



General Certificate of Secondary Education

Physical Education 3582

Specification B

Mark Scheme

2005 examination – June series

Mark schemes are prepared by the Principal Examiner and considered, together with the relevant questions, by a panel of subject teachers. This mark scheme includes any amendments made at the standardisation meeting attended by all examiners and is the scheme which was used by them in this examination. The standardisation meeting ensures that the mark scheme covers the candidates' responses to questions and that every examiner understands and applies it in the same correct way. As preparation for the standardisation meeting each examiner analyses a number of candidates' scripts: alternative answers not already covered by the mark scheme are discussed at the meeting and legislated for. If, after this meeting, examiners encounter unusual answers which have not been discussed at the meeting they are required to refer these to the Principal Examiner.

It must be stressed that a mark scheme is a working document, in many cases further developed and expanded on the basis of candidates' reactions to a particular paper. Assumptions about future mark schemes on the basis of one year's document should be avoided; whilst the guiding principles of assessment remain constant, details will change, depending on the content of a particular examination paper.

Physical Education Specification B

A1

(a) **one** from:

- skeletal
- muscular
- respiratory
- digestive
- circulatory
- nervous
- glandular.

accept:

- skeleton; muscles
- respiration; digestion
- cardio-vascular.

(1 mark)

(b) **two** from:

- carbohydrate
- fat
- protein.

(2 marks)

(c) (i) a hormone.

accept... a substance/chemical released from the adrenal gland.

do not accept... a chemical/stimulant.

(1 mark)

(ii) it can improve performance by preparing the body for action

e.g. increasing blood pressure, increasing perspiration, increasing blood sugar
increasing cardiac contraction, dilating capillaries, constricting 'other' capillaries
stimulating metabolism

it can improve performance by arousing the mind

e.g. being 'psyched up', being excited, confidence, aggression

too much adrenalin released can spoil performance by making you feel nervous/scared
sick; unstable; rubber legs.

do not accept: improves/reduces performance – need to say **how**.

(2 marks)

(1+2) (3 marks)

(d) (i) (named) [*no mark*] test appropriate for static, dynamic or explosive strength; description to include detail about:

- the facilities and the equipment needed in order to organise it
not... use a hand grip test, but... use a hand grip dynamometer
- the people needed to administer it
- the procedures that have to be followed > the tasks & the rules
- the time needed to complete it
- the measurements that are used to score the performance
- the way the scores/results are recorded
- the way conclusions are drawn from the scores/results.

accept ... lifting as much as you can in one go

do not accept ...exercise names such as 'bench press', or 'sargent jump'.

(ii) strength is important because :

- it is necessary for holding positions
- it is necessary for improving speed & power by ...
exerting greater force than opposition
- it is necessary for improving stamina by ...
repeating same action more times than opposition
- it increases the range of skills possible
- it reduces chances of injury.

accept the negative: if not strong.....could get knocked off the ball.

(4 marks)

(e) **one** static balance to be named (1 mark).
(key is *stationary*)

In order to hold the body in a still position, the joint(s) must be kept in the same position (1 mark) [*named joints no extra mark*] by:

- the muscles working in pairs (1 mark)
- working at the joint - must work isometrically (1 mark)
not: one muscle contracts, the other relaxes
- they must maintain contraction/pull (1 mark) without changing length (1 mark)
- a muscle 'fixing' the joint
- standing on one leg (1 mark)
- muscles of the (upper) leg (Q+H) work together (1 mark), contract isometrically (1 mark) to hold the knee locked (1 mark)
could also apply in arm
- correct names for appropriate muscles working together (1 mark);

In a handstand this would involve muscles working at the wrist, elbow, shoulder, neck, vertebrae, hip, knee and ankle!

(5 marks)

A2

- (a) somatotype is :
... body (size &) shape; **or** body type; **or** body build; **or** physique; **or** body structure; **or** body composition.

accept: ..if you are muscly, fat or thin.

NB **not** what you look like/appearance; **not** names of type examples.

(1 mark)

- (b) any **two** such as:
- (throw) athletics (can be named for 2 marks)
 - rugby
 - weight lifting
 - wrestling
 - boxing
 - other combat sports.
- not** tug-of-war.

(Question does not ask for different activities.)

(2 marks)

- (c) **three** such as:
- headache
 - loss of control/loss of focus
 - dizziness/fainting/felling weak
 - thirsty/lack of water
 - dry throat
 - lack of saliva
 - blurred vision
 - skin goes white/paleness
 - nausea/feeling sick
 - cramp
 - concentrated (dark) urine.

