better performance because can last longer, throw further / equiv. i.e. justification of outcome		1	
	(b)	(i)	reduces blood pressure/ reduces chance of CHD/ reduces cholesterol / reduces asthma/prevent onset of diabetes / reduce chance of obesity		1	
		(ii)	Suppress immune system/ allow ref. to injury/ over exertion could lead to heart attack / induce asthma attack		1	
	(c)	(i)	The range of movement possible at a joint		1	
		(ii)	Accept any from first column of table		1	
		(iii)	Explanation MUST match/be correct for the candidates component		1	
COMPONENT [ii]		EXPLANATION [iii]				
(Muscular) strength		Combines with speed to give power to the shot / not pushed off the ball				
Muscular endurance		Allows him to <u>continue</u> to use his <u>muscles</u> throughout the game/ so the footballer can maintain skill/work rate throughout the game				
Endurance/c-v Endurance/stamina;		Allows him to continue to work <u>throughout</u> the game <u>without tiring/very important in extra time</u>				
Body composition		The correct composition will ensure he is not carrying too much weight/ so that footballer should be able to work harder / longer/ maintain quality of play			4	7

4.				REJECT	SUBDIVISION	MARKS
	PERFORMER	COMPONENT [i]	HOW COMPONENT IS USED [ii]			
A	Hurdler	Agility Reaction time Speed Co-ordination	<ul style="list-style-type: none"> - to change body position quickly to achieve shape over hurdle - to get a better start - complete race in quicker time/equiv. - movement of legs and arms to achieve required shape to clear hurdles without losing much time. 	Agility		
B	Swimmer	Reaction time Speed Co-ordination	<ul style="list-style-type: none"> - Quick start - Complete race quicker than opponent - Movement of arms, legs and breathing to give efficient stroke 			
C	Basketball Player	Agility Reaction time Speed Co-ordination	<ul style="list-style-type: none"> - Change direction to pass opposition/equiv. - See a loose ball quickly/ equiv. - Beat opponent to loose ball/ fast break/ equiv. - Hand/eye to allow successful catch/equiv. 			6
<p>NB: Candidates MUST relate component to athlete - NOT simply give a definition. The table gives typical answers, but is not exclusive if other appropriate justifications have been made</p>						

				Reject	SUBDIVISION	MARKS
5.	(a)	PRINCIPAL	EXPLANATION	APPLICATION	Specific	4
		Overload	Increasing intensity of work/ Work harder	Start by working for 20 secs per station and increase to 25/ equiv/figures showing an increase in workload from one session to the next		
		Specificity	Matching the training to the needs of the activity/ individual/ equiv.	Candidate gives examples of badminton related skills, e.g. shuttle runs, ghosting shots, court movement. Equiv.		
	(b)	(i)	Frequency, Intensity, Time, Type		1	
		(ii)	Increase frequency/inc intensity/inc time		1	
NB: Candidates must have all 4 correct in part [i] for 1 mark, but only need to reference 1 aspect in part [ii]						
	(c)	(1)	Increased capillarisation/ increased ability to transport O ₂	Heart gets bigger	1	
		(2)	Lower blood pressure/inc SV/max cardiac output/drop in resting HR/ heart gets stronger		1	
			Accept any order and any two			
	(d)	(1)	Increased strength/hypertrophy	Muscle gets bigger or description of any improvements	1	
		(2)	Increased endurance/resistance to lactic acid/equiv (Any 2)		1	
						10
6.	(a)		Obese		1	
	(b)		Maintaining calorie input, but not using as much, remainder is stored as fat/equiv		1	2

				Reject	SUBDIVISION	MARKS
7	(a)	(1) (2)	Maintain safety/ reduces chances of injury/equiv Good sporting behaviour/ avoid discipline Any order		1 1	2
8	(a)		Pulse raise/gross body activity Stretching More intense activity matching that to follow in the exercise session/skills practice/ mobilise joints/ introduction to activity - allow in any order	Jogging Sprinting	1 1 1	3
	(b)	(1) (2) (3)	physical preparation / Increase oxygen transport /loosen muscles / Mobilise joints help prevent injury Psychologically prepare for competition	To warm up	3	6
9		(a) (b) (c) (d) (e) (f) (g)	A lack of water/ fluid/ Long distance athletes/equiv Something to drink When the body temperature drops below <u>35°C</u> / The cold/freezing conditions Climber / skier / canoeist / sailing / potholing Any more heat / consciousness		7	7
10	(a)		A - Left Atrium B - Right Ventricle		2	
	(b)	(i) (ii) (iii)	1 and 2 (Any order) arteries/artery thicker walls/ no valves/ more elastic/smaller lumen		2 1 1	6

				REJECT	SUBDIVISION	MARKS
11	(a) (b) (c) (d) (e) (f)		Raise / lift Downwards Increase Warmed/ by the hairs /cilia Gas exchange/diffusion Tidal volume		6	6
12	FUNCTION [i]	EXPLANATION [ii]	HOW FUNCTION AIDS PERFORMANCE [iii]	Produce blood (unless qualified)	2 2 2	6
	Protection	Skull protects the brain/ it protects vital organs	By reducing chances of injury player can continue to play			
	Movement/m uscle attachment	Forms joints/muscles attached to arm so can extend arm to pass ball/equiv	Players need to be able to move in order to 'play game'			
	Blood Production	Makes red blood cells - use to carry oxygen/white cells	More <u>oxygen</u> available can work for longer/fight infection - better performance if healthy/equiv			
13	(a)	(i) (ii) (iii)	A - Ball and socket B - Hinge/Pivot C - Hinge		1 1 1	
	(b)		C - Knee allow elbow/ B if given as hinge joint in B		1	
	(c)		Flexion		1	
	(d)		Flexion and extension Adduction and Abduction Rotation/ circumduction		1 1 1	8

