

Mark Scheme (Results) Summer 2007

GCSE

GCSE Physical Education(1827) Paper 01

1.	(a)	B	(1)
	(b)	C	(1)
	(c)	C	(1)
	(d)	B	(1)
	(e)	D	(1)
	(f)	D	(1)
	(g)	A	(1)
	(h)	D	(1)
	(i)	A	(1)
	(j)	D	(1)
			(Total 10 marks)
TOTAL FOR SECTION ONE: 10 MARKS			

SECTION TWO

If underlined then essential

NB Don't forget to use the forward arrow to view (iii).

2.	(a)	(i)/(ii)	<table border="1"> <tr> <td>1</td> <td>co-operation/work with others/part of a team</td> <td>SOCIAL</td> </tr> <tr> <td>2</td> <td>Make friends/go with current friends</td> <td></td> </tr> <tr> <td>3</td> <td>competition/challenge/working at a higher level/plays to win</td> <td>MENTAL</td> </tr> <tr> <td>4</td> <td>relieve stress</td> <td></td> </tr> <tr> <td>5</td> <td>increase confidence/increased self esteem/feel better about themselves/ feel good</td> <td></td> </tr> <tr> <td>6</td> <td>enjoyment/fun/hobby</td> <td></td> </tr> <tr> <td>7</td> <td>improve performance</td> <td>PHYSICAL</td> </tr> <tr> <td>8</td> <td>increase fitness/getting fitter/ keep fit/improving any stated component of health-related exercise</td> <td></td> </tr> <tr> <td>9</td> <td>increase health/better health</td> <td></td> </tr> <tr> <td>10</td> <td>lose weight/body shape improved/look good</td> <td></td> </tr> </table> <p><i>NB1. DO NOT ACCEPT: raise money.</i></p> <p><i>NB2. Can only get mark for (ii) if reason given in (i) AND the reason matches the category. IF NO REASON GIVEN NO MARK FOR CATEGORY.</i></p> <p><i>NB3. If reasons are stated in column two (ii) rather than in column 1 (i) still credit answer.</i></p> <p><i>NB4. Can be any combination of physical/social/mental reasons provided, ie does not need to be one from each category.</i></p>	1	co-operation/work with others/part of a team	SOCIAL	2	Make friends/go with current friends		3	competition/challenge/working at a higher level/plays to win	MENTAL	4	relieve stress		5	increase confidence/increased self esteem/feel better about themselves/ feel good		6	enjoyment/fun/hobby		7	improve performance	PHYSICAL	8	increase fitness/getting fitter/ keep fit/improving any stated component of health-related exercise		9	increase health/better health		10	lose weight/body shape improved/look good		(3/3)
1	co-operation/work with others/part of a team	SOCIAL																																
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10	lose weight/body shape improved/look good																																	
		(iii)	<p><i>NB1. Please check not crediting reasons already awarded in (ai).</i></p> <p><i>NB2. Can be any combination of physical/social/mental reasons provided, ie does not need to be from different categories.</i></p>	(2)																														
				(Total 8 marks)																														
3.	(a)	Muscular endurance.		(1)																														
	(b)	Strength.		(1)																														
	(c)	Body Composition.		(1)																														
				(Total 3 marks)																														

4.	(a)	(i)	Power. <i>NB. DO NOT ACCEPT: Speed.</i>	(1)
		(ii)	Coordination.	(1)
		(iii)	<ul style="list-style-type: none"> • Speed • Power. 	(1)
		(iv)	Balance.	(1)
	(b)	(i)	The ability to <u>change</u> the position/direction/dodge/move in and out of the body <u>quickly</u> and to control the movement of the whole body (or equivalent).	(1)
		(ii)	<p>To dodge around players/side step/movement of goal keeper to save goal (or equivalent).</p> <p>Needs to be sports specific.</p> <p><i>NB. DO NOT ACCEPT: go past an opponent/get away from opponent/ beat opponent.</i></p>	(1)
		(iii)	They run in a straight line/don't change direction/need to stay in lane (or equivalent).	(1)
(Total 7 marks)				

