

# Physical Education

Advanced GCE A2 7875

Advanced Subsidiary GCE AS 3875

## Mark Schemes for the Units

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**January 2007**

**3875/7875/MS/R/07J**

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### Advanced Subsidiary GCE Physical Education (3875)

#### MARK SCHEMES FOR THE UNITS

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**Mark Scheme 2562  
January 2007**

## Section A

## Application of Anatomical and Physiological Knowledge to Improve Performance

- 1 (a) (i) Use Fig 1 to complete the following joint analysis table for the hip joint. [4]

| Joint | Joint Type | Articulating Bones | Movement Occurring | Agonist | Antagonist |
|-------|------------|--------------------|--------------------|---------|------------|
| Hip   |            |                    |                    |         | Iliopsoas  |

4 marks max

- 1 (Joint Type): Ball and Socket
- 2 (Articulating bones): femur and pelvic girdle/pelvis/ilium/acetabulum.
- 3 (Movement Occurring): extension
- 4 (Agonist): gluteus maximus

- (ii) Identify the type of contraction occurring at the agonist and give one exercise that could be used to strengthen the agonist muscle. [2]  
2 marks max

- 1 (Type of contraction): concentric
- 2 (Strengthen Exercise): squat/squat thrust/leg press/lunge/bent knee hip extensions.

- (iii) Identify ways in which a warm up can improve the strength of contraction during the exercise identified in (ii) above. [3]  
3 marks max

- 1 An increase in muscle temperature
- 2 This allows greater stretch/elasticity
- 3 Increased blood flow/oxygen delivery
- 4 Nerve impulse conduction is quicker
- 5 Improved (muscle) contraction speed/faster reaction times/improves co-ordination between antagonistic muscle pairs
- 6 Less resistance within muscle/reduction in muscle tension/decreased muscle viscosity
- 7 Increased enzyme activity
- 8 More energy available in muscles

- (b) Use a practical example to describe how angular motion is produced. [1]  
1 mark max (must use practical example)

- 1 eg hitting a ball on the top/bottom//off centre/outside centre of mass/eccentric force/ circular motion of the shoulder in tennis serve.

- (c) Define stroke volume and give a maximal value for an aerobic athlete. [2]  
2 marks max  
(definition)

- 1 The amount of blood ejected from the left/each ventricle in one beat/the difference in the volume of blood in the ventricle, before and after ventricular contraction/ $EDV - ESV = SV$   
(value)
- 2 range = 90 – 200 ml per beat

- (d) (i) **Define minute ventilation and give an average value during maximal exercise.** [2]  
**2 marks max**  
**(definition)**
- 1 The volume of air inspired **or** expired in one minute/ $TV \times f = VE$   
**(value)**
  - 2 range 80 - 180 L/min
- (ii) **What happens to the inspiratory reserve volume as an athlete moves from rest to exercise?** [1]  
**1 mark max**
- 1 decreases

- 2 (a) (i) Describe how the conduction system of the heart controls the cardiac cycle to ensure enough blood is ejected from the heart during the training run. [3]  
3 marks max

- 1 Impulse initiates from SA (sino atrial) node
- 2 This causes atria to contract/atrial systole/blood ejected from the right **and** left atria/atrial depolarisation.
- 3 Impulse received by AV (atrioventricular) node
- 4 Impulse conducted down Bundle of His
- 5 Up the Purkinje fibres
- 6 This causes ventricles to contract/ventricular systole/blood ejected out of right **and** left ventricles/ventricular depolarisation
- 7 The atria/ventricles relax to allow the heart to refill with blood.

- (ii) Identify two ways in which oxygen is transported in the blood during the training run. [2]  
2 marks max

- 1 Carried in the plasma
- 2 Combines with haemoglobin
- 3 Forms oxyhaemoglobin/HbO<sub>2</sub>

- (iii) How is oxygen exchange increased at the muscle tissues (gas diffusion) during the training run? Why is this beneficial to performance? [5]  
5 marks max  
(4 marks sub max)  
(How exchanged)

- 1 High partial pressure of oxygen (PO<sub>2</sub>) in blood
- 2 Lower/decreased PO<sub>2</sub> in muscle (cell)
- 3 Increased diffusion/concentration gradient
- 4 Increase in temperature allows increased release of oxygen from haemoglobin/increased dissociation of oxygen
- 5 Bohr Effect/increase in acidity/ increased CO<sub>2</sub>/carbonic acid/lactic acid/lower pH of blood allows greater release of oxygen from haemoglobin
- 6 Myoglobin is used to transport/store more oxygen (to mitochondria)

**(Why beneficial)**  
**(2 marks sub max)**

- 7 Delays OBLA/delays fatigue
- 8 Increased energy production/increased intensity/increased duration of exercise

- (iv) Identify two mechanisms of venous return which enable the athlete to deliver deoxygenated blood back to the heart during the training run. [2]  
2 marks max

- 1 Muscle pump/skeletal muscle pump
- 2 Valves
- 3 Ven constriction/venomotor control
- 4 Respiratory pump
- 5 Gravity forces blood back from above heart



- (v) Describe how the mechanics of breathing ensure carbon dioxide is expired during the training run. [3]  
3 marks max

- 1 This process becomes active
- 2 Due to internal intercostals contracting
- 3 And abdominal muscles contracting
- 4 Diaphragm relaxes/pushed up
- 5 Rib cage pulled in **and** down
- 6 Causing a decrease in volume of thoracic cavity
- 7 Causing an increased pressure within thoracic cavity
- 8 More air pushed out of the lungs

- 3 (a) (i) Identify **two** characteristics of abilities.  
2 marks in total

- 1 Innate/genetic/inherited
- 2 Enduring/stable
- 3 Underpins (movement) skills

- (ii) Give **two** examples of motor abilities  
2 marks in total

- 1 Speed
- 2 Strength
- 3 Endurance/stamina
- 4 Balance
- 5 Flexibility
- 6 Co-ordination

- (b) (i) Describe the two extremes on the pacing continuum.  
2 marks in total

**Sub max 1**

- 1 (Self paced) - performer is in control of rate/speed/timing of skill/proactive
- 2 (Self paced) - often closed skills

**Sub max 1**

- 3 (Externally paced) - performers action/rate controlled by environmental factors/reactive
- 4 (Externally paced) - often open skills

- (ii) Practical examples of two pacing classifications.  
2 marks in total

- 1 (Self paced) - shot putt/golf drive/tennis serve
- 2 (Externally paced) - batting in cricket/white water rafting/receiving a hockey pass

- (c) (i) Describe intrinsic and extrinsic motivation and give a practical example of each of these two types of motivation.  
4 marks in total

**Sub max 2 for each type of motivation**

**1 mark for description and 1 mark for example**

(Intrinsic)

**Sub max 2**

- 1 (Drive to perform) comes from within performer
- 2 Performance is for personal satisfaction/pride/enjoyment/fun
- 3 (Intrinsic eg) - gymnast trains hard to perfect technique/person jogs just for personal enjoyment

(Extrinsic)

**Sub max 2**

- 4 (Drive to perform) comes from external sources
- 5 Performance is for rewards
- 6 Rewards can be tangible and/or intangible
- 7 (Extrinsic eg) - child plays tennis to please parents/swimmer swims for personal recognition/football player gives maximum effort to win medal

- (ii) **Describe drive reduction theory.**  
**3 marks in total**  
**Sub max 2 without example**

- 1 Performer has a drive/need/desire to learn a skill/solve a problem
- 2 Skill is practised/action performed to satisfy the drive
- 3 (Drive is reduced) when skill is successful/skill is learned/habit is formed/S-R bond is formed
- 4 Too much practice/over-learning of same task can lead to boredom/inhibition
- 5 A reduction in drive/motivation leads to a deterioration in performance
- 6 New drive needs to be introduced/rest periods or variation of task practice needed to re-motivate/initial drive satisfied so new drive required

- 4 (a) (i) **Define reaction time, movement time, response time.**  
**3 marks in total**

- 1 (Reaction time) the time from the onset/start of the stimulus to the initiation of the response
- 2 (Movement time) the time from the end of reaction time/to the end of movement
- 3 (Response time)  $RT = RT + MT$ /reaction time and movement time combined/onset of stimulus to end of movement

- (ii) **Using an example from an invasion game explain why fast reaction time is important.**

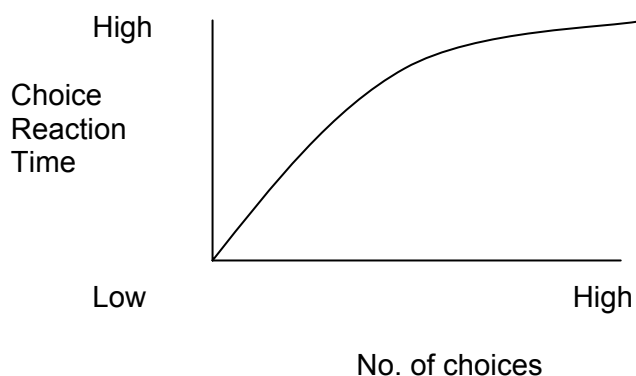
**1 mark in total (example must come from an invasion game)**

- 1 Football striker running on to a pass from midfield – needs fast reaction to beat defender to the ball

- (iii) **Sketch a graph to show how the number of choices affects a performer's reaction time.**

**3 marks in total**

- 1 Correct labelling of axes
- 2 Units/indication of increase on axes
- 3 Correct shape of curve



- (b) (i) **Explain operant conditioning.**

**4 marks in total**

**Sub max 2 without example**

- 1 Trial and error occurs
- 2 Environment manipulated
- 3 Behaviour is modified/shaped
- 4 Reinforcement/praise/satisfiers/annoyers help learning/strengthen S-R bond
- 5 Responses not reinforced will disappear
- 6 Partial reinforcement/reinforcement given occasionally ensures learning is more thorough but learning takes longer
- 7 Complete reinforcement/reinforcement after every attempt increases speed of learning but behaviour can be forgotten more easily

- (c) Describe four strategies that could help a performer retain information in the long term memory.

