OCR
Oxford Cambridge and RSA

Practice paper

GCSE (9–1) Physical Education

J587/01: Physical factors affecting performance

MARK SCHEME

Duration: 1 hour

MAXIMUM MARK 60

Final Version

This document consists of 17 pages

MARKING INSTRUCTIONS

PREPARATION FOR MARKING
SCORIS

1. Make sure that you have accessed and completed the relevant training packages for on-screen marking: Scoris Assessor Online Training; OCR Essential Guide to Marking.

2. Make sure that you have read and understood the mark scheme and the question paper for this unit. These are posted on the RM Cambridge Assessment Support Portal http://www.rm.com/support/ca

3. Log-in to scoris and mark the 10 practice responses ("scripts") and the 10 standardisation responses

YOU MUST MARK 10 PRACTICE AND 10 STANDARDISATION RESPONSES BEFORE YOU CAN BE APPROVED TO MARK LIVE SCRIPTS.

MARKING

1. Mark strictly to the mark scheme.

2. Marks awarded must relate directly to the marking criteria.

3. The schedule of dates is very important. It is essential that you meet the Scoris 50% and 100% (traditional 40% Batch 1 and 100% Batch 2) deadlines. If you experience problems, you must contact your Team Leader (Supervisor) without delay.

4. If you are in any doubt about applying the mark scheme, consult your Team Leader by telephone or the Scoris messaging system, or by email.

5. Work crossed out:
   a. where a candidate crosses out an answer and provides an alternative response, the crossed out response is not marked and gains no marks
   b. if a candidate crosses out an answer to a whole question and makes no second attempt, and if the inclusion of the answer does not cause a rubric infringement, the assessor should attempt to mark the crossed out answer and award marks appropriately.

6. Always check the pages (and additional objects if present) at the end of the response in case any answers have been continued there. If the candidate has continued an answer there then add a tick to confirm that the work has been seen.
7. There is a NR (No Response) option. Award NR (No Response)

- if there is nothing written at all in the answer space
- OR if there is a comment which does not in any way relate to the question (e.g. 'can't do', 'don't know')
- OR if there is a mark (e.g. a dash, a question mark) which isn't an attempt at the question

Note: Award 0 marks - for an attempt that earns no credit (including copying out the question)

8. The scoris **comments box** is used by your team leader to explain the marking of the practice responses. Please refer to these comments when checking your practice responses. **Do not use the comments box for any other reason.**

If you have any questions or comments for your team leader, use the phone, the scoris messaging system, or e-mail.

9. Assistant Examiners will send a brief report on the performance of candidates to your Team Leader (Supervisor) by the end of the marking period. The Assistant Examiner's Report Form (AERF) can be found on the RM Cambridge Assessment Support Portal (and for traditional marking it is in the Instructions for Examiners). Your report should contain notes on particular strength displayed as well as common errors or weaknesses. Constructive criticism of the question paper/mark scheme is also appreciated.

10. For answers marked by levels of response:
    a. **To determine the level** – start at the highest level and work down until you reach the level that matches the answer
    b. **To determine the mark within the level**, consider the following:

Descriptor	Award mark
On the borderline of this level and the one below	At bottom of level
Just enough achievement on balance for this level	Above bottom and either below middle or at middle of level (depending on number of marks available)
Meets the criteria but with some slight inconsistency	Above middle and either below top of level or at middle of level (depending on number of marks available)
Consistently meets the criteria for this level	At top of level

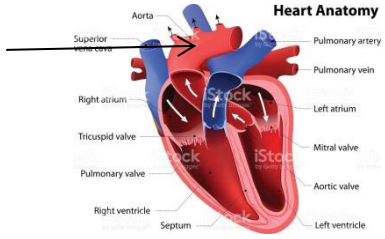
11. Annotations used in the detailed Mark Scheme

	?	Unclear
BOD	BOD	Benefit of doubt
	Cross	Incorrect
L1	L1	Level 1
L2	L2	Level 2
L3	L3	Level 3
REP	REP	Repeat
	Tick	Correct
VG	VG	Vague
SEEN	SEEN	Noted but no credit given
S	S	S (indicates 'sub max reached')
EG	EG	Example
K	K	Knowledge
DEV	DEV	Development

- Sub-maxes are indicated with **S**; the guidance section of the mark scheme shows which questions these are relevant to.
- **K** and **DEV** used instead of ticks on the extended response question to indicate where knowledge or development points from the indicative content have been made.