5.	(a)	(i)	<p>Overload means working harder. If you lift more weights you will get stronger/making the body work harder to achieve greater results.</p> <p><i>NB1. There needs to be an explanation and a link between the principle and why fitness increases; it would not be enough to just say "you get stronger".</i></p>	(1)
		(ii)	<p>Moderation means <u>not doing too much</u>, therefore if you stick to this principle you are less likely to <u>injure</u> yourself, therefore remain healthy/less likely to train too intensely and reduce immune system (or equivalent).</p> <p><i>NB1. Once again looking for explanation and link to health, not just definition.</i></p> <p><i>NB2. DO NOT ACCEPT: reference to tedium/get fed up.</i></p>	(1)
		(iii)	<p>Specificity makes performer train on <u>areas of weakness/key areas</u> in relation to their activity, therefore <u>if these areas are improved</u> they will be fitter for their activity, eg shot putter works on power, they will be able to throw further/equiv.</p> <p><i>NB1. Once again looking for explanation and link to improved performance.</i></p> <p><i>NB2. DO NOT ACCEPT: reference to individual needs.</i></p>	(1)
	(b)		They stopped training/ were injured	(1)
(Total 4 marks)				

6.	(a)	(i)	Isometrics.	(1)
		(ii)	Weight trainings.	(1)
	(b)	(i)	Interval (training).	(1)
		(ii)	Need to work at high intensity, therefore needs intervals for recovery period to allow them to continue to work at high intensity/equivs. <i>NB if (bi) is blank or incorrect no mark for (bii).</i>	(1)
				(Total 4 marks)

7.	(i)	<ul style="list-style-type: none"> • Mesomorph. • Mesomorph. • Ectomorph. 	(3)	
	(ii)	<p>Sprinter Is able to run fast(er) (more strength, therefore more powerful)/off the blocks with power/equiv. <i>NB1 DO NOT ACCEPT: reference to reaction time.</i></p> <p>Tennis player Is able to hit the ball hard(er), (making it harder for opponents to return) /hit the ball with power. <i>NB2 DO NOT ACCEPT: make player stronger/increase upper body strength unless qualified in terms of playing the sport.</i></p> <p>High Jumper Light, therefore less weight to lift over the bar/tall so less distance to travel to clear the bar/ high(er) centre of gravity/equiv. <i>NB3 DO NOT ACCEPT: thin/tall unless qualified.</i> <i>NB4 DO NOT ACCEPT: reference to flexibility/jump higher on its own.</i></p>	(3)	
				(Total 6 marks)

8.	(a)	(i)	Jogging.	(1)
		(ii)	Raise the pulse.	(1)
		(iii)	Stretching.	(1)
		(iv)	Elasticity.	(1)
		(v)	Skills practice.	(1)
	(b)	(i)	Rules so that equal teams for fair competition.	(1)
		(ii)	Accept any of the following to a maximum of 3: <ul style="list-style-type: none"> • Similar age • Same sex • Similar ability/grading/handicap/experience • Similar weight. <i>NB. DO NOT ACCEPT: similar height or size/ equal numbers.</i>	(3)
				(Total 9 marks)

9.	(a)	(i)	Fracture/dislocation/broken bone/torn cartilage.	(1)
		(ii)	Dehydration.	(1)
		(iii)	Tennis/Golfers elbow/Tendonitis.	(1)
		(iv)	Concussion.	(1)
		(v)	Hypothermia. <i>NB. DO NOT ACCEPT: Hyperthermia.</i>	(1)
	(b)	(i)	Soft tissue.	(1)
		(ii)	<ul style="list-style-type: none"> • Rest • Ice • Compression • Elevation. <i>NB. Must have all four correct to gain mark.</i>	(1)
	(c)		If the performer has no pulse/when the heart stops beating. <i>NB. DO NOT ACCEPT: when a person is unconscious.</i>	(1)
	(d)		Maintains airway/ so they don't choke /swallow tongue/ equiv. <i>NB. DO NOT ACCEPT: when a person is unconscious unless qualified (because question asks for why).</i>	(1)
				(Total 9 marks)

10.	(a)	(i)	A - <u>Semi-lunar valve.</u>	(1)
		(ii)	B - Left ventricle/cardiac muscle/muscle wall.	(1)
		(iii)	C - Septum.	(1)
		(iv)	D - Pulmonary Artery.	(1)
	(b)	(i)	A - Prevent the back flow of blood/allows blood to flow in only one direction/allows the blood to flow in the right direction.	(1)
		(ii)	B - <u>Pumps blood out of the heart/ Pumps blood around the body</u> /contracts/squeezes the ventricle/equiv.	(1)
		(iii)	C - Divides the two sides of the heart/stops oxygenated and deoxygenated blood from mixing.	(1)
		(iv)	D - Returns (deoxygenated) blood to the lungs.	(1)