(3 marks)

- (d) (i) causes such as:
- playing in front of a crowd
 - playing in front of important people
 - a selector, a coach, a parent/friend – *max 2 marks*
 - playing on your own / as an individual
 - playing with a partner/in a team
 - playing at an important occasion
 - performance debut (or trying a new skill)
 - playing in a rewarding competition
 - playing against particularly difficult/strong opposition
 - playing after injury
 - playing in a dangerous situation/high risk
 - equipment failure
 - weather conditions
 - external/personal cause – *max 2 marks*
 - fear of failure.

accept examples: ..taking a penalty shootout, ...last putt to win The Open - max 1 mark.

it may improve performance by:

- raising motivation
- raising effort/making you work harder
- increasing arousal/more focused/more concentration
- increasing arousal – preparing body
- increasing assertiveness/aggression
- improving confidence.

[3+1] or [2+2] – **not [1+3]** (4 marks)

(e) circumstances such as:

- not following the principle of **overload**, therefore not doing enough training to have a beneficial effect/not reaching the training threshold
- not making the training tasks demanding/intense enough/not reaching the training threshold
- not training long enough in a session
- not doing enough sessions
- not doing regular sessions
- always doing the same training and not making it **progressive** to move fitness level forward
- training without warm-up/cool-down
- not focusing training to be **specific** to need
- doing the wrong **type** of training/inappropriate practice/coaching
- becoming **bored** with the training programme (no variety)
- doing too much training and becoming tired/not enough rest
- doing too much inappropriate training and picking up injuries
- training too near to competition
- training too soon after injury/illness
- training down/**reversal**
- training in wrong conditions (e.g. climate/surfaces)
- too soon after eating.

(5 marks)

A3

- (a) a person who creates/arranges dances or movement sequences.

accept ... a dance teacher.

(1 mark)

- (b) **two** such as:

- a performer/player
- a coach
- a manager
- trainer
- choreographer
- a P.E. teacher
- an instructor
- an official (one per umpire/judge/referee)
- an organiser/administrator
- roles within sports science – 1 mark.

(2 marks)

- (c) **three** to include:

- the level of humidity makes it pleasant/unpleasant to participate
- the level of pollution makes it pleasant/unpleasant to participate
- the type of weather determines what you play (e.g. snowsports according to geography)
- the severity of the weather determines whether you play / makes it pleasant/unpleasant to participate:

e.g.

- it has rained heavily .. pitch flooded = no game / river levels swollen = white water more challenging
 - it's raining so you don't go out for 'a run'
 - it starts to rain so play is curtailed/abandoned.
- accept... wind/rain/sun/all 3 = 1 mark*

(3 marks)

- (d) why?

- exciting to watch
 - interesting to talk about
 - thrilling/enjoyable to play
 - easily adaptable
 - cheap
 - easy to learn/understand
 - easy to play at appropriate levels
 - undemanding (cheap) on equipment and facilities
 - good access to facilities, equipment, clubs, coaching and competition
 - sport taught in PE lessons/school
 - well publicised/promoted
 - media coverage (TV/newspapers/internet)
 - well-known role models
 - success at national/international level
 - traditional
 - fashionable
 - played by friends
 - temptation for big (money) rewards.
- not** negatives.

(4 marks)

-
- (e) how? ... by such as:
- offering dedicated sports channels
 - selecting a particular sport to broadcast, including minor/unusual sports
 - determining how much air-time a sport will be allocated in a programme
 - determining how much air-time a sport/an individual will be allocated in the overall sport schedule
 - determining the day the sport will be shown
 - determining the time the sport will be shown
 - determining how long a programme will last
 - incorporating trailers
 - including follow-up (analysis/chat)
 - making reference to other publicity information e.g. on a web-site
 - making reference to other support materials eg. books
 - showing repeats
 - showing a variety of programmes linked to the sport ...
 - e.g. previews/reviews
 - e.g. news
 - e.g. live match coverage
 - e.g. recorded highlights
 - e.g. quizzes
 - e.g. teaching programmes
 - e.g. documentaries
 - e.g. dramas.
 - inviting 'stars' as guests on other programmes
 - advertising products and services connected with a sport
 - offering competitions/prizes
 - funding to sport via broadcasting rights
 - featuring star performers/as role models + example.

(5 marks)

A4

(a) **one** from:

- league
- knockout.

(1 mark)

(b) **two** from:

- to provide advice to partners involved in delivering coaching
- to lead and support the training and professional development of personnel (coaches)
- to develop and maintain standards
- to provide assessment, qualifications and licences
- to develop coaching programmes at a variety of levels
- standardise coaching
- to stimulate and commission research/literature
- to plan coaching strategies nationally, regionally and locally
- to coach ‘the public’/people.