**4 marks in total**

- 1 Practice/repetition/over learning
- 2 Link to past experiences/associated current and past experiences
- 3 Make information relevant/simple/meaningful
- 4 Make information interesting/exciting/enjoyable
- 5 Make information unusual or unique
- 6 Use mental rehearsal/imagery to form mental picture
- 7 Chunk/group/organise pieces of information together
- 8 Intensify the stimulus
- 9 Reward/reinforce success



**Mark Scheme 2563  
January 2007**

- 1 (a) Identify four different roles of a coach. (4)

4 marks in total

4 marks for 4 of:

- 1 Instructor
- 2 Trainer
- 3 Educator/Teacher
- 4 Administrator
- 5 Disciplinarian
- 6 First Aider/Medic
- 7 Friend
- 8 Learner/Student
- 9 Manager
- 10 Scientist/Motivator
- 11 Publicity Agent
- 12 Social worker/Counsellor
- 13 Role model

- (b) (i) Why should coaches discourage performers from taking prohibited performance enhancing drugs? (4)

4 marks in total

4 marks for 4 of:

|                          |  |
|--------------------------|--|
| 1 (cheating)             | cheating/breaking rules/unfair advantage/immoral/against spirit or ethics or values of sport   |
| 2 (illegal)              | some drugs illegal   |
| 3 (health)               | dangerous to health/physiological risks/can be addictive/lowers life expectancy/can cause death/can lead to liver disorders/can lead to heart disease/can cause sexual or gynaecological problems/or equivalent suitable example |
| 4 (psychological damage) | psychological damage/can affect moods or behaviour/personality change/ aggression/ depression  |
| 5 (status)               | lowers status of or undermines sport/against sport/reduces interest in sport   |
| 6 (role modelling)       | negative role modelling/bad example.   |
| 7 (coach)                | coach in position of responsibility or with duty of care   |



- (ii) What is being done or could be done to reduce the problem of drugs in sport? (4)

4 marks in total  
4 marks for 4 of:

|   |                            |   |
|---|----------------------------|---|
| 1 | (educate performers)       | educate performers/make performers aware of dangers or aware of moral issues/education at schools or clubs/100% ME                      |
| 2 | (educate coaches)          | educate coaches/make coaches aware of dangers/awareness of moral issues/100% ME (if not given above)                                    |
| 3 | (punishments)              | stricter punishments/life bans/standardisation of punishments/Olympic ban/harsher consequences/return of medals or funding/lose records |
| 4 | (testing)                  | stricter or random or targeted or more testing/out of season testing/more money for testing   |
| 5 | (role models)              | role models or Sports Ambassadors to publicise or encourage drugs free sport/'name and shame'   |
| 6 | (research)                 | more research into dangers/research into testing  |
| 7 | (counter-culture/legalise) | make performance enhancing drugs legal/radical action   |
| 8 | (WADA)                     | WADA/standardise world wide doping policy   |

- (c) (i) Describe how sport is organised and administered in the UK. (3)

3 marks in total  
3 marks for 3 of:

|   |                           |   |
|---|---------------------------|---|
| 1 | (complicated)             | complicated/complex/inefficient   |
| 2 | (funding/clubs)           | public or private or voluntary <u>funding or clubs</u>  |
| 3 | (hierarchical)            | hierarchical/on different levels  |
| 4 | (decentralised)           | decentralised/<br>little government involvement or interference   |
| 5 | (NGB)                     | NGBs/each sport has own NGB/<br>NGBs or associations or clubs autonomous  |
| 6 | (volunteers)              | volunteers/unqualified officials or administrators/<br>unpaid coaches   |
| 7 | (increasing efficiency)   | increasing efficiency/increased govt support/<br>work of DCMS/an increasingly professional or businesslike approach (by clubs and organisations)  |
| 9 | (organisations /example ) | accept <u>one</u> of the following with linked feature<br><b>UK Sport</b> - excellence<br><b>UKSI/EIS</b> - excellence<br><b>H C Councils</b> - M.P./ start-stay-succeed<br><b>SCUK</b> - develop coaching<br><b>WSF/DSE</b> - M.P.or Ex by women or disabled<br><b>YST</b> - Top Sport/helps sports colleges/M.P.<br><b>SDOs</b> - M.P./develop partnerships |

- (ii) How do the National Lottery and the United Kingdom Sports Institute (UKSI) help to develop sporting excellence in the UK? (6)

6 marks in total

6 marks for 6 of: sub max of 4 from one section

**National Lottery**

- 1 The 'World Class (performance) Programme'/WC(P)P/talent ID/talent-development-podium or start-potential-performance
- 2 money for: accommodation or living costs or travel/Athlete Personal Awards/grants that recognise sacrifice or dedication
- 3 fund: UK Sport/UKSI (EIS)/ NGBs/H.C. councils/YST/Sports Colleges
- 4 high level facilities or equipment
- 5 attracting or providing world class events
- 6 Mass participation/increasing numbers/building base of performance pyramid/clubs or teams/facilities or equipment

**UKSI**

- 7 high level or specialist coaching or facilities or equipment/specialist training/high performance centres
- 8 sports science/nutritional advice or psychological training or acclimatisation training/performance analysis
- 9 give academic education/other qualifications/flexible education programmes
- 10 suitable competition/with other elite performers
- 11 career advice/Performance Lifestyle Advice/(formerly) ACE UK
- 12 links with NGBs or sports colleges/talent ID
- 13 sports medicine

- 2 (a) (i) Identify some of the values or benefits to be gained from a positive Physical Education experience. (4)

4 marks in total:

**Physical**

- 1 physical values/improvement of: health/fitness/physique/skill/agility or other suitable physical example  
2 knowledge of: sports/rules/tactics/body/theory/nutrition/benefits of exercise

**Preparation**

- 3 preparation values/preparation for leisure or sport/joining a club  
4 preparation for career or work/eg teacher, professional, coach, armed forces or other suitable example

**Personal**

- 5 personal values or skills/enjoyment/self-confidence/self-esteem/self-realisation/knowledge of strengths and weaknesses/leadership/loyalty/emotional control  
6 social values or skills/teamwork/sharing/co-operation/communication/socialisation  
DO NOT ACCEPT: 'socialise' or 'make friends' or 'improve social life'  
7 commitment/motivation/determination/overcome challenging or dangerous situations  
8 cognitive/thinking skills/decision making/problem solving  
9 positive behaviour/sportsmanship/fair play.

**Quality of Life**

- 10 improved quality of life/qualitative/influence on lifestyle/opportunity for creativity/achieving excellence/mental well being  
11 aesthetic appreciation or awareness (of performance or environment)

- (ii) What are the characteristics of physical recreation? (4)

4 marks in total  
4 marks for 4 of:

|    |                 |   |
|----|-----------------|---|
| 1  | (skill/fitness) | limited skill or fitness/low standard   |
| 2  | (organisation)  | limited organisation/no officials/no set structure  |
| 3  | (rules)         | flexible rules/NGB rules don't need to be followed/few or no set rules  |
| 4  | (competition)   | <u>limited</u> competition  |
| 5  | (enjoyable)     | enjoyable/fun/taking part more important than winning/non-serious/low level of commitment/<br>low physical demand |
| 6  | (equipment)     | basic equipment/no specialist clothing/inexpensive  |
| 7  | (time)          | time flexible or decided by agreement/free time/no set time/spontaneous/leisure time/own time/<br>spare time      |
| 8  | (choice)        | choice/voluntary/pre-occupation/hobby/amateur   |
| 9  | (everyone)      | everyone/anyone/available to all/any age  |
| 10 | (space)         | space or place flexible or decided by agreement/<br>no set place or space   |

- (iii) Why would the Olympic Games be classified as sport rather than as physical recreation? (3)

3 marks in total  
3 marks for 3 of:

|    |                |  |
|----|----------------|--|
| 1  | (organisation) | strict rules/codification/organised/structured/officials/NGBs/associations/ BOA IOC            |
| 2  | (competitive)  | competitive/competition  |
| 3  | (commitment)   | commitment/dedication/determination/effort/physical endeavour/training/coaching                |
| 4  | (skill)        | skilfulness/physical prowess/fitness/'international'/high-level/elite                          |
| 5  | (time)         | strict time limits/set time  |
| 6  | (space)        | at a designated space or place/purpose built/fixed boundaries/specialist facilities            |
| 7  | (extrinsic)    | extrinsic rewards/as a job/professional/occupation/for money or fame/winning important/serious |
| 8  | (chance)       | element of chance  |
| 9  | (▲)            | media coverage/sponsorship/commercialism/spectatorism/highly funded                            |
| 10 | (equipment)    | specialist or high level equipment or kit  |

- (b) (i) Explain each of the characteristics shown in Fig 2. (3)

3 marks in total  
3 marks - one for each of:

|   |              |  |
|---|--------------|--|
| 1 | (natural)    | activities that: suit the environment or surroundings/simple or cheap equipment or activities  |
| 2 | (ritual)     | activities associated with religion/religious festivals/spiritual/symbolic/the supernatural/often linked with ceremonies/dances to 'celebrate' births, marriages, deaths or war<br>Do not accept 'Haka' on own |
| 3 | (functional) | activities that serve a purpose/accept suitable example eg hunting for food/wrestling to choose head man/activities that help survival<br>Do not accept 'hunting' on own                                       |

- (ii) In what ways did colonialism change the lifestyle and traditional physical activities in tribal cultures? (3)

3 marks in total  
3 marks for 3 of:

|   |                 |   |
|---|-----------------|---|
| 1 | (old sports)    | traditional sports reduced  |
| 2 | (new sports)    | new sports adopted or adapted/eg cricket or rugby   |
| 3 | (military)      | tribes overcome/weapons removed/guns introduced   |
| 4 | (trading)       | new trade reduced independence of ethnic community/new ways of trading  |
| 5 | (Christianity)  | pagan worship curtailed/Christianity imposed/ tribal ceremonies or rituals or festivals reduced/ status of wrestling to select head man reduced |
| 6 | (education)     | schools opened/new or English education system introduced   |
| 7 | (law and order) | introduced law and order or police system/role of traditional headman reduced   |

- (c) What strategies do emergent countries such as Kenya use to maximise the likelihood of achieving international sporting success? (4)

4 marks in total  
4 marks for 4 of:

|   |                      |   |
|---|----------------------|---|
| 1 | (role models)        | role models used to inspire others  |
| 2 | (unequal funding)    | unequal funding/disproportionate funding/funding limited to one or two sports or top performers |
| 3 | (selection)          | selection/elitism/limited range of sports/focus on top performers                               |
| 4 | (high profile sport) | high profile or Olympic sport chosen  |
| 5 | (low tech)           | low technology/cheap/simple/natural sports chosen   |



**Mark Scheme 2565  
January 2007**

- 1 (a) Outline the aims of either the 1902 Model Course or a lesson based on *Moving and Growing (1952)/Planning the Programme (1954)*. [3]