	(c)	(i)	C /septum - (Level of oxygen being carried by the blood to the muscles would drop if this was not fully present), so it maintains the amount of oxygen being delivered, so sufficient energy for physical work/equiv. <i>NB. DO NOT ACCEPT:</i> oxygen not reaching muscles (needed to say not enough oxygen).	(1)
		(ii)	D /pulmonary artery - (Returns deoxygenated blood to the lungs to collect oxygen), therefore oxygen is collected which is needed to release energy for physical work/equiv.	(1)
	(d)	(i)	left ventricle / heart muscle - Cardiac hypertrophy/increases in size/increase in thickness/gets stronger/more forceful/equiv.	(1)
		(ii)	Increase in stroke volume/increase in cardiac output/more <u>oxygenated</u> blood circulating the body/equiv, (therefore more oxygen available for energy release)/equiv. <i>NB. DO NOT ACCEPT:</i> pump more blood/drop in heart rate.	(1)

(Total 12 marks)

11.	(a)	(i)	Oxygen.	(1)
		(ii)	Carbon dioxide.	(1)
		(iii)	Nitrogen.	(1)
	(b)	(i)	A/oxygen - Decreases.	(1)
		(ii)	A/oxygen - Because some is <u>used</u> to release energy/in respiration/ <u>used</u> to break down glucose/in the energy equation/oxygen <u>used</u> by the (working muscles)/equiv. <i>NB. DO NOT ACCEPT:</i> more oxygen in body/used in gas exchange/ to make muscles move/to make muscles work.	(1)
	(c)		Glucose.	(1)

(Total 6 marks)

12.	(a)	(i)	Long (bone).	(1)
		(ii)	Flat (bone).	(1)
	(b)	(i)	<p>Long bones act as levers/muscle attachment so they can hit the ball/equiv.</p> <p>NB. DO NOT ACCEPT: answers that just talk about specific movements eg helps move the stick/ swinging the stick.</p> <p>OR</p> <p>Blood production so oxygen can be carried on red blood cells/platelets so that player isn't substituted if cut.</p> <p>NB must be in context to qualify.</p>	(1)
		(ii)	<p>Protects the brain so player is less likely to get <u>injured</u> and taken off the pitch/equiv.</p> <p>NB. DO NOT ACCEPT: players not hurt/simple explanation of function on its own/protects brain on its own not enough.</p>	(1)
				(Total 4 marks)

13.	(a)	1. Femur.	(1)	
		1. Tibia.	(1)	
		Note to examiners - allow any order. <i>NB check spelling of Tibia- not being confused with Fibula.</i>		
	(b)	Flexion - extension.	(1)	
		<i>NB1. Allow any order. NB2. Must have both correct to gain mark.</i>		
	(c)	1. Quadriceps.	(1)	
		2. Hamstrings.	(1)	
		<i>NB. Allow in any order</i>		
	(d)	<ul style="list-style-type: none"> • Isotonic • Concentric. 	(1)	
	(e)	Voluntary.	(1)	
	(f)	Ligaments.	(1)	
				(Total 8 marks)
TOTAL FOR SECTION TWO: 80 MARKS				

SECTION THREE

14	(a)	(i)	<p>1. No alternation of body parts/ all arm actions/only works arms.</p> <p>2. All skill based therefore won't improve fitness/no fitness stations.</p> <p>3. All the skills don't relate to badminton/basketball/not all stations sport specific.</p> <p><i>NB1. Accept answers in any order, but only one from each category of answers.</i></p> <p><i>NB2. DO NOT ACCEPT: reference to reps or time at stations or number of stations/lack of variety.</i></p> <p><i>NB3. DO NOT ACCEPT: stations relating to use of weight/CV machines/fitness tests/continuous running/small sided games.</i></p>	(3)						
		(ii)	<table border="1"> <tr> <td> Press ups Bicep curls Tricep dips Bench press Sit ups </td> <td> Squats Burpees Pull ups on the beams </td> </tr> <tr> <td> Star jumps Skipping </td> <td> Agility/ ladder runs Step ups Bench astrides </td> </tr> <tr> <td> Shuttle runs </td> <td></td> </tr> </table> <p><i>NB1. Accept any three, in any order.</i></p> <p><i>NB2. DO NOT ACCEPT: stations relating to use of weight/CV machines/fitness tests/continuous running/small sided games.</i></p>	Press ups Bicep curls Tricep dips Bench press Sit ups	Squats Burpees Pull ups on the beams	Star jumps Skipping	Agility/ ladder runs Step ups Bench astrides	Shuttle runs		(3)
Press ups Bicep curls Tricep dips Bench press Sit ups	Squats Burpees Pull ups on the beams									
Star jumps Skipping	Agility/ ladder runs Step ups Bench astrides									
Shuttle runs										

