

# **Physical Education**

Advanced Subsidiary GCE

Unit **G451**: An Introduction to Physical Education

## **Mark Scheme for June 2011**

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Any enquiries about publications should be addressed to:

OCR Publications  
PO Box 5050  
Annesley  
NOTTINGHAM  
NG15 0DL

Telephone: 0870 770 6622  
Facsimile: 01223 552610  
E-mail: [publications@ocr.org.uk](mailto:publications@ocr.org.uk)

Section A – Anatomy and Physiology		Additional Guidance	
		Accept	Do not accept
1 (a)(i)	Define stroke volume and give a resting value for the average adult. (2 marks)		
Definition and value of stroke volume			
1 (stroke volume)	The volume of blood ejected from ventricle/s or heart <b>per beat</b> or <b>per contraction</b>	The amount of blood pumped out of the heart <b>per beat or per contraction</b> / SV = EDV – ESV	The amount of blood pumped around the body per beat or per contraction
2 (resting value)	(any value between) 60 – 90 <u>ml</u>	Range if one value given is between 60 and 90 <u>ml</u> .	
1 (a)(ii)	Describe the changes that take place to stroke volume from rest to maximal exercise levels. (3 marks) Description of changes to stroke volume during exercise		
1 (SV increases)	Stroke volume <b>increases</b> (with exercise intensity) / <b>More</b> blood is pumped out (of the ventricle/s) per beat	Graph that shows these points.	
2 (SV plateaus)	SV <b>plateaus</b> or peaks / SV reaches a maximum value (during <b>sub-maximal</b> exercise) ...		
3 (SV decreases)	...(then) SV <b>decreases</b> (slightly during <b>maximal</b> exercise) / SV <b>decreases</b> at very high exercise intensity or levels		
4 (maximum value)	<b>Maximal</b> stroke volume = (any value between) 120–200 <u>ml</u> (per beat)		
5 (explanation)	(SV decreases because) HR is so high there is not enough time for the ventricles to fill (completely) during diastole or relaxation phase or before systole or contraction phase		
5 marks in total for question 1(a)			

		Accept	Do not accept
<b>1 (b)(i)</b>	<b>Define blood pressure and identify diastolic values for a person suffering from hypertension. (2 marks)</b>		
1 (definition)	The force or pressure exerted by blood against the walls of a blood vessel (artery) / blood flow x resistance	Any named blood vessel	
2 (hypertension values)	Diastolic = (any value between) 90–120 <u>mmHg</u>	Full bp reading if diastolic is within range ie 140/ <u>90mmHg</u> (millimetres of mercury)	
<b>1 (b)(ii)</b>	<b>Describe <u>three</u> other effects of an active cool down on the vascular system of the performer. (3 marks) (Accept first three only)</b>		
1 (metabolic activity)	Keeps metabolic activity elevated / <b>gradually</b> reduces heart rate or respiratory rate		Maintains heart rate / Maintains respiration
2 (capillaries)	Keeps <b>capillaries</b> dilated	Maintains vascular shunt mechanism / arterioles dilated = BOD	Keeps blood vessels or veins or venules dilated
3 (oxygenated blood)	Flushes <b>oxygenated</b> blood through the muscles or circulatory system	Maintains supply of oxygen to the muscles	
4 (waste products)	Removes waste products or CO <sub>2</sub> or lactic acid / repays oxygen debt	Reduces lactic acid	Prevents build up of lactic acid / Prevents DOMS
5 (pump mechanisms)	(Maintains) action of (skeletal) muscle pump or respiratory pump		Pump on own
6 (blood flow / venous return)	maintains blood flow or stroke volume or cardiac output or blood pressure / venous return	SV for stroke volume / Q for cardiac output /	
7 (blood pooling)	Prevents blood pooling		
<b>5 marks in total for question 1 (b)</b>			

		Additional Guidance	
		Accept	Do not accept
<b>1 (c)</b>	<b>Explain how the body controls the increased distribution of blood to the working muscles during exercise. (6 marks)</b>		
1 (vascular shunt)	(using the) vascular shunt mechanism		
2 (receptors)	Chemoreceptors detect <b>increase</b> in (blood) acidity or an <b>increase</b> in (pp)CO <sub>2</sub> or <b>decrease</b> in pH or in (pp)O <sub>2</sub> / proprioreceptors detect movement/ baroreceptors detect <b>increase</b> in pressure		Receptors on own
3 (vasomotor control centre)	(Information sent to the) <u>vasomotor</u> (control) centre or VCC (in the medulla oblongata)		
4 (sympathetic nervous system)	(VCC) uses the sympathetic nervous system (to...)		
<b>Muscles:</b>			
5 (nerve impulses)	... <b>decrease</b> nerve impulses or sympathetic stimulation to the arterioles or pre-capillary sphincters or PCS leading to the muscles	(blood) vessels /arteries / to areas with the greatest demand for O <sub>2</sub>	Capillary sphincter on own / veins / venules
6 (vasodilation of arterioles)	... vasodilate the arterioles leading to the muscles	(blood) vessels /arteries / dilate or get bigger for vasodilate / ... to areas with greatest demand for O <sub>2</sub>	veins / venules
7 (pre-capillary sphincters)	... relax or vasodilate the pre-capillary sphincters or PCS leading to the muscles	(blood) vessels /arteries / ... to areas with the greatest demand for O <sub>2</sub>	Capillary sphincter on own
<b>Other organs: Accept the following other named organs: liver, kidneys, any part of the digestive system</b>			
8 (nerve impulses)	... <b>increase</b> nerve impulses or sympathetic stimulation to the arterioles or pre-capillary sphincters or PCS leading to the organs	(blood) vessels / arteries / ... to areas with the least or less demand for O <sub>2</sub>	Capillary sphincter on own/ veins / venules
9 (vasoconstriction of arterioles)	... vasoconstrict arterioles leading to the organs	(blood) vessels/arteries /constrict/contract/narrow/get smaller for vasoconstrict/ ...to areas with the least or less demand for O <sub>2</sub>	veins / venules
10 (pre-capillary sphincters)	... contract or vasoconstrict the pre-capillary sphincters or PCS leading to the organs	... to areas with the least or less demand for O <sub>2</sub>	Capillary sphincter on own
<b>6 marks in total for question 1 (c)</b>			