**3 marks in total**

3 marks for 3 of: Must be from **either** the Model Course **or** 1950s

**Model Course**

- |   |                    |   |
|---|--------------------|---|
| 1 | (fitness for war)  | fitness for war/to avoid defeat or near defeat in future war/to eliminate problems caused by poor performance in Boer war |
| 2 | (discipline)       | discipline/obedience/so that working class would know their place in society  |
| 3 | (health)           | better health for working class   |
| 4 | (weapons training) | weapons training  |

**1950s**

- |   |               |   |
|---|---------------|---|
| 5 | (physical)    | learn physical skills/body management/gymnastic/dance/games/swimming skills/to give a varied programme/varied lessons |
| 6 | (social)      | learn social skills/co-operation/working together/group work  |
| 7 | (cognitive)   | learn cognitive skills/working things out   |
| 8 | (enjoyment)   | enjoyment/satisfaction/feeling of achievement/success   |
| 9 | (involvement) | to get everyone involved/taking part.   |

- (b) (i) Identify differences between popular recreation in pre-industrial Britain and rational recreation in post-industrial Britain. [4]

**4 marks in total**

4 marks for 4 of: 1 mark for each comparison

| Comparison of .....                                 |   |
|---|---|
| Popular Recreation and                              | Rational Recreation                                       |
| 1 local   | regional/national/international                           |
| 2 uncodified/simple rules/limited organisation      | Codified/kits/team numbers/officials/boundaries           |
| 3 cruel and/or violent                              | respectable/civilised/non-violent/sportsmanship/fair play |
| 4 occasional/festival                               | regular   |
| 5 rural   | urban/sub-urban   |
| 6 occupational                                      | for leisure   |
| 7 wagering  | wagering reduced  |
| 8 courtly and popular/upper class and peasant class | upper class and new middle class and working class        |
| 9 natural facilities                                | Purpose-built facilities                                  |
| 10 strength-based/few tactics/no positions          | Skill-based/tactics/positions                             |



- (ii) **With reference to a social change give reasons why the differences between popular recreation and rational recreation occurred.** [4]

**4 marks in total**

4 marks for 4 of:

- |   |                 |   |
|---|-----------------|---|
| 1 | (transport)     | improved transport/improved communications/impact of railways   |
| 2 | (time)          | initial loss then increased free time/Saturday 1/2 day/more structured free time/machine time   |
| 3 | (revolutions)   | impact of industrial revolution/urban revolution  |
| 4 | (literacy)      | increased literacy led to development of NGBs   |
| 5 | (law and order) | increased law and order/adverse attitudes of church/industrialists towards gambling   |
| 6 | (class 1)       | pre-industrial Britain predominantly two class society/post industrial Britain a three class society/feudal nature of society             |
| 7 | (class 2)       | influence of 'new' middle class/middle class attitudes/the civilising process   |
| 8 | (work/play)     | play was an integral part of life in pre-industrial Britain whereas it became something to do after work/impact of Protestant work ethic. |
| 9 | (technology)    | purpose-built facilities/improvements in equipment  |

- (c) **How did social class influence participation in sports and pastimes in both pre-industrial and post-industrial Britain?** [4]

**4 marks in total**

4 marks for 4 of: Sub max of 3 from either section

**In Pre-Industrial Britain**

- |   |                        |  |
|---|------------------------|--|
| 1 | (two class society)    | Britain predominantly a two class society/upper class/gentry/aristocracy v lower class/peasants                        |
| 2 | (different games)      | each class played different games/eg real tennis for upper class and mob football for lower class                      |
| 3 | (different roles)      | or had different roles within the same activity/eg patron and pedestrian   |
| 4 | (community activities) | impact of community activities/eg fairs/wakes/opportunity for fun for all/'free' enjoyment                             |
| 5 | (travel)               | lower class couldn't travel far/had to walk/did not have transport/upper class had horse and coaches/more opportunity. |

**In Post-Industrial Britain**

|    |                   |  |
|----|-------------------|--|
| 6  | (middle class)    | emergence of new middle class/middle class attitudes/values  |
| 7  | (work conditions) | changes in work conditions for working class/when working class gained Saturday 1/2 day spectatorism was affected or increased |
| 8  | (excursion trips) | excursion trips for working class by benevolent industrialists   |
| 9  | (holidays)        | holiday patterns/week's paid holiday for working class by late nineteenth century  |
| 10 | (pro/am)          | amateurs were middle or upper class/professionals tended to be working class.  |

**(d) How did provision and organisation within late nineteenth century English public schools promote sports and games? [6]**

**6 marks in total** - see levels mark scheme

**Levels marked****Level 3 5-6 marks**

- A comprehensive (usually at least four points) and well developed answer.
- Shows sound knowledge and understanding of the impact of provision and organisation within public schools.
- A clear explanation of how they promoted sports and games.

**Level 2 3-4 marks**

- Some knowledge and understanding (usually at least two points) of the impact of provision and organisation in public schools
- An attempt at explanation of how they promoted sports and games.

**Level 1 1-2 mark**

- Shows limited/superficial knowledge or understanding of how provision and organisation in public schools promoted sports and games
- No explanation - likely to be descriptive.

Candidates are likely to make the following points:

|   |                |  |
|---|----------------|--|
| 1 | (time)         | Time/boarding influence  |
| 2 | (money 1)      | Endowments/regular income/financial support of Governors and Trustees                                |
| 3 | (money 2)      | Fees/fee paying schools/fees used to improve provision/Old Boys' subscriptions/contributions/support |
| 4 | (facilities 1) | Specialist facilities/swimming baths/rackets/fives/squash/lawn tennis courts                         |
| 5 | (facilities 2) | Land/buying land for pitches/extensive playing fields  |

|    |                     |   |
|----|---------------------|---|
| 6  | (expertise 1)       | Employment of Oxbridge 'blues'/Masters joined in team games/played squash/fives/tennis with/against the boys  |
| 7  | (expertise 2)       | Employment of lower class professionals/games professionals/cricket coaches/racket coaches/Sixth Formers/the Philathletic Society at Harrow School (1857)                                 |
| 8  | (role models)       | Games masters/assistant masters/Sixth Form as role models/eg Brooke in Tom Brown's Schooldays/success/influence of Old Boys/Sixth Form/Old Boys as heroes.                                |
| 9  | (social control)    | Influence of Headmasters eg Arnold of Rugby School/the desire for social control/using games to achieve social control/discipline   |
| 10 | (regularity)        | Regularity of play/playing regularly increased standards/increased public interest/games afternoons   |
| 11 | (inter house)       | Inter-house games/house teams/importance of house matches/inter-school games  |
| 12 | (inter-school/club) | Fixtures v other major public schools/'network' of public schools/fixtures with local clubs/links with the community/fixtures against prestigious clubs eg annual matches v MCC (cricket) |
| 13 | (competition)       | Athletic sports days/schools often first to hold athletic sports meetings in towns/championships/public schools competitions/training for big competitions                                |
| 14 | (compulsion)        | Compulsion/daily games compulsory in many public schools  |
| 15 | (organisation)      | Highly organised/systematic games programmes/boys responsible for organisation of games.  |
| 16 | (old boys)          | Spread of games in society  |

2 (a) **The success of sports development and the achievement of excellence in all countries depends upon a wide range of participation opportunities**

(i) **Identify the provision and specialist facilities that are funded by the French government to encourage the pursuit of sporting excellence in France.**

[3]

**3 marks for:**

- 1 Community facilities/multi-sport facilities in every major settlement
- 2 INSEP/National Sport Centre/Institute for Sport Excellence
- 3 Specialist Sport Centres/Sport Institutes/Regional Sport Centres eg Fort Romeu
- 4 Centres d'Education Physique et Sporting/CREPS
- 5 Union Nationale du Sport Scholaire/UNSS
- 6 Sport Study Sections
- 7 Primary Sports Schools
- 8 Joint provision/shared facilities

(ii) **Give one example of a French ethnic sport and explain why ethnic sports continue to be important to communities in France.**

[3]

Sub max for 1 example:

- 1 Breton wrestling/bull fighting/strongman contests/hay bale raising/log sawing/anvil lifting

Explanation of importance two marks from:

- |                   |  |
|-------------------|--|
| 2 (culture)       | Support/retain local culture/ethnic identify                   |
| 3 (unity)         | Uniting/bringing together local/rural communities/social event |
| 4 (celebration)   | Holiday/festival/tradition                                     |
| 5 (entertainment) | opportunity to gamble  |
| 6 (local pride)   | Local significance/local champion/local pride                  |
| 7 (commercialism) | Opportunity to make money/good for economy/tourism.            |

Sub max 2

(b) (i) **Explain how Title IX (nine) has influenced women's sport in the USA.**

[3]

**3 marks from:**

- 1 (opportunity) Equal opportunity for women in sport
- 2 (finance) Equal distribution of money between men and women
- 3 (participation) Increased numbers of women participants/equal/improved practical time

- |   |                |   |
|---|----------------|---|
| 4 | (competition)  | More competition for women/competition at High School/College                 |
| 5 | (status)       | Increased status of women's sport/increased standards of performance          |
| 6 | (culture)      | Male dominance/hyper/extreme masculinity challenged/women's sport accepted    |
| 7 | (scholarships) | Scholarships for women in more sports/increased accessibility to scholarships |
| 8 | (facilities)   | Improved/upgraded facilities for women.                                       |

**(ii) What factors have led to the high profile of extra-curricular sport in USA High Schools? [3]**

**3 marks for:**

- |   |                           |  |
|---|---------------------------|--|
| 1 | (standard)                | School perceived as a centre of excellence/high standard of play                       |
| 2 | (incentive)               | Scholarship for players  |
| 3 | (accountability)          | Pressure on coach to be successful/hire and fire contract for coach                    |
| 4 | (winning)                 | Lombardian ethic/strong win ethic/ethic reflects mainstream culture                    |
| 5 | (copy of professionalism) | Copies/reflects professional sport/matches include other entertainment eg cheerleading |
| 6 | (community)               | Spectator interest/large crowds/spectator sport for the community                      |
| 7 | (finance)                 | Sponsorships/commercial investment/Alumni donations.                                   |

**(c) (i) Explain why the popularity of Association Football (soccer) has now begun to increase in Australia. [4]**

**4 marks from:**

- |   |                   |   |
|---|-------------------|---|
| 1 | (governing)       | Better leadership/stronger governing body body)   |
| 2 | (ethnicity)       | Ethnic origin of teams no longer recognised/<br>team names no longer have name of country of origin/reduced ethnic violence |
| 3 | (media attention) | Increased media coverage/positive media publicity   |
| 4 | (schools)         | A popular school option/elective/increasingly popular with children/increased participation                                 |

- |   |                |  |
|---|----------------|--|
| 5 | (AIS)          | Sports institutes are now supporting soccer                          |
| 6 | (sponsorships) | Sponsors are being attracted to soccer                               |
| 7 | (role models)  | Australian players are amongst stars of European leagues/role models |
| 8 | (success)      | World Cup qualification/victory over 'Motherland'/ England.          |

**(ii) Why has Australian Rules Football (Aussie Rules) developed into the prominent 'new game' of Australia? [5]**

**Levels marked**

**Level 3 4-5 marks**

A comprehensive answer usually giving three reasons and showing sound knowledge and understanding of the development of Australian Rules Football. A clear explanation will be given as to why Australian Rules Football developed into a prominent game.