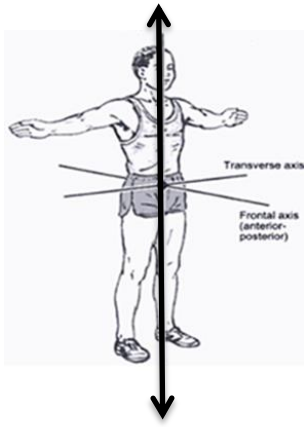
On this extended response question, one K or DEV does not necessarily equate to one mark being awarded; the marking is based on a levels of response mark scheme which awards a level and mark holistically based upon the quality of the response overall against the levels descriptors.

Section A					
Question			**Answer**	**Marks**	**Guidance**
1		**(i)** **(ii)** **(iii)**	Hinge Tibia Flexion	**3** 3 x (AO1)	**Do not accept:** (i) Synovial joint
2		**(a)** **(b)**	Sagittal Sit ups/bicep curl/somersault	**2** 1 x (AO1) 1 x (AO3)	
3			Balance	**1** 1 x (AO1)	
4			(D) Pectorals (Only muscle that is located at the front and upper part of the body – other muscles are located at the back and lower part of the body)	**1** 1 x (AO1)	
5			2 marks from: 1. Most arteries transport oxygenated blood **and** most veins transport deoxygenated blood 2. Pulmonary artery (carries deoxygenated blood) and umbilical vein (carries oxygenated blood) are exceptions to this. 3. Arteries transport blood away from the heart **and** veins transport blood back to the heart 4. Arteries have no valves **and** veins have valves (to prevent the back flow of blood)	**2** 2 x (AO1)	**Do not accept:** Any responses linked to thickness Any responses that don't compare the differences e.g. Arteries carry oxygenated blood = Too vague

Section A					
Question			**Answer**	**Marks**	**Guidance**
6			2 marks from: 1. Mobility – e.g. arm circles/hip circles 2. Dynamic movements – e.g. shuttle runs/running in and out of cones 3. Skill rehearsal/skill drill – e.g. dribbling/passing in basketball	**2** 2 x (AO2)	**Do not accept:** Pulse raising and stretching (in the question) Responses with no suitable practical example
7			(D) Frequency, Intensity, Time and Type	**1** 1 x (AO1)	
8			FALSE	**1** 1 x (AO1)	
9			(E) Abduction is a swimmer moving their arms outwards during the breast stroke	**1** 1 x (AO3)	
10		**(a)**	Correctly labelled aorta (indicated on free drawing diagram) Aorta 	**2** 2 x (AO1)	
		(b)	Function: Prevents blood from re-entering the right atrium/tricuspid regurgitation or re-entering the heart		

Section A					
Question			**Answer**	**Marks**	**Guidance**
11			2 marks from: 1. A walk around the pitch can help the body's transition back to a resting rate 2. A slow jog around the pitch **gradually** lowers heart rate 3. Stretching/jogging can help circulate blood/oxygen 4. Gentle side stepping gradually reduces breathing rate 5. Jogging increases removal of waste products/lactic acid 6. A (hamstring) stretch reduces the risk of muscle soreness/stiffness (in the legs) 7. Stretching muscles after exercise and sport aids recovery	**2** 2 x (AO2)	**Do not accept:** Responses that don't link examples to the benefits e.g. Gradually lowers heart rate = too vague **Accept:** Gentle jogging helps to **gradually** lower the heart rate = Pt 2 Other suitable examples for a cool down
12			1 mark from: Wearing shin pads in football or hockey/using a gumshield in boxing or rugby/wearing a scrumcap in rugby/helmet for cycling (other suitable examples of **personal** protective equipment)	**1** 1 x (AO1)	**Do not accept:** Reference to protective equipment e.g. post protectors in rugby Reference to general clothing / football boots
13			1 mark from: 1. Keep the load close to the waist for as long as possible while lifting to reduce the amount of pressure on the back/keep the heaviest side of the load next to the body 2. Adopt a stable position/Your feet should be apart with one leg slightly forward to maintain balance 3. Don't bend your back when lifting/avoid twisting your back or turning sideways when lifting 4. Get assistance when moving the item if it is too heavy or too large.	**1** 1 x (AO2)	