		Accept	Do not accept
<b>1 (d)</b>	<b>Describe the mechanics of expiration during exercise. (4 marks)</b>		
1 (active)	Expiration becomes active		
2 (muscles relax)	<u>External</u> intercostals <u>and</u> diaphragm relax	<u>and</u> diaphragm becomes dome shaped	
3 (additional muscles contract)	<u>Internal</u> intercostals or rectus abdominus or transverse abdominus or obliques contract	The <b>named</b> additional muscles without reference to contraction = BOD	Shortened versions of muscle names / Additional or more muscles on own / Scalenes /pectoralis minor /sternocleidomastoid/SCM
4 (rib cage)	(this) pulls the rib cage or ribs down <u>and</u> in . . .		
5 (diaphragm)	(and) forces the diaphragm up (further or with more force)		
6 (thoracic cavity volume)	<b>decreasing</b> the volume of the thoracic cavity / <b>decreasing</b> the volume in the lungs	Decreasing the size of the thoracic cavity / Chest or chest cavity / Decreasing thoracic cavity on own = BOD	Decreasing volume on own
7 (thoracic cavity pressure)	<b>increasing</b> the pressure within the thoracic cavity or in the lungs	Chest or chest cavity	Partial pressure of air or oxygen
8 (air)	forcing (more) air out of the lungs / increasing tidal volume / increasing volume of air expired / increasing rate of breathing or expiration	Breathe faster	
<b>4 marks in total for question 1 (d)</b>			

<b>1 (e)</b>	<b>Critically evaluate the effect of an impact sport and a repetitive action sport on the skeletal system of a young performer. (10 marks)</b>	
<b>Level 3</b> <b>8–10 marks</b>	<b>A comprehensive answer:</b> <ul style="list-style-type: none"> <li>• <b>detailed</b> knowledge &amp; understanding</li> <li>• <b>effective</b> analysis/critical evaluation and/or discussion/explanation/development</li> <li>• <b>clear</b> and <b>consistent</b> practical application of knowledge</li> <li>• <b>accurate</b> use of technical and specialist vocabulary</li> <li>• <b>high standard</b> of written communication.</li> </ul>	<b>At L3 responses <u>are likely</u> to include:</b> <ul style="list-style-type: none"> <li>• detailed understanding of the effects of an impact sport and a repetitive action sport with appropriate exemplification</li> <li>• detailed knowledge of both positive and negative effects of both types of sport</li> <li>• detailed understanding of the nature of bone and joint disorders</li> <li>• effective evaluation demonstrated in relation to effects</li> </ul>
<b>Level 2</b> <b>5–7 marks</b>	<b>A competent answer:</b> <ul style="list-style-type: none"> <li>• <b>satisfactory</b> knowledge &amp; understanding</li> <li>• analysis/critical evaluation and/or discussion/explanation/development <b>attempted with some success</b></li> <li>• <b>some success</b> in practical application of knowledge</li> <li>• technical and specialist vocabulary used with <b>some accuracy</b></li> <li>• written communication <b>generally fluent</b> with <b>few errors</b>.</li> </ul>	<b>At L2 responses <u>are likely</u> to include:</b> <ul style="list-style-type: none"> <li>• satisfactory understanding of the effects of an impact sport and a repetitive action sport with exemplification</li> <li>• positive and negative effects</li> <li>• satisfactory understanding of the nature of bone and joint disorders</li> <li>• evaluation demonstrated with some success</li> </ul>
<b>Level 1</b> <b>0–4 marks</b>	<b>A limited answer:</b> <ul style="list-style-type: none"> <li>• <b>basic</b> knowledge &amp; understanding</li> <li>• <b>little or no attempt</b> to analyse/critically evaluate and/or discuss/explain/develop</li> <li>• <b>little or no attempt</b> at practical application of knowledge</li> <li>• technical and specialist vocabulary used with <b>limited success</b></li> <li>• written communication <b>lacks fluency</b> and <b>there will be errors</b>, some of which may be intrusive.</li> </ul>	<b>At L1 responses <u>are likely</u> to include:</b> <ul style="list-style-type: none"> <li>• basic understanding of the effects of an impact sport and a repetitive action sport</li> <li>• positive and/or negative effects</li> <li>• basic understanding of the nature of bone and joint disorders</li> <li>• a limited attempt at evaluation</li> </ul>

<b>Indicative content:</b> Candidate responses are likely to include: (relevant responses not listed should be acknowledged) <b>Numbered points</b> = knowledge/understanding <b>Bullet points</b> = likely to be development of knowledge	
<b>Impact Sports</b> <b>High Impact</b> basketball, football, hockey, martial arts, netball, cricket (bowling/fielding), rugby, American football, Aussie rules, ice hockey, gymnastics. <b>Low Impact</b> any physical activity with minimal wear and trauma to weight-bearing joints: jogging, running, low-impact aerobics, swimming, cycling.	
<b>Repetitive Action Sports</b> Any activity where a specific joint or joints continuously perform a particular movement: cricket (batting/bowling/throwing), golf, racket sports, swimming (arm action), jogging, cycling, marathon running	
<b>Positive effects on skeletal system:</b>	
<b>1</b>	<b>Increased bone density or bone health</b> <ul style="list-style-type: none"> <li>increased collagen or calcium or mineral deposits within the bone</li> <li>(this) strengthens or thickens the bone helping to prevent injury</li> <li>protects against stress fractures/growth plate injuries/shin splints/Osgood Schlatter's</li> </ul>
<b>2</b>	<b>Can help prevent osteoporosis</b> <ul style="list-style-type: none"> <li>especially in teenagers susceptible to the disease</li> <li>osteoporosis is reduced bone density or mass / deterioration or weakening of bone</li> <li>normally associated with older people / women / but can affect younger people</li> </ul> <b>eg</b> bones in hip or spine or wrist are most commonly affected
<b>3</b>	<b>Increased health or stability of joints</b> <ul style="list-style-type: none"> <li>ligaments or tendons or muscles around joints strengthen</li> <li>increased muscle tone</li> <li>helps prevent breaks or stress fractures or dislocations or sprains</li> </ul> <b>eg</b> strengthening the rotator cuff muscles helps prevent dislocation of shallow shoulder joint (rotator cuff = supraspinatus, infraspinatus, teres minor, subscapularis)
<b>4</b>	<b>Reduced risk of osteoarthritis or arthritis</b> <ul style="list-style-type: none"> <li>articular cartilage thickens</li> <li>joints are better cushioned / better able to withstand forces or absorb shock</li> <li>articular cartilage (is a smooth, tough structure which) covers the end of long bones</li> <li>it helps to reduce friction between bones</li> <li>increase in synovial fluid or lubrication within joint leading to increased joint mobility or joint flexibility</li> <li>osteoarthritis in young people is most common in weight bearing joints</li> </ul> <b>eg</b> knee / hips / ankles.