**Level 2 2-3 marks**

An answer usually giving two reasons and showing some knowledge and understanding of the development of Australian Rules Football. An explanation will have been attempted as to why Australian Rules football developed into a prominent game.

**Level 1 1 mark**

An answer showing limited/superficial knowledge and understanding of the development of Australian Rules Football. No explanation will have been attempted as to why Australian Rules Football developed into a prominent game.

- |    |                 |   |
|----|-----------------|---|
| 1  | (origin)        | A genuine Australian game   |
| 2  | (origin)        | Adapted from an Aborigine game  |
| 3  | (origin)        | Link with cricket/fitness for cricket/a winter game for fitness/cricket helped with development                                   |
| 4  | (popularity)    | Known as the people's game/accessible to all/ethnic/cultural blending/celebrates its ethnic appeal/game of cosmopolitan Australia |
| 5  | (spectators)    | All classes/backgrounds/no one excluded   |
| 6  | (culture)       | Suits egalitarian society/ethos   |
| 7  | (frontier)      | Reflects the frontier/Bush ethos/the manly image of bush/frontier   |
| 8  | (fair play)     | Fair play image suits Australia/recognition for the 'best and fairest' eg Brownlow medal  |
| 9  | (space)         | Large/open spaces available throughout Australia  |
| 10 | (commercialism) | Opportunities for commercialism business/sponsors   |

11 (media)

A good product for media promotion/commercial breaks during games/frequent 'chat shows'/previews.

**Quality of Language****Three marks are available for the quality of Written Communication.**

- High:** A well reasoned, well ordered developmental explanation.  
In clear, concise and continuous prose.  
Sentences and paragraphs follow on from one another smoothly and logically.  
There will be **few, if any, errors** of grammar, punctuation and spelling. **3 marks**
- Middle:** Reasoned statements employing **sound** use of language.  
Candidates express straightforward ideas clearly.  
Sentences and paragraphs may not always be connected.  
There may be **some errors** of grammar, punctuation and spelling, but not such as to suggest a weakness in these areas. **2 marks**
- Low:** An attempt at explanation with limited quality of language.  
The candidate expresses simple ideas clearly but may be imprecise and awkward in dealing with complex or subtle concepts. **Errors in grammar**, punctuation and spelling may be **noticeable** and **intrusive** suggesting weaknesses in these areas. **1 mark**

## Section B

## Biomechanical Analysis of Human Movement

- 3 (a) An athlete applies a force of 200N to a javelin through a distance of 2.5 m in 0.2 seconds during a standing throw.

Calculate the work done and power output during the throw. (Show all calculations)

[4]

4 marks for:

- 1 work done = Force x distance/Fd/200N x 2.5m
- 2 work done = 500J (Nm)
- 3 power = work done/time or energy/time or 500J/0.2s
- 4 power = 2500 Watts/W/Js<sup>-1</sup> (units must be correct).

- (b) Explain other factors during release that determine the distance the javelin is thrown.

[3]

3 marks for:

- 1 (Speed of release) the faster the speed of release the further the javelin will travel
- 2 (Angle of release) 45 degrees is optimum angle for distance covered if landing height = release height
- 3 (Angle of release) For javelin, just below 45 degrees would give greater horizontal distance
- 4 (Height of release) If the height of release is increased then the horizontal distance travelled is increased
- 5 (Angle of attack) Increasing angle of attack (to a certain point) may increase lift force (therefore increasing horizontal distance).
- 6 (Angle of attack) If angle of attack is too large then the javelin may stall.

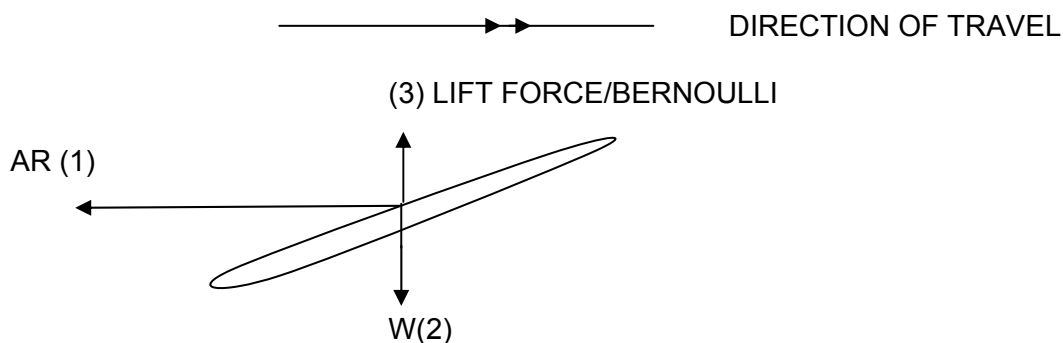
- (c) During flight a number of forces act on a correctly thrown javelin.

- (i) Sketch a free body diagram showing all the forces acting on the javelin during flight.

[3]

3 marks for:

- 1 air resistance opposite direction of travel from CM
- 2 weight downwards from CM
- 3 lift/Bernoulli upwards from javelin.

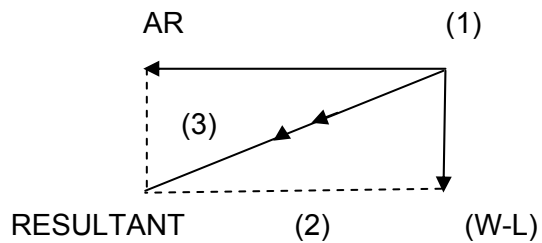




- (ii) Use a diagram to show how you would determine the resultant force acting on the javelin during flight. [3]

3 marks for:

- 1 AR and  $W - L$
- 2 Parallelogram Law
- 3 Resultant



- (iii) With the aid of an airflow diagram, explain how a lift force can be generated by the javelin. Explain the effect of the lift force on the flight path of the javelin and compare it to the flight path of a shot. [8]

### Levels marks

#### Level 3 6-8 marks

Candidates will give an accurate diagram and offer a full explanation of the Bernoulli Effect. Comparison with shot's flight path and explanation is clear.

#### Level 2 4-5 marks

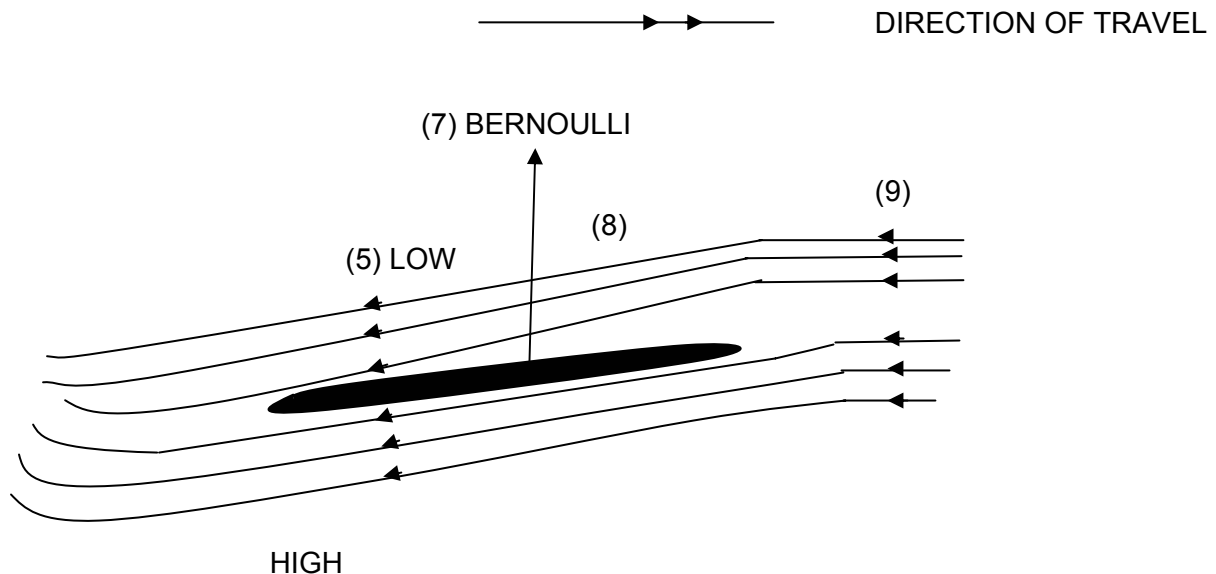
Diagram is mainly accurate but explanation and comparison may lack clarity and some coherence.

#### Level 1 1-3 marks

The diagram will be basic. There will be little attempt to explain the Bernoulli Effect and/or comparison with the flight path of the shot.

(Bernoulli Effect)

- 1 Javelin adopts aerofoil shape
- 2 It creates an angle of attack to the direction of airflow
- 3 Air travels further over the top of the javelin (or opposite)
- 4 Air travels faster over the top of the javelin (or opposite)
- 5 Low pressure is created above javelin (or opposite)
- 6 Pressure gradient formed from high to low pressure
- 7 Causes Bernoulli effect/force upwards on javelin
- 8 (Diagram) narrow airflow lines over top/wider airflow lines underneath javelin
- 9 (Diagram) airflow arrows opposite the direction of motion
- 10 (Javelin flight path) Bernoulli force extends flight time/javelin travels further
- 11 Javelin creates non parabolic/asymmetric flight path whereas shot follows a parabolic/symmetrical flight path
- 12 Because javelin's weight is less dominant whereas the shot's weight is dominant
- 13 Because javelin's aerodynamic factors/air resistance more dominant whereas the shot's aerodynamic factors/air resistance is negligible.



TOTAL 21 MARKS

**4 (a) Attitudes often reveal undesirable prejudice in sport.**

- (i) Using examples from sport, describe what is meant by an attitude in sport. [3]**

**(sub max 2 if no practical examples)**

**3 marks for 3 of:**

- 1 attitude is a predisposition towards an attitude object (eg training or participation in sport)/set of beliefs and feelings
- 2 cognitive element/a belief about training/playing well/participation
- 3 affective element/emotional aspect such as enjoyment/positive feelings/hostility/negative feelings towards training/playing well/participation
- 4 behavioural element/behaviour towards training/playing shows commitment/persistence/sticking to the task/trying hard/avoidance behaviours/giving up.