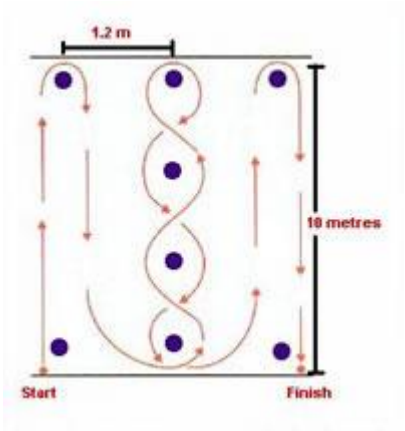
Section A					
Question			**Answer**	**Marks**	**Guidance**
14			Septum	**1** 1 x (AO1)	
15			Sprinting/golf swing/javelin throw or equivalent	**1** 1 x (AO2)	Accept any anaerobic activity
16			Bounding **and** hopping	**1** 1 x (AO2)	
17			Frontal	**1** 1 x (AO3)	
18			2 marks from: 1. Diaphragm contracts during inspiration/diaphragm flattens/pushed down during inspiration 2. Diaphragm relaxes during expiration/diaphragm pushed upwards during expiration	**2** 2 x (AO1)	
19			2 marks from: 1. Hamstrings and quadriceps work together in antagonistic pairs 2. Whilst the knee is flexed the hamstrings contract/prime mover 3. Whilst the knee is flexed the quadriceps relax (in preparation for kicking the ball)/antagonists	**2** 2 x (AO3)	

Section A					
Question			**Answer**	**Marks**	**Guidance**
20		**(a)**		**2** 1 x (AO1) 1 x (AO3)	
		(b)	Full twist in trampolining/gymnastics/spinning kick in martial arts/spin in ice skating		

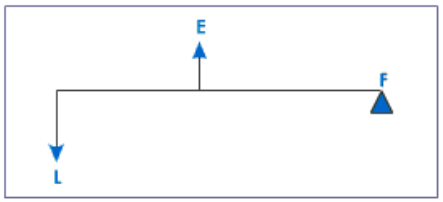
Section B					
Question			**Answer**	**Marks**	**Guidance**
21	**(a)***	**(i)**	**Indicative content** Principles of training (AO2 and 3) 1. Overload 2. Work harder than normal/puts body under stress/adaptation will follow/comes about by increasing frequency/intensity/duration. • e.g. lifting heavier weights. 3. Specificity 4. Training should be particular/relevant to needs (Do not accept specific on its own without explanation)/relevant energy system used/relevant muscle groups used / specific sport or specific area of the body. • e.g. choosing main muscle groups used in activity to train for strength. 5. Progression 6. (Gradually) becomes more difficult/demanding/challenging/once adapted then more demands on body. • e.g. Doing more repetitions of sprints at each training session. 7. Reversibility 8. Fitness can deteriorate if training stops • e.g. Performer performs worse in training/fitness tests Goal setting (AO2 and AO3)	**6** 4 x (AO2) 2 x (AO3)	**Level 3 (5–6 marks)** • detailed knowledge & understanding • clear and consistent practical application of knowledge & understanding • effective analysis/evaluation and/or discussion/explanation/development • relevant information drawn upon from other areas of the specification • accurate use of technical and specialist vocabulary • there is a well-developed line of reasoning which is clear and logically structured. The information presented is relevant and substantiated. **Level 2 (3–4 marks)** • satisfactory knowledge & understanding • some success in practical application of knowledge & understanding • analysis/ evaluation and/or discussion/explanation/development attempted with some success • some relevant information drawn upon from other areas of the specification • technical and specialist vocabulary used with some accuracy • there is a line of reasoning presented with some structure. The information presented is in the most-part relevant and supported by some evidence.

Section B					
Question			Answer	Marks	Guidance
			1. S = Specific - need to make the goal a particular target / to your sport / you know what you are trying to achieve • e.g. beat your personal best time or to improve your chest pass in basketball 2. M = Measurable - need to be able to measure the goal • e.g. to know how well you have done/to assess progress on a gymnastic apparatus 3. A = Achievable - must be within the capabilities of the individual/or A = Agreed • e.g. a golfer aiming to reduce their handicap by 3 shots over a year • e.g. you can agree your targets with your coach or peer for athletics throwing event or agreed with coach/parent 4. R = Recorded - goals should be written down when agreed with your netball coach or R = Realistic - must be within the capabilities of the individual/or attainable • e.g. a javelin thrower writing their agreed goals down in a training log • e.g. scoring at least one goal every two games for a striker in football 5. T = Time-phase/timed / time • e.g. goal of improving serving technique in tennis should be achieved in six weeks' time.		**Level 1 (1–2 marks)** • basic knowledge & understanding • little or no attempt at practical application of knowledge & understanding • little or no attempt to analyse/ evaluate and/or discuss/explain/develop • little or no relevant information drawn upon from other areas of the specification • technical and specialist vocabulary used with limited success • the information is basic and communicated in an unstructured way. The information is supported by limited evidence and the relationship to the evidence may not be clear. **(0 marks)** • no response or no response worthy of credit. **Discriminators** • **Level 3**: Both AO2 and AO3 are well covered for Level 3; some imbalance between the two may be present for 5 marks. At 6 marks, both are equally well addressed. • Detailed practical examples applied to both principles of training and goal setting • Detailed description linking how both assist in optimising a training programme.