<b>5</b>	<b>Improved posture and alignment</b> <ul style="list-style-type: none"> <li>increased strength or tone of <b>core stability muscles</b> <b>eg</b> multifidus / transverse abdominus</li> <li>reduces the chance of lower back pain / can prevent excess pressure on lumbar area (of the lower back)</li> <li>increased strength or tone of <b>rotator cuff</b> muscles can be associated with good posture</li> </ul>
<b>6</b>	<b>Weight maintenance or reduction</b> <ul style="list-style-type: none"> <li>can put less stress on skeletal system / can reduce risk of injuries / can reduce risk of osteoarthritis</li> <li>can help to maintain BAHL in later life</li> <li>can help prevent sedentary lifestyle when young that can lead to osteoporosis in later life</li> </ul>
<b>Negative effects on skeletal system:</b>	
<b>7</b>	(Increase risk of) <b>Osteoarthritis or arthritis</b> <ul style="list-style-type: none"> <li><b>osteoarthritis</b> is a degenerative disease caused by loss or wear and tear of articular cartilage (at the ends of long bones)</li> <li>injuries or poor technique can increase deterioration of articular cartilage</li> <li>(this causes) a loss of synovial fluid</li> <li>causing pain or swelling or limiting joint movement</li> <li>can lead to formation of bone spurs or friction between the surfaces of the bones</li> <li>greater risk of OA from high impact and repetitive action sports than from low impact sports</li> <li>OA may result in surgery <b>eg</b> weight bearing joints or hip joints or knee joints are particularly susceptible</li> </ul>
<b>8</b>	(Increased risk of) <b>Growth Plate Injuries or Growth Plate damage</b> <ul style="list-style-type: none"> <li>the growth plate is the weakest area of the bone</li> <li>it is the (delicate) area between the shaft and (each) end of a long bone or between the diaphysis and the epiphysis</li> <li>caused by sudden force through the bone (from high impact sport) <b>eg</b> high jump, basketball (lay up/rebound) etc</li> <li>caused by repetition of a particular movement <b>eg</b> volleys in tennis, bowling in cricket</li> </ul>
<b>9</b>	(Can lead to) <b>Overuse or chronic injuries</b> <ul style="list-style-type: none"> <li>more likely in repetitive action sports / common where one action is practised continually <b>eg</b> in racket sports / cricket etc <b>eg</b> tendinitis or tennis or golfer's elbow or stress fracture or shin splints or Osgood Schlatter's syndrome or chondromalacia patella or runner's knee or bursitis etc</li> </ul>
<b>10</b>	(Can lead to) <b>Impact or acute injuries</b> <ul style="list-style-type: none"> <li>more likely in impact sports <b>eg</b> contact in rugby, impact in gymnastics etc</li> </ul>

	<p><b>eg</b> dislocation or fracture or sprain or meniscus tear or ligament damage etc</p> <ul style="list-style-type: none"> <li>ligament damage can lead to poor joint stability</li> <li>(acute injuries when young) can lead to osteoarthritis in later life</li> </ul>
<b>11</b>	<p>Injury can limit or stop participation or lead to a forced sedentary lifestyle</p> <ul style="list-style-type: none"> <li>which can lead to osteoporosis in later life</li> </ul>
<b>12</b>	<p>Use of long term athlete development or LTAD guidelines</p> <ul style="list-style-type: none"> <li>can help minimise risk of injury to young performer</li> <li>can help to achieve lifelong involvement in physical activity</li> <li>can help maximise chances of them reaching their potential</li> </ul>
<b>Some candidates may develop named injuries....</b>	
	<p><b>Stress fractures</b></p> <ul style="list-style-type: none"> <li>a stress fracture is a hairline crack in the bone</li> <li>commonly associated with tibia or fibula or metatarsals</li> <li>more likely in high impact sports</li> </ul> <p><b>eg</b> triple jump, netball and pivot leg bowling in cricket etc.</p>
	<p><b>Shin splints (periostitis)</b></p> <ul style="list-style-type: none"> <li>inflammation of the outer lining (periosteum) of the tibia</li> <li>caused by running on hard surfaces</li> <li>or rapid increase high impact training</li> </ul>
	<p><b>Osgood Schlatter's</b></p> <ul style="list-style-type: none"> <li>painful swelling</li> <li>where the patella tendon attaches to the tibia</li> <li>high impact sports put young people at risk of Osgood Schlatters</li> </ul>
	<p><b>Tennis elbow (lateral epicondylitis) / golfer's elbow (medial epicondylitis)</b></p> <ul style="list-style-type: none"> <li>inflammation where the tendon attaches to the humerus</li> </ul>
	<p><b>Chondromalacia patella or runner's knee</b></p> <ul style="list-style-type: none"> <li>softening or degeneration of the articular cartilage of the patella</li> </ul>
	<p><b>Bursitis</b></p> <ul style="list-style-type: none"> <li>inflammation of the bursa</li> <li>bursa is a fluid filled sac that cushions a joint where friction is likely to occur</li> </ul>
	<p><b>Ligament tears</b></p> <ul style="list-style-type: none"> <li>knee joint particularly susceptible</li> </ul> <p><b>eg</b> anterior / posterior cruciate ligament, medial / lateral collateral ligament</p> <p><b>eg</b> young footballers or rugby players</p>