- (ii) Explain how attitudes in sport can be formed. [4]**

**4 marks for 4 from:**

- 1 past experiences/previous matches/encounters
- 2 attributions/internal attributions to past success/failure
- 3 learned helplessness/reinforced failure
- 4 significant others/reinforcement from role models/imitating/copying/parents/peers/sports-stars/social learning
- 5 (early years)socialisation/cultural expectations/adopting the norms of your culture/upbringing/traditions
- 6 media/TV etc
- 7 religious beliefs
- 8 in the presence of others - personality characteristics/extroversion/introversion/Nach/Naf/may affect.

- (iii) Identify a typical undesirable prejudice that might be found in sport and explain how such an attitude might be changed. [4]**

**1 mark for:**

- 1 (name a typical undesirable prejudice)/racism/ageism/sexism/homophobia etc. **sub max 1**

**3 marks for 3 from:**

- 2 cognitive dissonance may change attitudes/change one element of the triadic model and other elements will change to gain consonance
- 3 use of significant others/role models to persuade/persuasive communication
- 4 influence beliefs/cognitive aspect to show how undesirable
- 5 influence emotions/affective aspect to show how undesirable.
- 6 influence behaviour directly/use of praise for non-prejudice behaviour/use of punishment or negative reinforcement for prejudicial behaviour/use the law/litigation to punish. **sub max 3**

- (b) A sports performer can be affected by the presence of a crowd or audience.
- (i) Using psychological theories and practical examples, explain possible positive and negative effects of an audience on sports performance. [6]

#### Levels marked

##### Level 3 5-6 marks

Candidate fully explains at least two from drive theory/evaluation apprehension/personality differences/attentional focus with relevant practical examples. Both positive and negative effects are explained.

##### Level 2 3-4 marks

Candidate explains drive theory or evaluation apprehension or personality aspects or attentional focus. At the top end of this level both positive & negative effects are explained and practical examples offered.

##### Level 1 1-2 marks

Candidate does not use psychological theories effectively and is merely descriptive about positive and/or negative effects:

- 1 (drive theory) arousal/drive/anxiety increased
- 2 (drive theory/dominant response/Zajonc's theory) dominant response/habit more likely to occur/learned responses automatic/motor programmes are run
- 3 weaker players/novices performance deteriorates/incorrect dominant response
- 4 good performances from well learned/stronger/elite/correct dominant response produced
- 5 (RAS/personality theory) extroverts likely to perform better with an audience/reticular activating system (RAS) favours extroverts when audience present/gross/simple affected/ (high arousal inverted u)
- 6 (RAS) introverts likely to perform worse with audience present/RAS does not favour introverts/fine/complex affected (low arousal inverted u)
- 7 (Homefield theory/evaluation apprehension) if audience in familiar setting performance helped/'homefield' advantage/disadvantage if away/ unfamiliar/ hostile environment
- 8 (evaluation apprehension) anxiety raised by being judged/perceived judgement of others/evaluation apprehension/the nature of the audience/who is in the audience
- 9 (proximity theory) proximity of the audience/how close the crowd are to the player/size
- 10 (cue utilisation) distractions/widening of attentional focus/utilisation of too many cues
- 11 (Nideffer/attentional control) attention narrows for those who are used to audiences/high levels of ability/optimum cue utilisation.

(ii) Describe strategies that may be used to combat the effects of social inhibition.

[4]

**Levels marked**

**Level 3 4 marks**

Candidate describes **fully** at least three effective strategies

**Level 2 2-3 marks**

At the top of this level, two strategies will be fully described

**Level 1 0-1 mark**

Superficial detail is offered for one or more strategies (lists)

4 marks from 4 of:

- 1 use of selective attention/concentration avoiding distractions focus on cues within play only
- 2 mental rehearsal/practice/imagery/visualisation
- 3 positive self-talk/positive thinking/negative thought-stopping
- 4 practise with an audience present/in training
- 5 learn skills thoroughly/develop motor programmes
- 6 decrease importance of event/reduce perceived accountability
- 7 increase self-confidence/self-efficacy
- 8 social support/encouragement from others/positive reinforcement
- 9 reattribution - not supporting/recognising negative effects therefore remaining unaffected.
- 10 Knowing your zone of optimum functioning

**TOTAL 21 MARKS**



**Mark Scheme 2566  
January 2007**

## Section A

## Exercise and Sport Physiology

1 Figure 1 is a graph to show the levels of lactic acid and glycogen stores in the muscles during a 30 minute interval training session.

(a) Use Figure 1 to explain the physiological processes occurring between points A and B. [4]

4 marks in total

2 marks for lactic acid

*(the levels of lactic acid increase during the work interval because)*

- 1 Using the lactic acid system/anaerobic glycolysis.
- 2 (lactic acid is the by-product) without the use of oxygen.
- 3 pyruvic acid is being converted to lactic acid by the enzyme lactate dehydrogenase/LDH.

*(the levels of lactic acid decrease during the rest interval because)*

- 4 some of the lactic acid is removed into the blood/flushed out/oxidised/converted to pyruvic acid/water/carbon dioxide.

2 marks for glycogen

*(the levels of glycogen are decreasing because)*

- 5 (the lactic acid system) uses glycogen/glucose as its fuel
- 6 glycogen/glucose is being broken down by the enzyme glycogen phosphorylase/PFK/phosphofructokinase
- 7 to produce energy for the resynthesis of ATP/ 2 ATP produced.

b) If the workload was increased during the training session, the performer would reach the onset of blood lactate accumulation/OBLA.

(i) Define OBLA and describe its effect on skeletal muscle. [3]  
4 marks in total

1 mark for definition

*(Onset of blood lactate accumulation is)*

- 1 the point at which lactic acid in the blood/blood lactate concentration **suddenly** increases/anaerobic threshold.

2 marks for explanation

- 2 muscle fibres become more acidic/pH levels drop
- 3 this effects enzyme action/denatures enzymes/inhibits further breakdown of glycogen
- 4 makes muscle contractions difficult/causing muscle fatigue/pain.



- (ii) Explain when and how lactic acid is fully removed from the muscles. [4]  
4 marks in total

**1 mark for 'when'**

- 1 removed at the end of exercise/recovery period/cool down/low intensity exercise during/EPOC/excess post exercise oxygen consumption/oxygen debt
- 2 during the lactacid/slow component.

**2 marks for 'how'**

- 3 using oxygen/aerobic respiration/oxidation
- 4 through elevated respiratory rates
- 5 lactic acid is converted to pyruvic acid
- 6 and metabolised to carbon dioxide and water (and energy)
- 7 lactic acid is converted to protein
- 8 lactic acid is converted to glycogen/glucose/Cori cycle
- 9 lost in sweat/urine

- (c) Explain the principle of a coupled reaction using the ATP/PC system as your example. [4]  
4 marks in total

**4 marks for 4 of:**

- 1 **linked** reactions take place/the products of one reaction are used in another reaction
- 2 the first reaction (a compound is broken down) produces energy/AB  $\longrightarrow$  A + B + ENERGY/ exothermic
- 3 PC  $\longrightarrow$  P + C + ENERGY
- 4 in the second reaction the energy created in the first is used to form a compound/ C+D + ENERGY  $\longrightarrow$  CD/endothemic
- 5 ADP + P + ENERGY  $\longrightarrow$  ATP

## Section B

## Synoptic Question – Scientific Focus

- 2 (a) (Application of Anatomical and Physiological Knowledge to Improve Performance).

Muscles will have a specific function to produce an efficient movement.

**Define an agonist, an antagonist and a fixator muscle using examples from the shoulder and elbow joints during the upward phase of the bench press.**

**MARK SCHEME (submax 8)****(agonist)**

- 1 muscle that is directly responsible for/causes the movement of a joint/the prime mover (in upward phase of bench press)
- 2 pectoralis major is the agonist at the **shoulder joint** (horizontal flexion)
- 3 triceps brachii is the agonist at the **elbow joint** (extension).

**(antagonist)**

- 4 muscle that has an action opposite to that of the agonist/works in opposition to the agonist.

**(in upward phase of bench press)**

- 5 trapezius is the antagonist at the **shoulder joint**
- 6 because it is responsible for horizontal extension of the shoulder
- 7 biceps brachii is the antagonist at the **elbow joint**
- 8 because it is responsible for flexion of the elbow.

**(fixator)**

- 9 muscle that allows the agonist to work effectively by stabilising the joint/origin of the agonist (in upward phase of bench press)
- 10 rectus abdominis is a fixator for the **shoulder joint**
- 11 because it helps to stabilise the origin of the pectoralis major/sternum
- 12 deltoid/trapezius/latissimus dorsi is a fixator muscle at the **elbow joint**
- 13 because it works to stabilise the origin of the biceps brachii/shoulder.

In order for the performer to exercise for a period of time oxygen must be delivered and taken up by the working muscles. This is called tissue respiration.

**Explain how the exchange of oxygen is achieved between blood and muscle tissue at rest.**

**Explain why this process is increased during exercise?**

**MARK SCHEME**

**(at rest) (Sub max 4)**

- 14 oxygenated blood reaches the capillaries (in the muscles)
- 15 blood in the capillaries has a high partial pressure of oxygen/high  $ppO_2$
- 16 because it has come from the lungs (via the heart)
- 17 the muscle tissue has a low partial pressure of oxygen/low  $pp O_2$
- 18 because it has used its oxygen for energy production/muscular contraction
- 19 gases will always move from areas of high pressure to areas of low pressure/down the diffusion gradient
- 20 oxygen passes/diffuses from the blood into the muscle tissue
- 21 haemoglobin/blood releases its oxygen to myoglobin (in the muscle tissue).
- 22 myoglobin has a greater affinity for oxygen than haemoglobin
- 23 myoglobin transports the oxygen (within the muscle tissue) to the mitochondria.

**(during exercise gaseous exchange increases because) (Sub max 4)**

- 24 there is a greater dissociation of oxygen from haemoglobin to myoglobin/the oxygen dissociation curve shifts to the right/suitable graph
- 25 (due to) an increase in body temperature
- 26 (due to) a decrease in partial pressure of oxygen/ $ppO_2$  within the muscle tissue
- 27 (due to) an increase in partial pressure of carbon dioxide/ $ppCO_2$  within the muscle cell
- 28 (due to) a steeper diffusion gradient
- 29 (due to) an increase in acidity/lower pH in the blood and muscles/the Bohr effect

**TOTAL KNOWLEDGE MARKS = 13**

**Skill**

- (b) There are several theories related to the learning of motor skills in sport.