(b)	(i)			(6)	
			Station in circuit		Component of fitness
		1	Dribbling in and out of cones		Agility/speed/ Coordination/CV endurance/cardio vascular endurance/ stamina
		2	Chest passes		Coordination/ Muscular endurance
		3	Shooting		Coordination
		4	Student station (category 1) sit ups		Muscular endurance
		5	Student station (category 2) press ups/ Squats/ Bicep curls/Burpees/Pull ups on the beams/Tricep dips/ Bench press		Muscular endurance/strength/ power
		6	Student station (category 3) Agility/ladder runs		Agility/speed/ Coordination
		7	Student station (category 4) Star jumps/Step ups/ Bench astrides		Muscular/CV endurance/ cardiovascular endurance/stamina
		8	Student station (category 5) Skipping		CV endurance/ cardiovascular endurance/stamina Co-ordination
		8	Student station (category 6) Shuttle runs		Speed
<p><i>NB1. If fitness station not described in first column then no mark for associated component of fitness.</i></p> <p><i>NB2. No mark for stating station already credited.</i></p>					

(ii) IF BADMINTON Selected:

(3)

Station in circuit	How performance would be improved
1/Dribbling in and out of cones.	Increased speed of movement around court to chase shuttle/opponent/reach shuttle.
2/Hitting ball against a wall.	More consistent/accurate strikes of shuttle/equivalent.
3/Serving.	Better placement of serves making it harder for opponent to return/equivalent.

IF BASKETBALL Selected:

Station in circuit	How performance would be improved
1/Dribbling in and out of cones.	Increased speed of movement around court to chase ball/opponent/break free/dodge free/change direction. Better marking/better ball control.
4/Chest passes against a wall.	More consistent/ <u>better/more</u> accurate passing.
5/Stationery shots at a basket.	Increased number of baskets scored.

NB1. If no sport selected or obvious from answer no mark.

NB2. No mark for stating the activity.

	(c)	<p>1. Can be used to improve any component of fitness/ more than one/improve skill and fitness/wide range of muscle groups</p> <p>2. Can be carried out with limited equipment/cheap to organise/easy to set up</p> <p>3. Can be used with large numbers</p> <p>4. Can be completed in a relatively small space/variety of spaces/can take place indoors or outdoors</p> <p>5. Easy to individualise/easily adapted to different sports/work on target sport/work on game skills</p> <p>6. Easy to alter intensity</p> <p>7. Motivating/variety/not always the same/lots of different activities/not so boring because of change of activity/more fun/easy to measure progress.</p> <p><i>NB Accept answers in any order, but only one from each category of answers.</i></p>	(3)
	(d)	(i) Carbohydrates.	(1)
		(ii) Can be used in either aerobic or anaerobic activity/energy is released more rapidly (than fats) (or equivalent). <i>NB1 DO NOT ACCEPT: releases large amounts of energy/more energy.</i> <i>NB2 if (i) incorrect no marks for (ii).</i>	(1)
(Total 20 marks)			

15.	(a)	(i) A combination of more than one method of training/equiv. <i>NB. DO NOT ACCEPT: Training for more than one sport/different type of training.</i>	(1)
		(ii) Her event is made up of 3 different sports/equiv. <i>NB: If (i) is incorrect no marks for (ii).</i>	(1)
	(b)	(i) F - frequency I - intensity T - time T - type <i>NB1. Time or type can be in any order.</i> <i>NB2 DO NOT ACCEPT: tedium.</i>	(1)

	(ii)	<p>F - Katie could train more often/increase frequency.</p> <p>I - Katie could make herself work harder during the session/equiv.</p> <p>T - Katie could work for longer within the session/equiv.</p> <p>T - Katie should make sure she concentrates on improving aspects of fitness related to her activity rather than general fitness/equiv.</p> <p>Allow T for type or time in any order.</p> <p><i>NB. DO NOT ACCEPT definitions only.</i></p>	(4)
(c)	(i)/ (ii)	<ol style="list-style-type: none"> 1. Correct clothing/footwear/ no jewellery/hair tied back/equiv 2. Warm up/stretching 3. Examples of additional safety items relating to the activity (eg helmets/road safety - florescent jacket/bike lights) 4. Correct equipment/checking equipment/using safety equipment/equiv 5. Correct facilities/equiv 6. Using correct technique <p><i>NB1. Accept answers in any order, but only one from each category of answers.</i></p> <p><i>NB2. DO NOT ACCEPT: over train/train too hard/cool down/warm down.</i></p>	(1) (1)
(d)	(i)	<p>The amount of blood ejected from the heart in <u>one minute</u>/ HR x SV/Heart Rate multiplied by Stroke Volume.</p> <p><i>NB DO NOT ACCEPT: pumped around the body in one minute.</i></p>	(1)
	(ii)	<p><u>Increased</u> stroke volume/<u>increase</u> amount of blood ejected from the heart in <u>one beat</u>.</p> <p>Accept alternatives to increased, eg goes up/raised.</p> <p><i>NB DO NOT ACCEPT: increased cardiac hypertrophy/stronger heart.</i></p>	(1)
(e)	(i)	Beta blockers.	(1)
	(ii)	Stimulants.	(1)