Section B: Acquiring Movement Skills		Additional Guidance	
		Accept	Do not accept
2 (a)	<p>Describe, using a practical example for each, what is meant by positive, negative, proactive and retroactive transfer. (4 marks)</p> <p><b>Description + eg = 1 mark</b>  <b>Award 2 marks max for description(s) without eg(s)</b>  <b>Award mark when theory embedded within example</b></p>		
1 (positive)	<p>Where one skill or movement <b>helps</b> (the learning or performance of) another ...  <b>eg</b> the learning of the over-arm throw can help the skill of the tennis serve (or other suitable example)</p>	has a good or beneficial effect etc.	has positive effect = RQ / when a skill is used to learn another or influences another / ref to sport rather than skill
2 (negative)	<p>Where one skill or movement <b>hinders</b> (the learning or performance of) another...  <b>eg</b> the learning of the wrist action in the forehand in tennis can hinder the forehand in badminton (or other suitable example)</p>	has a bad or detrimental effect etc.	has negative effect = RQ / ref to sport rather than skill
3 (proactive)	<p>Where a (previously) learned skill affects (the learning and/or performance of) a <b>new</b> or <b>current</b> or <b>future</b> skill...  <b>eg</b> a tennis player takes up badminton – the (previously) learned smash in tennis affects the learning of the overhead clear in badminton (or other suitable example)</p>	BOD for 'helps' or 'hinders' rather than affects	
4 (retroactive)	<p>Where the learning of a (new) skill affects (the performance of) a <b>previously</b> learned or <b>past</b> skill ...  <b>eg</b> a tennis player takes up badminton – the learning of the badminton overhead clear affects the <b>previously</b> learned smash in tennis (or other suitable example)</p>	BOD for 'helps' or 'hinders' rather than affects	
4 marks in total for question 2 (a)			

<b>2 (b)</b>	<b>Using practical examples, describe the nature of a motor programme. (4 marks)</b>  Sub max 3 for theory description(s) without examples Award 1 mark for example		
		<b>Accept</b>	<b>Do not accept</b>
1 (MP)	a motor programme is a series of movements / a movement pattern... <b>eg</b> a tennis serve or other suitable example of a motor programme		
2 (LTM)	...stored in or retrieved from <b>long-term</b> memory... <b>eg</b> how to ride a bike easily remembered		
3 (one decision/ one movement)	brought about by making one decision / one or first movement initiates (whole) motor programme... <b>eg</b> tennis player decides to serve and this brings about a series of linked actions / deciding to play a forehand and moving into position		
4 (sub routines)	made up of sub routines / linked or sequential or hierarchical sub routines ... <b>eg</b> preparation, grip, stance, etc of forehand in tennis / separate components of the forward roll in gymnastics		
5 (Practice)	<b>Established through:</b> rehearsal / practise / over-learning or training / grooved or autonomous or habitual or well learned / recalled easily... <b>eg</b> repeating the tennis serve / able to reproduce place kick		
6 (reinforcement/ feedback / SR bond RM)	<b>Established by:</b> reinforcement / feedback / creating an S-R bond / watching a role model... <b>eg</b> a teacher says 'well done' when you shoot the ball effectively in netball / watching an expert netball player (and wanting to copy them)	Knowledge of Results (KR)/  Knowledge of Performance (KP)	
<b>Sub max 1 for example</b>			
7 (example)	any example from 1 - 6 above		
<b>4 marks in total for question 2 (b)</b>			

		Accept	Do not accept
<b>2</b>	<b>(c) Identify the <u>three</u> phases of learning movement skills and describe the characteristics of each phase. (6 marks)</b>		
		Phases in any order	
<b>Cognitive (sub max 2)</b>			
1	<u>Cognitive</u> (phase)		
2	Leads to a mental image or picture (being formed) / mental rehearsal / Understanding of what needs to be done		Demonstration
3	Needs (conscious) thought or concentration on technique or sub routines		
4	Unable to use intrinsic or kinaesthetic feedback / only extrinsic feedback effective / reliant on verbal or visual cues / feedback needed		
5	Movement (often) lacks fluency or rhythm/movement jerky / trial and error a feature		Longest phase
<b>Associative (sub max 2)</b>			
6	<u>Associative</u> (phase)		
7	Matching or associating mental model with actual performance		
8	Motor programmes <b>begin to be</b> formed		
9	Practice or rehearsal occurs		
10	The following can be used: more detailed feedback / knowledge of results (KR) / knowledge of performance (KP) / kinaesthesia / kinaesthetic or intrinsic feedback / less reliant on extrinsic feedback		
11	(More) trial and error/learn from mistakes / fewer mistakes / more consistent or effective		Start to groove skill
12	Increased fluency or rhythm or efficiency / /movement less jerky / better timing		
13	Some never leave or move beyond this stage		Longest phase
<b>Autonomous (sub max 2)</b>			
14	<u>Autonomous</u> (phase)		
15	Accurate or (well) grooved or consistent or habitual or over learned / motor programmes fully formed (stored in LTM)	Few mistakes / mastered technique	No mistakes / natural / second nature
16	Fluent or rhythmic	effortless	
17	Little conscious control (needed) /automatic / spare attentional capacity / can focus on tactics or strategy or environment / skills can be adapted	minimum thought = BOD/ sub conscious	No thought
18	Able to use or rely on intrinsic or kinaesthetic feedback (effectively)		
19	May return to associative phase/ need to keep practising (to stay in this phase)		
<b>6 marks in total for question 2 (c)</b>			