**Describe the operant conditioning theory of learning****sub max 5 marks**

- 1 (S-R bond) learning involves the stimulus-response (S-R) bond/association between stimulus and response
- 2 (shaping ) involves shaping/modifying behaviour/changes in environment used to shape behaviour
- 3 (reinforcement) reinforcement is essential for learning
- 4 (outcome) the effect of behaviour can affect future behaviour/trial and error
- 5 (satisfaction/annoyance) law of effect shows that if the result of behaviour is satisfying then the same behaviour is repeated/is annoying behaviour changes
- 6 (practice) law of exercise states that the S-R bond should be repeated/practice in important (for the S-R bond to be strengthened)
- 7 (ready) law of readiness shows that the individual must physically/mentally ready for behavioural change.

**Identify and describe the three types of reinforcement required for the effective learning of motor skills.****sub max 3 marks****(must have description with identification)**

- 8 positive reinforcement/praise/reward involves giving stimulus/stimuli/satisfier to encourage behaviour/movement to be repeated/to strengthen the S-R bond
- 9 negative reinforcement involves the removal of stimulus/stimuli to change behaviour/movement/to break the undesirable S-R bond (not negative feedback)
- 10 punishment/negative feedback involves giving the stimulus/stimuli to stop undesirable behaviour/movement/to break the undesirable S-R bond.

**Explain the observational theory of learning motor skills in sport****sub max 7 marks**

- 11 (copy) learn by watching and imitating/copying others
- 12 (social learning) linked to (Bandura's) social learning theory
- 13 (role model) more likely to copy if behaviour shown by a significant other/role model
- 14 (relevance) more likely to copy if task is relevant to observer

- 15 (outcome) more likely to copy if outcome is successful
- 16 (demonstration) imitation depends upon a clear demonstration
- 17 (cues) attention to/concentrating upon relevant cues can aid imitation
- 18 (remember) retention/remembering of information/use of memory can affect imitation
- 19 (practice) motor reproduction aids skill learning/ mental/(physical) practice
- 20 ( motivation) motivation/reward/praise from others can affect imitation

**NB If Bandura's model of observation learning used each element must be explained.**

**(Model: Demo>attention>retention>motor reproduction>motivation>matching performance). (T1)**

**TOTAL KNOWLEDGE MARKS = 13**

**Exercise and Sport Physiology**

- (c) Carbohydrate loading and creatine supplementation are two types of nutritional ergogenic aid.

**Discuss the effects of using one of these aids referring to the following:**

- **the type of performer benefiting**
- **the performance enhancing qualities**
- **the associated side effects.**

**MARK SCHEME (sub max 5)**

|  | <b>Creatine Supplements</b>   | <b>Carbohydrate Loading</b>   |
|--|---|---|
| <b>Type of performer</b>               | 1 anaerobic/power/strength<br>2 any high intensity/short duration performer<br>eg (P) 100m sprinter/throwers/wing in rugby/hockey/football/netball players                          | 11 aerobic/endurance performer<br>12 any medium/low intensity/long duration performer<br>eg (P) middle/long distance runners/games players/cross country skiers |
| <b>Performance enhancing qualities</b> | 3 increases capacity for/duration of high intensity activity/alactacid threshold<br>4 reduces recovery time<br>5 allows higher quality interval training/strength training sessions | 13 increases glycogen synthesis activity<br>14 increases muscle glycogen stores<br>15 increases endurance capacity<br>16 delays fatigue                         |
| <b>Associated side effects</b>         | 6 weight gain/water retention<br>7 possible muscle cramping<br>8 long term effects not fully known<br>9 (possible) liver problems<br>10 (possible) kidney problems                  | 17 weight increase/water retention/muscle stiffness<br>18 feelings of weakness during depletion stage<br>19 depression/irritability during depletion phase      |

Identify and describe one type of training, other than interval or circuit, that could be used to develop aerobic capacity.

Discuss the advantages and disadvantages of this type of training and explain how target heart rates are used as an intensity guide.

**MARK SCHEME (submax)**

**Types of aerobic training (submax 5)**

|                      |  |  |
|----------------------|--|--|
| <b>Identify</b>      | 20 continuous training   | 33 Fartlek/speedplay training  |
| <b>Describe</b>      | 21 low/medium intensity/60%-80% max HR/maxVO <sub>2</sub> max  | 34 form of continuous training   |
|                      | 22 long duration/ > 20 minutes   | 35 low intensity training interspersed with bouts of high intensity eg (P) jog, sprint, jog etc/running over different terrains/flat, uphill, downhill etc |
|                      | 23 rhythmical exercise/large muscle groups eg (P) run/swim/cycle etc   | 36 long duration/> 20 minutes  |
|                      | 24 frequency is at least 2 times per week  | 37 frequency is at least twice per week  |
| <b>Advantages</b>    | 25 low intensity) therefore small injury risk  | 38 rhythmical exercise/large muscle groups   |
|                      | 26 easy for specificity (eg (P) runners can run, swimmers can swim, cyclists can cycle etc)                      | 39 Gerchler/Saltin method  |
|                      | 27 develops muscular endurance (as well as aerobic capacity)   | 40 develops aerobic and anaerobic systems  |
|                      | 28 can train for long periods of time  | 41 easy for specificity (eg (P) runners can run, swimmers can swim, cyclists can cycle etc)  |
| <b>Disadvantages</b> | 29 Only trains the aerobic system/not anaerobic systems  | 42 develops muscular endurance (as well as aerobic capacity)   |
|                      | 30 limitations for team players/anaerobic performers   | 43 good for team players   |
|                      | 31 motivation needed/can become monotonous   | 44 (high intensity bouts come with) risk of injury   |
|                      | 32 if a lot of running involved - danger of bone and connective tissue damage/repetitive strain/overuse injuries | 45 more demanding therefore) motivation needed   |
|                      |  | 46 if a lot of running involved danger of bone and connective tissue damage/repetitive strain/overuse injuries   |

**Explain how target heart rates are used as an intensity guide.  
(sub max 5)**

- 47 target heart rate is the **range** of heart rate prescribed to match the training intensity requirements of a performer
- 48 performer must remain within this range for training to be effective/bring about aerobic gains
- 49 need to overload the aerobic system
- 50 but stay below the anaerobic threshold
- 51 heart rate measured using heart rate monitor/carotid pulse/radial pulse
- 52 used calculate the training zone
- 53 karvonen principle
- 54 formula to identify correct training intensities as a % of the sum of max heart rate reserve
- 55 plus resting heart rate
- 56 maximum heart rate =  $220 - \text{age}$
- 57 maximum heart rate reserve = maximum heart rate – resting heart rate
- 58 suggests training intensity between 60-75% of maximal heart rate reserve/VO<sub>2</sub> max
- 59 lower limit =  $0.6 (\text{max HR} - \text{rest HR}) + \text{rest HR}$
- 60 upper limit =  $0.75 (\text{max HR} - \text{rest HR}) + \text{rest HR}$
- 61 uses heart rate that is equivalent to a % of VO<sub>2</sub> max
- 62 as there is a linear relationship between heart rate and VO<sub>2</sub> max
- 63 performers start working at lower end of range and gradually progress to higher end.

**TOTAL KNOWLEDGE MARKS = 13**



## APPENDIX

*Suggested links – not intended to be exhaustive*

| AS → AS   | A2  |
|---|---|
| <b>muscle function</b> <ul style="list-style-type: none"> <li>➤ muscular contraction</li> <li>➤ location and action of muscles</li> <li>➤ muscles fibre types</li> <li>➤ effect of warm up</li> </ul> | <b>ATP re-synthesis</b><br><b>recovery</b><br><b>types of strength</b><br><b>ergogenic aids</b> |
| <b>tissue respiration</b> <ul style="list-style-type: none"> <li>➤ systemic circulation</li> <li>➤ vascular shunt mechanism</li> <li>➤ oxygen transport</li> <li>➤ effect of altitude</li> </ul>      | <b>adaptations to aerobic training</b><br><b>blood doping/rhEPO</b>                             |

| AS → A2  | AS   |
|--|--|
| <b>ergogenic aids</b> <ul style="list-style-type: none"> <li>➤ components of fitness</li> <li>➤ training</li> <li>➤ recovery</li> </ul>  | <b>resting heart rate</b><br><b>exercise heart rate</b><br><b>strengthening exercises</b>  |
| <b>types of aerobic training</b> <ul style="list-style-type: none"> <li>➤ muscular endurance training</li> <li>➤ training principles</li> <li>➤ adaptations to training</li> </ul> | <b>response to exercise</b> <ul style="list-style-type: none"> <li>▪ heart</li> <li>▪ vascular</li> <li>▪ respiratory</li> </ul> |
| <b>training intensity</b> <ul style="list-style-type: none"> <li>➤ energy continuum</li> <li>➤ recovery times</li> <li>➤ interval training</li> </ul>                              | <b>heart rate curves</b><br><b>heart rate control</b>  |

**BIOMECHANICS MARK SCHEME****(d) (Effort) Submax of 5 marks from:**

- 1 (Principle of Moments) Clockwise moment = anticlockwise moment
- 2 moment of Force = Force x (perpendicular) distance from fulcrum/axis of rotation/hip joint
- 3 clockwise moment =  $140(\text{N}) \times 0.5(\text{m})$
- 4 anticlockwise moment =  $E \times 0.02(\text{m})$
- 5 effort =  $140 \times 0.5/0.02 = 3500\text{N}$ .

**(Lever comparison) Submax of 5 marks from:**

- 6 class 2 levers are efficient levers/class 3 levers are inefficient
- 7 class 2 levers can produce large forces/magnify effects of effort/muscular force/class 3 = opposite
- 8 (because) the effort is further away from the fulcrum/joint than the load
- 9 therefore less effort is required by the muscles to move an equivalent load
- 10 whereas with a class 3 lever the effort is closer to the fulcrum/joint than the load
- 11 therefore more effort is required by the muscles to move an equivalent load
- 12 class 3 levers are (more) efficient at accelerating/moving loads faster/emphasise lever speed
- 13 through a greater range of movement.

**(Friction) Submax of 5 marks from:**

- 14 friction occurs where two surfaces slide/have a tendency to slide across one another
- 15 friction opposes the motion
- 16 friction occurs parallel to the surfaces
- 17 static friction is greater than dynamic friction
- 18 performers reduce roughness of surfaces to decrease friction. (eg wax on skis)
- 19 performers reduce (normal) reaction/downforce to decrease friction. (eg 'unweighting' skis to turn)
- 20 performers increase roughness of surfaces to increase friction. (eg spikes for sprinters)
- 21 performers increase (normal) reaction to increase friction. (eg games players pressing feet into ground)
- 22 performers increase surface temperature to increase friction. (eg heating tyres of F1 cars).