				REJECT	SUBDIVISION	MARKS
14	(a)		Muscles in a state of slight tension waiting to be used/ equiv		1	
	(b)	(i)	Cardiac		1	5
		(ii)	Involuntary/smooth		1	
		(iii)	Voluntary/skeletal		1	
		(iv)	Voluntary/skeletal		1	

SECTION 3						
15	(a)	(i)	Carbohydrates	Fats/Protein/ carbs	1	
		(ii)	Fats/protein - allow Carbohydrates if not given in (i)	carbs	1	
	(b)		Protein		1	
	(c)		Injury-muscle injury/ torn muscle/ strained muscle/ pulled muscle Injury-joint injury/ ligaments/ sprain/ twist Injury-tendon Any two provided from different lines		1 1	
	(d)		RICE/ equiv		1	
	(e)	(i)	Contracts/ relaxes	relaxes/ contracts	2	
		(ii)	Extension	flexion	2	
		(iii)	Quadriceps	hamstrings	2	
	(f)	(i)	Fast twitch		1	
		(ii)	Powerful/contract rapidly (only accept if (f)(i) is correct)		1	
		(iii)	Tire quickly/equiv		1	
	(g)		Periods of work followed by periods of rest Work should be at high level/anaerobic Rest should allow for recovery/aerobic	1 1 1	3	
NB: Credit specific knowledge of sprint interval training in line with above points						
	(h)	(i)	Isometric		1	20
		(ii)	isotonic		1	

				REJECT	SUBDIVISION	MARKS
16	(a)		Person realises the beauty/sensitivity of movement/performance/equiv		1	
	(b)		COMPONENT 1	COMPONENT 2		
		Health related Exercise	Flexibility/ suppleness/ body composition	Strength (any order)		
		Skill related Fitness	Balance	Co-ordination	4	
	(c)		Skill related fitness 1: to maintain the body in position Skill related fitness 2: to allow the gymnast to co-ordinate movement of arms and legs to achieve required shape NB Answer must match candidate component order or candidate must restate component		1 1	
	(d)	(i) (ii)	Wrist Short (only mark if (d) (i) is correct) Very strong (only mark if (d) (i) is correct)		1 1 1	
	(e)		Biceps Extend/straighten Atlas and Axis (1 mark for both) Hip Ligaments tendons		6	
	(f)	(i) (ii)	Prevent her from slipping/ ankle support / Mats/warming up/obeying rules/not doing too difficult moves/use support/not cooling down/ using correct technique / stretching/ correct clothing	Cooling down	1 1	
	(g)	(i) (ii)	Ectomorph/ecto - mesomorph allow mesomorph (if qualified in part ii) Light body weight to allow successful completion of moves. Sufficient muscle to generate power for required moves		1 1	20

				REJECT	SUBDIVISION	MARKS															
17	(a)	(i) (ii) (iii)	Femur Patella Phalanges		1 1 1																
	(b)	(i) (ii) (iii)	Vary/increases /changes Amount of blood pumped out of the heart per min/SVxHR Vary O2 delivery/CO2 removal/ so demand for oxygen is met/equiv	(iii) delivery of blood)	1 1 1																
	(c)	(i) (ii) (iii) (iv)	A lack of oxygen Anaerobically Lactic acid Reduce workload/ breathe more deeply/rapidly Cool down		1 1 1 1 1																
	(d)	(i) (ii) (iii)	Individual differences Progression Reversibility		1 1 1																
	(e)		<table border="1"> <thead> <tr> <th>Method of Training</th> <th>Brief Explanation of Training Method</th> <th>Area of Fitness to be improved through training method</th> </tr> </thead> <tbody> <tr> <td>Continuous</td> <td>Working <u>without rest</u></td> <td>Aerobic fitness/ CV endurance / stamina</td> </tr> <tr> <td>Weight</td> <td>Using weights, completing <u>sets of repetitions</u></td> <td>Strength/ muscular endurance/ power/ speed</td> </tr> <tr> <td>Circuit</td> <td>A series of different exercises at different work <u>stations</u></td> <td>Skill related/ anaerobic endurance/ muscular endurance/ aerobic endurance / stamina</td> </tr> <tr> <td>Fartlek</td> <td>Varied terrain/ varied speed</td> <td>Aerobic endurance/CV endurance / stamina</td> </tr> </tbody> </table>	Method of Training	Brief Explanation of Training Method	Area of Fitness to be improved through training method	Continuous	Working <u>without rest</u>	Aerobic fitness/ CV endurance / stamina	Weight	Using weights, completing <u>sets of repetitions</u>	Strength/ muscular endurance/ power/ speed	Circuit	A series of different exercises at different work <u>stations</u>	Skill related/ anaerobic endurance/ muscular endurance/ aerobic endurance / stamina	Fartlek	Varied terrain/ varied speed	Aerobic endurance/CV endurance / stamina		6	20
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