		Accept	Do not accept
2	(d)	Describe the cognitive theory of learning. Give a practical example of how it might be applied to learning a movement skill and a practical example of how it might be applied to a healthy lifestyle. (6 marks)	
Description (sub max 4)			
1	(Problem solving)	(learning by) problem solving / (some) trial and error / problem not necessarily solved immediately	Reinforcement
2	(perception)	Involves perception or intelligence or reasoning / an intellectual or perceptual or mental process	makes sense of / works out Involves the brain or thinking
3	(whole)	Gestalt / problem or situation or skill considered as a whole / (learning occurs by) thinking about the whole problem	
4	(insight/understanding)	insight (learning) or understanding / intuitive (learning)	
5	(intervening variables)	intervening variable (drawn together or made sense of)	
6	(learning optimised)	a way of thinking to optimise learning / schema broadened	
7	(past experience)	using past experience to form a response / using past experience to learn new movements or lifestyles	
Practical example of cognitive theory applied to learning a movement skill (sub max 1)			
Accept: Examples that show knowledge / understanding of aspect(s) of the theory			
8	<ul style="list-style-type: none"><li>teaching tennis serve or other skill <b>as a whole</b> (rather than in parts)</li><li>giving players a <b>problem</b> similar to the real situation hoping they will <b>come up with an effective solution</b></li><li>players <b>work out</b> how to solve an off side trap / defenders <b>understand</b> that the back four must stay in line to play the opposition offside</li><li>hockey players <b>think about</b> marking strategies</li><li>footballers <b>consider</b> the <b>situation</b> and decide whether or not to shoot</li><li>a golfer or cricketer <b>learns from experience</b> the best way to strike the ball</li></ul>		
Practical example of cognitive theory applied to a healthy lifestyle (sub max 1)			
9	<ul style="list-style-type: none"><li>a person <b>wants to improve body shape</b>... they <b>realise</b> that increasing physical activity will help ... they start swimming interval training ... they feel healthier ... their body shape improves ... the <b>problem</b> has been solved</li><li><b>working out</b> the best way to keep fit / <b>understanding</b> that jogging reduces weight / returning to a particular training routine because <b>it was successful before</b></li><li><b>understanding</b> the components of a healthy diet / <b>understanding</b> how a healthy diet contributes to a BAH L / understanding the importance of 5-a-day</li><li><b>understanding</b> that commitment to an exercise programme improves BAH L</li><li><b>realising</b> (insight) that if someone continues to increase the distance they run on the treadmill they will be <b>better able</b> to keep running throughout the netball game</li></ul>		
6 marks in total for question 2 (d)			

		Additional Guidance
2 (e)	Evaluate critically the effectiveness of using part and whole practice methods in the learning of movement skills. (10 marks)	
Level 3 8–10 marks	<b>A comprehensive answer:</b> <ul style="list-style-type: none"> <li>• <b>detailed</b> knowledge &amp; understanding</li> <li>• <b>effective</b> analysis/critical evaluation and/or discussion/explanation/development</li> <li>• <b>clear</b> and <b>consistent</b> practical application of knowledge</li> <li>• <b>accurate</b> use of technical and specialist vocabulary</li> <li>• <b>high standard</b> of written communication.</li> </ul>	<b>At L3 responses <u>are likely</u> to include:</b> <ul style="list-style-type: none"> <li>• a detailed explanation of whole and part practice methods with appropriate exemplification (whole-part-whole and/or progressive part may also be explained well)</li> <li>• detailed knowledge of positive and negative effects of both types of practice</li> <li>• effective evaluation demonstrated in relation to effectiveness of practice method</li> </ul>
Level 2 5–7 marks	<b>A competent answer:</b> <ul style="list-style-type: none"> <li>• <b>satisfactory</b> knowledge &amp; understanding</li> <li>• analysis/critical evaluation and/or discussion/explanation/development <b>attempted with some success</b></li> <li>• <b>some success</b> in practical application of knowledge</li> <li>• technical and specialist vocabulary used with <b>some accuracy</b></li> <li>• written communication <b>generally fluent</b> with <b>few errors</b>.</li> </ul>	<b>At L2 responses <u>are likely</u> to include:</b> <ul style="list-style-type: none"> <li>• a satisfactory explanation whole and part practice methods with appropriate exemplification (whole-part-whole and/or progressive part may also be explained)</li> <li>• satisfactory knowledge of positive and negative effects of both types of practice</li> <li>• evaluation demonstrated with some success</li> </ul>
Level 1 0–4 marks	<b>A limited answer:</b> <ul style="list-style-type: none"> <li>• <b>basic</b> knowledge &amp; understanding</li> <li>• <b>little or no attempt</b> to analyse/critically evaluate and/or discuss/explain/develop</li> <li>• <b>little or no attempt</b> at practical application of knowledge</li> <li>• technical and specialist vocabulary used with <b>limited success</b></li> <li>• written communication <b>lacks fluency</b> and <b>there will be errors</b>, some of which may be intrusive.</li> </ul>	<b>At L1 responses <u>are likely</u> to include:</b> <ul style="list-style-type: none"> <li>• some attempt at explanation of whole and part practice methods</li> <li>• reference to positive and/or negative effects of both types of practice</li> <li>• a limited attempt at evaluation</li> </ul>

<b>2 (e)</b>	<b>Indicative content:</b> Candidate responses are likely to include: (relevant responses not listed should be acknowledged) <b>Numbered points</b> = knowledge/understanding <b>Bullet points</b> = likely to be development of knowledge
<p><b>Part – description</b></p> <p>1    when a skill is learned by breaking it down into its subroutines...</p> <ul style="list-style-type: none"> <li>•    ...practising or learning or perfecting the sub routines...</li> <li>•    ...then putting it back together</li> </ul> <p>eg trampoline routine with several different moves / clean and jerk in weightlifting</p> <p><b>Progressive Part – description</b></p> <p>2    A – B – AB – C – ABC – D – ABCD</p> <ul style="list-style-type: none"> <li>•    when parts of a skills are practised separately</li> <li>•    ...then combined to form bigger parts...until whole skill achieved</li> </ul> <p>eg triple jump: run up – hop – run up plus hop, etc</p> <p><b>Whole – description</b></p> <p>3    Performer attempts the movement in its entirety (having been shown demo or being told what to do) / skill learned in complete form without being broken down into sub-routines</p> <p>eg tennis serve / somersault in gymnastics / soccer penalty kick</p> <p><b>Whole part whole – description</b></p> <p>4    Combination of whole and part / learner tries whole skill (to get feel) / teacher identifies weak areas which are practiced / when weak parts are perfected they are integrated back to whole</p> <p>eg swimming front crawl / focus on leg kick / integrate back into full stroke</p>	



**Part – positive**

- 5 Gives early success
- ...so raises confidence or esteem / motivates
- 6 Limits information to process / more manageable (than whole) / less demand on performer (than whole)
- helps understanding
- 7 Good for: **beginners** / cognitive learners / less experienced or younger performers / those having difficulty with a particular part
- 8 Good for performers with **limited motivation** or attention
- 9 Good for **dangerous** skills
- reduces fear
  - it is safe practice to try elements of movements before joining potential dangerous moves together
- eg** gymnastic or trampoline skills
- 10 Good for **complex** skills
- eg** tennis serve / somersault on trampoline / gymnastics routine
- 11 Good for **closed** skills
- eg** swimming
- 12 Good for **discrete** skills / for skills with identifiable sub-routines
- eg** gymnastics or dance routine
- 13 Good for skills that are **low in organisation** or skills that are **easy to break down** for **serial** skills or **slow** tasks (where skill as whole is of long duration)
- eg** triple jump