**TOTAL 13 MARKS**

**Psychology of Sport**

- (e) **The personalities of players and leaders can affect performance in sport.**

**Describe and explain two main theories of personality in sport.**

**Sub max 4 marks**

**Sub max 2 marks for each theory**

***(Trait)***

- 1 trait/genetic approach shows that we are born with our personality characteristics
- 2 traits are enduring/we express our personalities consistently
- 3 Type A trait shows high levels of personal anxiety/stress
- 4 Type B shows low levels of personal anxiety/stress.

***(Interactionist/interactional)***

- 5 (influence of environment ) interactionist approach involved traits combining/interacting with the environment/ $B=f(P,E)$ /mixture of trait and social learning.
- 6 (cue) the environment triggers/acts as a cue for the appearance of a trait
- 7 (Hollander -role) Social environment/situation affects role-related behaviours/how we behave in a particular situation
- 8 (Hollander – trait) Core characteristics that is enduring/semi-permanent
- 9 (traits may dominate) if situational factors are not strong then traits dominate behaviour.

***(Social Learning)***

- 10 (copy) Social learning states that we learn/copy (our personalities) from others
- 11 (role models) if significant/role model then personality characteristics more likely to be copied/imitated
- 12 (early influences) early learning from parents/carers can effect the characteristics we copy
- 13 (fit into society) socialisation/characteristics are copied if it enables us to adopt the norms and values of our culture/to fit in/to be accepted by others/into a group.

**Identify the qualities of an effective leader in sport**      **Sub max 3 marks**

- 14 charismatic/a natural leader/commands respect/they have presence/has personal authority
- 15 good communicator
- 16 can motivate/encourage
- 17 empathetic/can put themselves in the shoes of others
- 18 high level of knowledge
- 19 high level of personal skill
- 20 well organised/can structure approach effectively
- 21 trusts/believes/respects those they lead.

**Explain how factors other than personality can affect the type of leadership styles adopted in a sports situation**      **Sub max 6 marks**

- 22 (task - ident) effected by the type of task/what sport/skill/actions are being carried out
- 23 (clarity of task) if clear task then task/autocratic style more effective. (opposite for person/democ)
- 24 (complex tasks) if situation demands high levels of information processing/decision making then democratic style best. (opposite for task)
- 25 (arousal) if task requires high arousal/dynamism required then task/autocratic style better. (opposite for person/democ)
- 26 (danger) if task dangerous then task/autocratic style is best. (opposite for person/democ)
- 27 (problem solving) if tasks demand problem solving then laissez fairer best
- 28 (environment - ident) the situation/environment affects style adopted.
- 29 (hostile) if situation hostile task/autocratic style may be best. (opposite for person/democ)
- 30 (extremes) if situation extremely favourable/unfavourable then task/autocratic is best (expl of Fiedler)
- 31 (moderate) if situation moderately favourable then democratic best (expl of Fiedler)
- 32 (preferred style - ident) the preferred style of group members can affect style/characteristics of group members. E.g gender
- 33 (age) youth prefer autocratic/adults/elderly prefer democratic.
- 34 (skill level) if highly skilled group members then laissez faire style best.

## LINKS

| A/S  | <> | A2   |
|--|----|--|
| Operant/observational > cognitive                        | >  | Personality > attitudes > confidence > achieve motivation > stress |
| Operant > motivation > transfer > Motor programme        |    | Confidence > social facilitation                                   |
| Reinforcement > motivation                               |    | Social facilitation > stress management > aggression               |
| Motivation > presentation of skills > phases of learning |    | Leadership > personality<br>><br>confidence > attitudes            |
| Reinforcement  |    | Leadership   |

**3 (Socio-cultural focus)****Part one (Contemporary Studies in Physical Education)****(a) Discuss both positive and negative influences of the media on sport.*****Positive influences*****Sub max 4**

- 1 role models created/copy good behaviour
- 2 increase status of sport/increase popularity of sport/increase awareness/increase profile/promote sport
- 3 stereotypes/challenged shattered/myths challenged/shattered
- 4 participation increased
- 5 new sports promoted/minority sports highlighted/sports of minority groups given coverage
- 6 money to sport/money to clubs/sponsorship
- 7 rules/timings/seasons/format/structure changed (in positive context).

***Negative influences*****Sub max 4**

- 8 negative role models created/focus on trivial aspects/sensational aspects/negative behaviour
- 9 negative stereotypes reinforced
- 10 passive spectatorism encouraged
- 11 focus on a few main sports/notably football/not minority sports/unequal coverage
- 12 can direct/influence rules/timings/structure to make the sport fit into scheduling
- 13 financial rewards only high at the very top/unpopular sports get very little or no money/sports become reliant on money from media/low media coverage = low sponsorship/decreased gate receipts
- 14 dangers injuries of sporting participation highlighted.

**How do UK sport and home country organisations such as Sport England influence both excellence and mass participation in sport in the UK?**

**Sub max 6**

***UK Sport and Home Country Organisations influences sport by:***

- 15 promoting/ aiming to get people to start/take up sport/more people/improved health
- 16 supporting/aiming to get people to stay in sport/ supports network of clubs/of sports facilities/of coaches/of volunteers/of competitions.
- 17 providing advice.
- 18 running doping control/reducing doping/promoting fair and drugs free sport
- 19 attracting major sport events
- 20 distributing lottery funding/public investment
- 21 overseeing work of UKSI
- 22 increasing excellence/working with elite performers/increasing chances of international success/aiming for world class success
- 23 working closely with NGBs/working with other organisations/partnerships
- 24 aiming to reduce administrative bureaucracy
- 25 supporting overseas projects/arranging exchange visits/sharing information with other nations – in attempt to improve sport in UK.

**TOTAL KNOWLEDGE MARKS = 13**

**(b) (Historical Studies in Physical Education)**

Describe features of:

- **pedestrianism in Pre-Industrial Britain**
- **various forms of athletics in nineteenth century Public Schools**
- **athletics as a rational recreation.**

***Features of pedestrianism*****Sub max 4**

|    |              |  |
|----|--------------|--|
| 1  | (foot race)  | foot race/race running or walking  |
| 2  | (simple)     | cheap/simple activity  |
| 3  | (footmen)    | gentry employed footmen as messengers (as early peds)  |
| 4  | (wagering)   | widespread wagering/betting  |
| 5  | (patron)     | Lower class runners patronised by gentry   |
| 6  | (festival)   | festival occasions/popular spectacles/exciting contests/big occasions/occasional special events/large venues/huge crowds/associated with prize fighting/horse racing |
| 7  | (money)      | a way for a peasant to become rich/earnings/occupation for lower class professionals/prize money for winners/fame/status/occupational                                |
| 8  | (amateurs)   | amateurs also raced/as a challenge   |
| 9  | (novelty)    | Many novelty races   |
| 10 | (corruption) | became corrupt/match fixing/cheating/brought into disrepute  |
| 11 | (rules)      | Rules established by organisers.   |

***Features of athletics in nineteenth century Public Schools*** **Sub max 4**

|    |                   |   |
|----|-------------------|---|
| 12 | (hare and hounds) | hare and hounds/adaptation of fox hunting/paper chase   |
| 13 | (HM's)            | Headmasters initially against it  |
| 14 | (steeple chase)   | steeple chase   |
| 15 | (sports day 1)    | athletic sports day/idea taken from universities/Exeter college Oxford  |
| 16 | (social)          | major social occasion/brass bands/prizes/large crowds/press coverage/opportunity for Head to show school in best light/opportunity to raise money |
| 17 | (status)          | lower status (than cricket).  |

***athletics as a rational recreation*****Sub max 4**

|    |                    |   |
|----|--------------------|---|
| 18 | (exclusivity)      | middle class keen to separate themselves from working class/keen to stay exclusive/Amateur Athletics Club formed by ex university amateurs/amateur clubs formed |
| 19 | (corruption)       | Evidence of corruption  |
| 20 | (non-corruption)   | (middle classes) keen to dissociate modern athletics from corruption of professional pedestrianism  |
| 21 | (exclusion clause) | exclusion clause imposed/no mechanics, artisan (skilled workers) or labourers to join/AAC enforced exclusion clause   |
| 22 | (money for wc)     | lower class competed for money  |
| 23 | (m/c)              | middle class competed for intrinsic rewards/to test themselves  |
| 24 | (m/c u/c)          | higher classes keen to re-create public school ethics/gentlemen amateurs formed own clubs.  |



**Discuss amateurism and professionalism in rationalised team games such as Association Football and cricket during the second half of the nineteenth century**

**Sub max 4**

- |    |                             |   |
|----|-----------------------------|---|
| 25 | (FA -organisation)          | football association formed by ex public school boys/by ex university men/by amateurs   |
| 26 | (class)                     | amateurs were middle or upper class and professionals were working class  |
| 27 | (broken time payments 1)    | men would lose money if they missed work to play/broken time payments/  |
| 28 | (compensation)              | money for working class players to compensate for lost earnings   |
| 29 | (payment-professionalism)   | payments lead to professionalism/payments frowned upon by amateurs/professionalism offered regular pay/improved pay   |
| 30 | (insecurity)                | professionals were not secure/were often discarded eg if injured  |
| 31 | (violence)                  | violence in games increased due to competitiveness of pro. league matches   |
| 32 | (amateur - football)        | amateur only leagues developed/amateur only cup competitions/amateur only internationals  |
| 33 | (amateur teams)             | were as good as best professional sides/professionals thought it a privilege to play against them/they stressed fair play (P=Corinthians)   |
| 34 | (William Clarke XI cricket) | early professional touring sides  |
| 35 | (transport)                 | touring sides and professionalism developed due to improved transport   |
| 36 | (status – cricket)          | amateurs recognised skill of professionals but wanted to keep them in their place<br>(P) = professionals had different travel arrangements from amateur/different eating arrangements/names different in programmes/captain always amateur/opening bat always amateur/or other suitable example |
| 37 | (money for amateurs)        | (W G Grace) some amateurs became wealthy from cricket   |
| 38 | (Coaching)                  | professionals coached in public schools.  |

**TOTAL KNOWLEDGE MARKS = 13**

**APPENDIX – examples of possible links****AS to AS****Influence of media on sport →**

- socio-cultural and other factors limiting mass participation eg age, gender
- discrimination and minority groups
- win ethic analysis
- corruption/deviance/violence
- sponsorship/commercialism/big business
- media coverage of ethnic sports eg Highland Games
- financial support – voluntary/public/private funding.