	(f)	The amount of air breathed in or out of the lungs in each breath/normal breathing in and out. <i>NB Can be in or out - candidate does not need to state both.</i>	(1)
	(g)	(i) Increased breathing rate/heavy breathing/gasping for air/out of breath/panting.	(1)
		(ii) The amount of oxygen consumed during recovery <u>above/more than/extra</u> /that which would have ordinarily been consumed in the same time at rest/equiv. <i>NB1 DO NOT ACCEPT: reference to lactic acid removal/shortage of oxygen.</i> <i>NB2 DO NOT ACCEPT: lack of oxygen if stated on its own or Lack of oxygen to the working muscles if stated on its own.</i>	(1)
	(h)	(i) Triceps/triceps brachii. If triceps and biceps on same line mark first answer only.	(1)
		(ii) Biceps/biceps brachii. If triceps and biceps on same line mark first answer only.	(1)
		(iii) 1. Radius 2. Ulna. NB. Accept any order.	(2)
			(Total 20 marks)

16.	(a)	(i)	Short bones.	(1)
		(ii)	Very strong.	(1)
	(b)	(i)	<ul style="list-style-type: none"> • Flexed • Extended. 	(2)
		(ii)	<ul style="list-style-type: none"> • Extended • Elbow 	(2)
	(c)	(i)	Deltoids.	(1)
		(ii)	Pectorals/pectoralis major. <i>NB DO NOT ACCEPT: Pecs.</i>	(1)
		(iii)	Gastrocnemius. <i>NB DO NOT ACCEPT: calf muscle.</i>	(1)
		(iv)	Abdominals. <i>NB DO NOT ACCEPT: abs.</i>	(1)
	(d)	(i)	Anaerobic.	(1)
		(ii)	Lactic acid.	(1)
		(iii)	Fast twitch.	(1)
		(iv)	Tires easily/can't work for long period of time.	(1)
		(v)	Any named throwing events/sprints (max 400m)/long, high and triple jump.	(1)
	(e)	(i)	How well a task is completed/ability to do a task well/equiv. <i>NB DO NOT ACCEPT: use of the term performance unless explained.</i>	(1)
		(ii)	The ability to do strength performances quickly/Power = strength*speed. <i>NB Must indicate explosive use of speed.</i>	(1)

	(f)	(i)	Muscle hypertrophy/stronger muscles. <i>NB DO NOT ACCEPT: bigger muscles/thicker muscles/more toned.</i>	(1)
		(ii)	<ol style="list-style-type: none"> 1. Drop in resting blood pressure 2. Reduces chance of CHD/coronary heart disease/strokes/heart attacks 3. Reduces cholesterol 4. Reduces asthma 5. Can prevent onset of diabetes 6. Reduce the chance of obesity 7. Reduction of chance of osteoporosis 8. Mental health benefit. <p><i>NB1. Any two points in any order.</i></p> <p><i>NB2. Need to be specific as stated in the mark scheme ie.</i></p> <p><i>NB3 DO NOT ACCEPT: resting heart rate/training gains relating to fitness/strengthens bones/not stress on its on, must say stress relief/release to be credited</i></p>	(2)
(Total 20 marks)				
TOTAL FOR SECTION THREE : 60 MARKS				
TOTAL FOR PAPER : 150 MARKS				

2007 GCSE PHYSICAL EDUCATION (SHORT COURSE)

MARK SCHEME - 3827

1. B
2. C
3. C
4. B
5. D
6. D
7. B
8. B
9. A
10. C

11. B
12. D
13. C
14. D
15. B
16. B
17. D
18. C
19. A
20. C

21. D
22. B
23. D
24. C
25. B
26. D
27. A
28. C
29. A
30. B

31. C
32. C
33. B
34. D
35. A
36. A
37. D
38. C
39. D
40. A