**Part – negative**

- 14 Limited awareness of end product / **do not experience**: the whole skill / feel of complete movement / (true) kinesthesia
- transfer back to whole skill can be difficult
  - can lead to lack of fluency or timing or rhythm or continuity
- 15 Can be **boring** or de-motivating
- for highly skilled performers
- 16 Takes more **time** to teach or learn (than whole)
- 17 Some (visual) learners not suited to part-practice as they need to visualise the whole (for better understanding)
- 18 Unsuitable for **highly organised skills** or skills that are difficult to break down into sub routines
- eg** golf swing

**Whole – positive**

- 19 Whole is (arguably) the best practice method (if possible)
- 20 Gestalt view / holistic view / link with cognitive theory of learning
- learner can appreciate relationship between sub-routines or parts of the skill
  - limits amount of information to process
- 21 (whole) saves times / quicker than P or PP or WPW
- motivating (to complete skill quickly or in one go)
- 22 helps (overall) understanding / gives idea / gives mental pictures / helps interpret environment
- ...so good for open skills
- eg** games skills
- 23 helps gain (true) kinaesthesia or ('real') feel for the skill
- ...so encourages fluency or rhythm or timing
- 24 Good for rapid or ballistic or powerful skills
- eg** shot putt
- 25 Good for older or more experienced or serious performers or autonomous learners
- because they have learned the sub-routines / they have an established motor programme for the skill
- 26 Can be suitable for beginners **if skill is simple**
- eg** skipping / running
- 27 (can be) good for training or to develop fitness
- if skill being practiced is physically demanding
- 28 Good for **simple** skills or skills with **low** levels of **complexity**
- With little information to process
- eg** swimming/cartwheel/sprint start
- eg** rugby tackle
- 29 Good for **continuous** skills
- With no definite beginning or end
- eg** cycling
- 30 Good for **highly organised** skills
- that are not easily broken down / with (inextricably) linked sub routines / where end of one SR becomes start of next
- eg** golf swing

**Whole – negative**

- 31 technique too difficult to learn (as a whole) / (can be) too difficult for some learners /  
(can be) too tiring / can create too much failure **DNA – ‘boring’**
- (perhaps) due to information overload
- 32 Low self-esteem or reduced confidence (can) develop
- especially with less experienced performers
- 33 Can be de-motivating
- if progress not being made
- 34 Difficult to refine or correct specific parts
- Errors are repeated or reinforced
- eg** mistakes in dribble of lay up shot in basketball carried forward into full lay up shot
- 35 Can be dangerous / not good for (potentially) dangerous skills
- if not skilled or not physically able or mature or if skill is very difficult
- eg** gymnastics vault
- 36 Not suited to learning **complex** skills
- eg** batting or bowling in cricket / high jump

**Section B Total [30]**

Section C: Socio-cultural studies relating to participation in physical activity		Additional Guidance
<b>3 (a)</b>	<b>Define Physical Education and outline the benefits of Physical Education to young people in schools today.</b> <b>(6 marks)</b> 1 mark for definition and 5 marks max for benefits.	
<b>Definition (sub max 1) to gain mark candidates must reference 1) and 2) or 3)</b>		<b>Do not accept</b>
1	1) teaching / learning <b>and either</b> 2) skills / sports <b>or</b> 3) benefits / values	physical / education examples of: skills / sports / benefits / values
<b>Benefits (sub max 5) – credit the following when given as part of definition (above)</b>		
2 (health)	improved health / (a more) healthy balanced lifestyle / learn about healthy balanced lifestyles / reduce sedentary lifestyles / contributes to '5 a week' / well-being / relieve stress / break from academic work / reduced obesity or CHD or other suitable health example	
3 (physical)	improved fitness / (learn) sport skills / try a variety of activities or sports	'skills' on own
4 (theory / KU)	knowledge of or learning about the body or theory or nutrition or rules or tactics or benefits of exercise / gain qualifications / gain GCSE or A Level PE or other eg	
5 (prep)	preparation for leisure or sport / increased participation / lifelong involvement or lifelong participation / join club / hobby / chance to play competitive sport / preparation for or helping to choose career or work eg become PE teacher or professional performer or coach or other suitable example	reference to creating elite performers/ skills for work or life be involved with extra-curricular clubs or activities
6 (self)	leadership / (self) confidence or esteem or realisation or development / knowledge of strengths and weaknesses or self-actualisation / learn about themselves or their capabilities / discipline / character building / loyalty / courage / learn to win-lose / accept defeat / sense of achievement / responsibility / independence / enjoyment / feel good factor	to play competitive sport / skills for school or life or work / sense of adventure
7 (social)	teamwork / sharing / co-operation / working with others / communication / trustworthiness / socialisation or integration in society / interaction	Socialise /make friends / improve social life
8 (commit)	commitment / determination / motivation / meeting or overcoming challenges / mental strength / emotional control	
9 (cognitive)	cognitive or thinking skills / decision making / problem solving	
10 (fair play)	sportsmanship / fair play / positive behaviour / morals / not to cheat / respect (for others)	
11 (quality / aesthetic)	qualitative benefits / (improved) quality of life / chance to be creative / achieving excellence / aesthetic appreciation or awareness	ref. natural environment
<b>6 marks in total for question 3 (a)</b>		