**UK sport and Sport England →**

- other organisational/administrative agencies eg NGBs.

**A2 to A2****Pedestrianism →**

- other popular recreations
- other types of early 'athletics' eg smock racing
- other activities at early rural sports, festivals, fairs and wakes
- comparisons with mob football and other pop recs
- cultural factors influencing the development and popularity of certain sports.

**Athletics in public schools →**

- other activities brought from home (melting pot 1)
- other activities in public schools.

**Athletics as rational recreation →**

- other rational recreations
- urban industrial factors which influenced development of rational sport eg Industrial Revolution/increased free time
- modern Olympism.

**AS to A2 →**

- ethnic sports shown by media (AS) and rural festivals (A2)
- Kenyan running shown by media (AS) and simplicity of running as popular recreation (A2)
- athletics in schools today (AS) and athletics in 19<sup>th</sup> century public schools
- global sport today – media covered (AS) and Modern Olympic movement (A2)
- amateurism/professionalism today (AS) and amateurism/professionalism then (A2).

**Comparative Studies****(c) Outline the strategies used in the USA to increase mass participation in physical activities. Sub max 5**

- 1 (Youth) Little League sports Community/recreation sports for young people eg Pop Warner Football/Biddy Basketball/Pee Wee Baseball
- 2 (inner city facilities) Inner-city hard courts eg down town/inner city playgrounds/asphalt courts
- 3 (night leagues) Midnight leagues eg Basketball leagues in inner-city areas
- 4 (keep fit culture) Gym-culture eg tradition of weight-training/exercise classes/aerobic class activities
- 5 (sport for all policies) Lifetime sport/sport for all policy
- 6 (Elderly) Golden Olympic programmes eg Sports competitions/events/opportunities for older/veteran participants
- 7 (Schools) School involvement eg Physical Education for Progress scheme/new schemes to promote activities in schools
- 8 (NAYS) National Alliance for Youth Sports eg organisation sports/fixtures/leagues for young people/Time Out for Better Sports for Kids
- 9 (Golf) Youth Golf programme eg Golf programme for youngsters/Hook a kid on Golf initiative
- 10 (Title IX) Title IX eg Gender equality/equal funding for female sports/Federal legislation addressing equality in sports
- 11 (Outdoor Ed) Nationwide Outdoor Recreation Plan eg Federal plan to increase usage of National Parks
- 12 (Camps) Summer Camps eg Residential Summer Camps promote active recreation for life
- 13 (Government) Political initiatives eg some government investment in national fitness/Comprehensive Fitness Agenda.

Compare the strategies to promote mass participation in the UK with the strategies in either France or Australia. Your comparisons should relate to promotional policies, environmental influences, and reasons why each country believes mass participation is important.  
Sub max 5

| <b>Promotional policies</b> | <b>UK</b>  | <b>France</b>  | <b>Australia</b>  |
|-----------------------------|--|--|---|
| 14 Funding                  | Lottery funding/Govt lower profile than other countries/private/voluntary/public funding | Govt/State funding/economic plan includes sport/Govt plan started in the 1950s/National Sports Fund/French National Lottery contribute | Government funding/ASC funding/AU\$ 550 million (2000-2004)   |
| 15 Agencies                 | Sport England distribute Funds/have responsibility to increase participation             | Ministry of Youth and Sport distribute funds/distribution through Sports Federations/INSEP has responsibility to develop French Sport  | ASC ensure participation/ASC established the Sport Development Group  |
| 16 Projects                 | Active Communities Project/Sports Action Zones   | Sport pour Tous/Federations are responsible to National Olympic and Sports Committee (CNOSF)   | Backing Australia's Sports Ability/Active Australia/More Active Australia   |
| 17 Schools Initiatives      | Sports Colleges/Active Schools Programme   | UNSS/Primary Sports Schools/Le Classe Transplantee/policy to increase status of PE   | SEPEP/PASE/Fundamental Skills Programme/Sports Leaders/Sports Awards/Exemplary Schools/strong participation ethic |
| 18 Joint Provision          | Dual use/Joint Provision/Community Schools/sharing facilities                            | Joint Provision part of plan/maximum usage of facilities/community and school focus  | Sports linkage policy/sharing facilities with clubs   |
| 19 Discrimination           | Identification/focus on target groups/inclusion of eg disabled/ethnic minorities         | Multi racial/multi cultural society/tradition of assimilation  | Multicultural commitment/high ethnic minority profile in some sports/eg Aussie Rules/soccer hides ethnicity       |
| 20 Special Interest Groups  | Designed to encourage particular social groups/eg WSF                                    | Minority groups are focused/FFH Federation for disabled athletes   | Strong commitment to para Olympic sports  |
| 21 Sports search            | Matching abilities/interests of individuals to particular sports by computer             | No evidence of equivalent  | Initially to find talent/used to match children with sport to suit them   |

|   |                      |   |   |   |
|---|----------------------|---|---|---|
| 22  | Governing Bodies     | Have own schemes to develop participation/autonomous organisations/development network/local/regional development officers/focus on schools | Each sport has a Federation/86 Federations/Federation is monitored/lacks autonomy/generate participants | Governing Bodies have initiatives to increase participation/Aussie Sports/modified sports to encourage youngsters/more active Australia puts emphasis on sports clubs |
| 23  | Role models          | Top performers visit schools/ACE programme  | No evidence of organised usage/role models stimulate participation in 'new sports'/golf                 | Top performers visit schools/ACE programme/part of AIS commitment   |
| <b>Environment</b>                                  |                      |   |   |   |
| <b>Sub max 5 (environment + mass participation)</b> |                      |   |   |   |
| 24  | Space and population | Limited space/over crowding an increasing problem/Urban environment/losing playing fields to building development                           | Extensive space/rural environment/large areas available for sports development                          | Extensive space interior (Desert Institute)/Limited urban space/low population  |
| 25  | Natural features     | Some outstanding features but limited compared with other countries/eg low mountain ranges  | Great natural potential/high mountain ranges/large areas of Outstanding Natural Beauty                  | Beach culture/Genuine wilderness/one mountain range with snow   |
| 26  | Climate              | Unpredictable/wet/mild/Western Maritime/unsuitable for Winter Outdoor Sports  | Warm Mediterranean/Cold winters for supporting Winter Sports/Continental climate                        | Favourable/most favourable on coastal reaches   |
| <b>Importance of mass participation</b>             |                      |   |   |   |
| 27  | Health               | Stress relief/improved health/fitness   | Promote health/part of Le Plein Air   | Strong commitment to health/K a Day project/commitment to preventing obesity  |
| 28  | Enrichment           | Social benefits/improved self esteem  | Socialising agent/part of a noble lifestyle/part of French culture                                      | Part of cultural heritage/sport obsession/adds to quality of life   |
| 29  | Excellence           | Extending the participation base/broadening the pool from which excellence is developed   | Extending participation helps to develop excellence   | Small population needs widest participation base/need to develop excellence for national esteem   |

## Links with USA

(problems) All countries experience difficulty increasing mass participation  
 (club structure) The sports club structure of UK Australia and France does not exist  
 significant gym culture  
 (life style) Some are committed to active life styles but serious national problem of obesity  
 (political) Little Federal involvement in mass participation  
 (political) However, Comprehensive Fitness Agenda is a government initiative/Physical Education Project PEP going on in schools  
 (federal funding) Federal money for Inner-city playgrounds eg basketball courts  
 (win ethic) Lombardian sports winning ethos seems to dominate High School and Little League participation  
 (alternative cultures) However, consideration given to Counter-Culture and Radical Ethic of Collegiate sport  
 (wilderness) Tradition of the Great Outdoors and link with frontierism/patriotism and American Dream  
 (camp) Summer Camp tradition.

## Links within the subject

(education) Strong links between mass participation and education eg Intra School Sport (Australia) UNSS (France) emphasis on elite preparation in USA  
 (outdoor education) Le Classe Transplantee (France) YDP (Australia) Adventure Camp (USA)  
 (excellence) The incentive of excellence may stimulate participation INSEP (France) AIS (Australia)  
 (ideologies) **France:** intellectualism, naturalism, militarism and nationalism  
**Australia:** egalitarianism, patriotism, links with colonialism and unity, affiliation to the Motherland  
**USA:** American Dream, opportunity, freedom, frontierism and Lombardianism.

**Advanced GCE (Subject) (Aggregation Code(s))  
January 2007 Assessment Series**

**Unit Threshold Marks**

| Unit |     | Maximum Mark | a  | b  | c  | d  | e  | u |
|------|-----|--------------|----|----|----|----|----|---|
| 2562 | Raw | 60           | 43 | 38 | 33 | 28 | 23 | 0 |
|      | UMS | 120          | 96 | 84 | 72 | 60 | 48 | 0 |
| 2563 | Raw | 45           | 37 | 33 | 30 | 27 | 24 | 0 |
|      | UMS | 90           | 72 | 63 | 54 | 45 | 36 | 0 |
| 2565 | Raw | 45           | 31 | 27 | 24 | 21 | 18 | 0 |
|      | UMS | 90           | 72 | 63 | 54 | 45 | 36 | 0 |
| 2566 | Raw | 60           | 42 | 38 | 34 | 30 | 26 | 0 |
|      | UMS | 120          | 96 | 84 | 72 | 60 | 48 | 0 |

**Specification Aggregation Results**

Overall threshold marks in UMS (i.e. after conversion of raw marks to uniform marks)

|             | Maximum Mark | A   | B   | C   | D   | E   | U |
|-------------|--------------|-----|-----|-----|-----|-----|---|
| <b>3875</b> | 300          | 240 | 210 | 180 | 150 | 120 | 0 |
| <b>7875</b> | 600          | 480 | 420 | 360 | 300 | 240 | 0 |

The cumulative percentage of candidates awarded each grade was as follows:

|             | A    | B     | C     | D     | E     | U     | Total Number of Candidates |
|-------------|------|-------|-------|-------|-------|-------|----------------------------|
| <b>3875</b> | 6.44 | 19.56 | 48.00 | 77.78 | 95.33 | 100.0 | 506                        |
| <b>7875</b> | 2.56 | 28.21 | 60.68 | 86.33 | 95.73 | 100.0 | 162                        |

668 candidates aggregated this series

For a description of how UMS marks are calculated see;  
[http://www.ocr.org.uk/exam\\_system/understand\\_ums.html](http://www.ocr.org.uk/exam_system/understand_ums.html)

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