Section B					
Question			Answer	Marks	Guidance
					• **Level 2**: Some success at more developed AO2 and/or AO3 points moves the response into Level 2 (AO2 or AO3 would be 3 marks; both attempted with some success = 4 marks). • Description of some principles of training and use of goal setting with some reference to improving performance • Use of some practical examples linked to both principles of training and goal setting • **Level 1**: Responses only demonstrating basic AO2 knowledge and understanding are Level 1. • Listing the principles of training and goal setting with little or no development and few if any practical examples

Section B					
Question			Answer	Marks	Guidance
	(b)	(i)		4 1 x (AO1) 3 x (AO3)	
		(ii)	Slowest Male: Andrew Quickest Female: Janet		
		(iii)	Brian, Fayha and Janet		
		(iv)	Andrew		

Section B					
Question			**Answer**	**Marks**	**Guidance**
22	**(a)**		5 marks from: 2 marks sub-max (effects): 1. Improvements to the efficiency of the respiratory system 2. Increased efficiency to take in O2 or to supply O2 to muscles 3. Increased surface area of alveoli 4. Increased capillarisation/capillary density around alveoli 5. Strengthens respiratory muscles/respiratory muscle hypertrophy 6. Increase in (maximum) pulmonary ventilation 7. Increase in minute volume 8. Increase in tidal volume 9. Decrease in lung disease/healthier lungs 3 marks sub-max (benefits): 1. Increased endurance/able to run for longer 2. Increased performance levels 3. Increased speed of recovery 4. Better chance of participating in running for a longer time/older age (due to health benefits)	**5** 2 x (AO1) 3 x (AO2)	

Section B					
Question			**Answer**	**Marks**	**Guidance**
	(b)		5 marks from: 1. Vascular shunt mechanism 2. More blood delivered to the working muscles/vasodilation of blood vessels 3. E.g. – Increased blood supply to the quadriceps during a game of hockey 4. Decrease in blood flow to other organs/vasoconstriction of blood vessels 5. E.g. – Decreased blood supply to the liver/kidney/intestines during a game of hockey	**5** 5 x (AO2)	Give marks if practical example indicates knowledge of other points Egg Increased blood supply to quadriceps during a hockey game = pt 2 and pt 3 Egg Decreased blood supply to the liver/kidney/intestines during a game of hockey = pt 4 and pt 5
23	**(a)**	**(i)** **(ii)**	1 mark for suitable example: Bicep curl/footballer taking a throw in 3 marks from:  E = Effort/bicep muscle L = Load/resistance/weight/ball F = Fulcrum/elbow joint	**4** 1 x (AO2) 3 x (AO1)	**Accept:** Letters used as abbreviations = BOD (EG L = Load, E = Effort and F = Fulcrum) Fulcrum at either end = 1 mark Accept any distance between the three as long as effort is correctly identified as being in the centre **Do not accept:** Effort & load unless indication of the correct direction that each are moving

Section B					
Question			Answer	Marks	Guidance
	(b)		4 marks from: 2 marks sub-max (differences): 2nd class lever: Load is in between fulcrum and effort 3rd class lever: Effort between fulcrum and load 2nd class lever example is jumping in basketball and a 3rd class lever example is bicep curl 3rd class lever system most common type of lever in the body (more than 2nd class lever) 2nd class lever systems can generate a lot of force 2 marks sub-max (produce movement): 2nd class lever: Fulcrum is the joint between the metatarsals and phalanges 3rd class lever: Fulcrum is elbow joint 2nd class lever: Load is the weight of the body 3rd class lever: Load is weight of forearm/plus actual weight/dumbbell/ball 2nd class lever: Effort is force generated by gastrocnemius 3rd class lever: Effort is force generated by biceps	**4** 4 x (AO3)	Accept correctly labelled diagrams illustrating 2nd & 3rd class levers

Section B					
Question			Answer	Marks	Guidance
	(c)		2 marks from: 1. Flexion 2. Extension 3. Adduction 4. Abduction 5. Circumduction	**2** 2 x (AO1)	