<b>(b)</b>		<b>The Modern Olympic Games are over 100 years old. Outline the background of the Modern Olympic Games. (4 marks)</b>	
		<b>Accept</b>	<b>Do not accept</b>
1 (De Coubertin)	(Baron Pierre) <b>de Coubertin</b> (had idea)	Incorrect spellings	First name without second name eg Baron Pierrre
2 (Ancient Games)	Ancient Olympic Games (influential)		
3 (Cotswold / Dover)	Cotswold (Olympic) Games (influential) / (Robert) Dover Games (influential)		
4 (Much Wenlock/ Dr Brookes)	(Much) Wenlock (Olympian) Games (inspired De Coubertin) / Dr William Penny Brookes (invited De Coubertin to Much Wenlock / De Coubertin visited Much Wenlock (and was inspired by what he saw) /		
5 (public schools)	(games ethic of) Public Schools impressed De Coubertin / (Influence of) Public Schools (eg Rugby School) / De Coubertin visited Rugby School or the Public Schools (and was inspired or impressed by what he saw) /		
6 (vision)	De Coubertin wanted to promote: character development / friendship / unity / international understanding / peace / fair play	other examples of ideals	
7 (amateurism)	early (Modern) Games were (strictly) amateur		
8 (Athens)	First Modern Olympic Games held in Athens or in Greece or in <u>1896</u>		
<b>4 marks in total for question 3 (b)</b>			

<b>(c)</b>		<b>Identify the economic system of the USA and explain how it influences sport in the USA. (5 marks)</b>	
<b>Economic system – (sub max 1)</b>		<b>Accept</b>	<b>Do not accept</b>
1 (economic system)	Capitalist or capitalism / free or private enterprise or market / entrepreneurship / business for profit		Big business / Commercialism / Money orientated / Win at all costs
<b>Explanation of how economic system influences sport in USA (sub max 4)</b>			
<b>Capitalism is about winning or making money and so...:</b>			
2 (win ethic)	...win (at all costs) ethic or Lombardian ethic dominates		Sport very competitive
3 (nature of games)	... are high scoring or action packed or exciting / unpopular for games to end in draw		
4 (media / entertainment)	...sport is a media product / media controls (aspects of) sport / sport part of entertainment industry	Reference to media controlling timings	
5 (deviance)	...evidence or examples of deviance in sport / evidence of drug taking or match fixing or violence or other suitable example/s of deviance		
6 (American Dream)	...sport allows individuals to achieve the American Dream or to go from 'rags to riches' / Individuals can become wealthy or successful or achieve high status through sport		If you work hard you get rewarded / Reference to university scholarship system
7 (profit)	.. sport is about making profit / sport is 'big business' / sport has (high levels of) commercialism or sponsorship or advertising / sport (stars) are a commodity / athletes as billboards / reference to cost of advertising during SuperBowl		
8 (team ownership /franchises )	...teams are privately owned or run as businesses / teams or players are bought and sold / teams as franchises or investments		
<b>5 marks in total for question 3 (c)</b>			

(d) Describe current measures to increase sporting excellence in the UK by relevant bodies or organisations. (5 marks) (sub max 3 from any one organisation eg 3 from UK Sport plus 2 from BOA = 5 marks max)	
Organisations (1-4) must be named <u>and</u> linked to correct theory point no mark for organisation on own	Do not accept
<b>UK sport:</b> 1 <b>distributes</b> national lottery funding / (invests in) World Class (Performance or Pathway) Programme / funds Podium, Development <b>and</b> Talent programme / invests Government or Public funding (into elite sport) 2 promotes ethical behaviour / runs anti-doping programme / 100% ME 3 bids for or attracts major (sporting) events (eg Olympics 2012) 4 does <b>research</b> into training or coaching science 5 works with or supports NGBs 6 runs Talented Athlete Scholarship System (TASS) / supports or funds elite performers <b>in higher education</b> .	Strategic support on own
<b>National Institutes / EIS / SIS / WIS / SINI / centres of excellence:</b> 7 (support via hub or satellite sites) eg Bisham Abbey / Lillleshall / Loughborough Uni / Roehampton (tennis) or other eg 8 scientific support /eg biomechanics /nutrition /psychology /physiotherapy /strength & conditioning or other eg 9 <b>high quality</b> coaching or facilities / provides training camps 10 Performance lifestyle advice (PLA) / career advice.	Practical support on own / coaching or facilities on own / <b>post</b> career advice
<b>National Governing Bodies / NGBs:</b> 11 talent ID 12 work of performance director/s 13 building national facility or centre/s 14 whole sport plans or one stop plans 15 does research into training or coaching science	
<b>British Olympic Association / BOA:</b> 16 fund raises 17 works on Olympic Bid/s 18 supports performance lifestyle advice (PLA) (of Institutes)	
<b>Department of Culture Media &amp; Sport (DCMS) / London Organising Committee of Olympic Games (LOCOG)</b> 19 (both) responsible for delivery of London 2012 / oversee London 2012 20 <b>DCMS</b> oversees public sector funding / puts money into sport	
<b>21 Sport England:</b> funds <b>elite</b> programmes in (some) <b>non Olympic</b> sports (eg netball)	Ref: participation
22 UK Sport or National Institutes or NGBs or BOA are becoming <b>more efficient</b> / improvement of (UK) sporting system	
23 academy programmes / G+T programmes / links between Sports Colleges and (national) institutes	Sports colleges on own
<b>5 marks in total for question 3 (b)</b>	

<b>3 (e)</b>	<b>Discuss the relationship between sport, sponsorship and the media. (10 marks)</b>	
<b>Level 3 8–10 marks</b>	<b>A comprehensive answer:</b> <ul style="list-style-type: none"> <li>• <b>detailed</b> knowledge &amp; understanding</li> <li>• <b>effective</b> analysis/critical evaluation and/or discussion/explanation/development</li> <li>• <b>clear</b> and <b>consistent</b> practical application of knowledge</li> <li>• <b>accurate</b> use of technical and specialist vocabulary</li> <li>• <b>high standard</b> of written communication.</li> </ul>	<b>At L3 responses <u>are likely</u> to include:</b> <ul style="list-style-type: none"> <li>• detailed understanding of the <b>relationship</b> between sport, sponsorship and the media</li> <li>• effective discussion of the relationship demonstrated (including both advantages and disadvantages), supported by appropriate examples</li> </ul>
<b>Level 2 5–7 marks</b>	<b>A competent answer:</b> <ul style="list-style-type: none"> <li>• <b>satisfactory</b> knowledge &amp; understanding</li> <li>• analysis/critical evaluation and/or discussion/explanation/development <b>attempted with some success</b></li> <li>• <b>some success</b> in practical application of knowledge</li> <li>• technical and specialist vocabulary used with <b>some accuracy</b></li> <li>• written communication <b>generally fluent</b> with <b>few errors</b>.</li> </ul>	<b>At L2 responses <u>are likely</u> to include:</b> <ul style="list-style-type: none"> <li>• satisfactory understanding of the <b>relationship</b> between sport, sponsorship and the media</li> <li>• discussion of the relationship attempted with some success supported by some examples</li> </ul>
<b>Level 1 0–4 marks</b>	<b>A limited answer:</b> <ul style="list-style-type: none"> <li>• <b>basic</b> knowledge &amp; understanding</li> <li>• <b>little or no attempt</b> to analyse/critically evaluate and/or discuss/explain/develop</li> <li>• <b>little or no attempt</b> at practical application of knowledge</li> <li>• technical and specialist vocabulary used with <b>limited success</b></li> <li>• written communication <b>lacks fluency</b> and <b>there will be errors</b>, some of which may be intrusive.</li> </ul>	<b>At L1 responses <u>are likely</u> to include:</b> <ul style="list-style-type: none"> <li>• basic understanding of the <b>relationship</b> between sport, sponsorship and the media</li> <li>• a focus on the individual aspects ie sport and/or sponsorship and/or the media</li> <li>• a limited attempt at discussion</li> </ul>



**Indicative content:** Candidate responses are likely to include: (relevant responses not listed should be acknowledged)

**Numbered points** = knowledge/understanding    **Bullet points** = likely to be development of knowledge

**(e) Discuss the relationship between sport, sponsorship and the media. (10 marks)**

**Golden triangle**

- 1 sport, sponsorship & media form the '**golden triangle**'
  - very strong relationship / relationship has become stronger in recent years / each element affects or relies on others / sport has changed due to the relationship
  - UK 'adopted' golden triangle from USA / 'Americanisation' of British sport
  - triangle reflects capitalism or free enterprise or is about making profit or money
- 2 more media coverage = more sponsorship / sponsorship depends on media coverage / sponsorship has increased due to media coverage  
**eg** England Netball for whom TV coverage has increased sponsorship / expense of advertising at Super Bowl
- 3 (relationship) allows major events to be staged  
**eg** London 2012
- 4 (relationship allows) improved facilities for players or spectators (due to funding from sponsorship or media)  
**eg** premier league football v women's hockey

**Golden triangle – disadvantages**

- 5 deviance / loss of integrity for sport
  - due to increased pressure to win / win at all costs / Lombardianism**eg** match fixing allegations in cricket (England v Pakistan at Lords 2010)
- 6 certain sports dominate / low profile or lower level or minority group sports get little or no media attention / get little sponsorship (so less able to market themselves)  
**eg** volleyball or other suitable example
- 7 exploitation / fame 'too much' for some
  - performers committed to demands of sponsor/s / performers may have to compete more than is desirable**eg** young successful footballers unable to cope with media exposure and/or wealth

**Media**

- 8 the media includes various forms of communication  
**eg** TV / newspapers / radio / internet / other suitable example/s
- 9 **roles** of media: inform / educate / entertain / advertise / media highlights sporting issues  
**eg** accept suitable / relevant example/s of roles
- 10 TV affects sport / TV is the most powerful aspect of media / sport on TV attracts high ratings or viewing figures
  - buying and selling of TV or broadcasting rights**eg** accept suitable / relevant example/s

- 11 increased participation  
12 money to sport from media  
**eg** money to LTA from BBC (Wimbledon)  
13 role models created / copying of (good) behaviour of (positive) role models  
**eg** copying sportsmanship  
14 media promotes or increases awareness of (minority) sport  
**eg** accept suitable example/s  
15 media has made sport more: entertaining / popular / exciting / better to watch  
**eg** half time at Super Bowl / mascots / Hawk Eye other suitable example/s of entertainment etc  
16 sport stars created /celebrity status possible  
**eg** accept suitable example/s  
17 reference to (impact or influence of) Sky or cable or digital TV  
**eg** 24hr coverage / huge variety of sports  
18 media influences or controls or changes (some) aspects of sport – (which can be good or bad) / myths or stereotypes broken or reinforced  
**eg** rules or scheduling or format  
**eg** Twenty20

**Media and sport – disadvantages**

- 19 (argument that there is) too much sport on TV / sport over-exposed  
• decreased participation / people watch rather than participate  
20 copying or being influenced by bad behaviour of (negative) role models  
**eg** bad language / lifestyle choices  
21 irresponsible press coverage  
• fuelling (by press) of negativity towards opponents  
**eg** England v Germany football  
22 media intrusion or media demands  
• bright lights etc may put performers off  
**eg** requirement to give press interviews immediately after a match  
23 Pay Per View means not everyone can see all events  
**eg** accept suitable example/s

**Sponsorship**

- 24 money to sport from sponsorship / sponsorship is the funding of individuals or teams or events or kit  
• to increase brand awareness or company exposure and/or to make profit  
• sponsoring sport gives healthy or 'cool' image to sport  
**eg** accept suitable / relevant example/s

- endorsements of products by well known performers
  - eg** accept suitable / relevant example/s
- 25 powerful or dominant sports or the sports of powerful or dominant groups may achieve have some control over sponsors
- eg** Premiership football
- 26 sponsorship allows (full-time) training / it allows participation as a job or professionalism / sponsorship gives performer's or clubs financial security
- lack of sponsorship / money = limited progress
- 27 sport sponsorship (generally or has been) a relatively inexpensive form of advertising
- reference to impact of recession

**Sponsorship and sport – disadvantages**

- 28 bad image for sport due to being linked to tobacco or alcohol or fast food products
- eg** accept any suitable / relevant example
- 29 pressure of sponsors demands
- appearances

**OCR (Oxford Cambridge and RSA Examinations)**  
**1 Hills Road**  
**Cambridge**  
**CB1 2EU**

**OCR Customer Contact Centre**

**14 – 19 Qualifications (General)**

Telephone: 01223 553998

Facsimile: 01223 552627

Email: [general.qualifications@ocr.org.uk](mailto:general.qualifications@ocr.org.uk)

**[www.ocr.org.uk](http://www.ocr.org.uk)**

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**Head office**  
**Telephone: 01223 552552**  
**Facsimile: 01223 552553**