(2 marks)

(c) **three** such as:

- it provides motivation/support
- advisor/confidante
- it boosts confidence
- it provides a role model/demonstrator;
- it saves time
- it reduces (trial &) errors
- it reduces risk of injury
- it gives a clear plan of action
- it allows the focus to be playing rather than preparation/research/planning/organisation
- it gives efficient practice/correct techniques
- it gives effective results (you improve)
- it provides knowledge of rules, of tactics
- it provides variety/interest.

(3 marks)

(d) this money:

- provides funds to pay for infrastructure
- provides funds to pay for facilities/equipment
- provides funds to pay for employment
- provides funds to pay for events
- provides funds to pay for competitions
- provides funds to pay for representative teams/squads
- provides funds to pay for services e.g. coaching/training
- provides funds to pay for grants to individuals
- provides funds to pay for grants to clubs
- provides funds to pay for promotion and development (info.& advice).

NB either....Government funds “things” directly e.g. PE in schools

or.....Government funds “things” indirectly via Sport England/National Lottery

(4 marks)

(e) how? ... by:

- awarding grants (e.g. for training/transport/equipment)
- providing top quality coaching
- giving advice on banned substances (drugs and doping)
- providing top class facilities (e.g. the national sports centres)
- managing the E.I.S.
- providing sports science
- attracting / promoting international events
- co-ordinating all major competitions
- representing the UK on international bodies.

Answers to accommodate teams/clubs/players and the sport.

(5 marks)

B1

- When breathing rate is low the potential for success is greater
- in stamina-based activities
- because the body works within the aerobic (breathing) system (amplification possible for extra marks)
- as the body utilises O₂ (greater VO₂ uptake)
- As breathing rate gets higher and shallow it can indicate an O₂ debt and
- performance will be reduced.

- When resting heart rate is low the potential for success is greater
- in stamina-based activities
- because of increased volume of blood circulating to muscles
- and oxygen supply meets demand together with...
- the slower the production of waste products
- When heart rate gets higher as demand for O₂ increases
- removal of wastes (CO₂ and lactic acid) is urgent/necessary
- and performance will be reduced/stopped.

NB There will be facts stated which seem to contradict this line but which may be correct.

- The higher the metabolic rate the greater the potential for success
- in stamina-based activities
- because of the quicker breakdown of food and creation of ATP
- With a lower metabolic rate less energy is converted and weight is increased
- Performance is reduced.

(b) Performance will be more or less successful if the type of muscle fibre is suitably matched to the demands of the task/physical activity.

This is because the nature of an activity determines which fibre-types are most suited for effective performance.

- Performance in stamina-based events/activities will be enhanced if the performer has a greater proportion of slow twitch (red) fibres
- which will provide slow
- low intensity muscular contraction that can be
- repeated/sustained for several hours.

- Performance in strength/power-based events/activities will be enhanced if the performer has a greater proportion of fast twitch (white) fibres
- which will provide an explosive
- high intensity muscular contraction, but
- which may only be maintained for a few seconds.

- Performance in physical activities requiring variable periods of variable intensity of work at unpredictable times, e.g. football
- will require a more balanced proportion of both fibre-types.

NB. Both/All parts of the question must be answered to gain full marks.

(15 marks)

B2

(a) The ability of the body to carry out ...

- specific tasks ...
- effectively ...
- and efficiently.

Identify the specific physical fitness requirements in terms of:

- explosive strength – upper/lower body/all
- dynamic strength – upper/lower body/all
- static strength – upper/lower/body/all
- body speed – upper/lower body/all
- muscle tone
- limb speed – upper/lower body/all
- local muscular stamina – in specific regions
- cardio-vascular stamina - in specific regions
- suppleness – all, or specific joints

In addition aerobic/anaerobic terms can be used.

Do not accept ...skill components,somatotypes.

(b) Answers will vary according to the chosen activity but generally marks will be allocated by:

- identifying training method(s) = 1 mark
- linking to fitness component = 1 mark
- explaining the training method = 1 mark

along the lines of:

- for strength – weight training
- with free weights or machines to improve muscle size
- involving both isotonic and isometric contractions
- for speed – weight training/power lifting
- with free weights to improve muscle response and movement time
- for muscular stamina – circuit training
- with combinations of appropriate exercises and rest to repeatedly stress the muscles
- for cardio-vascular stamina – LSD running/swimming/circuit training
- involving aerobic respiration and steady state activity of the heart and lungs
- for suppleness – stretching exercises
- included in both warm-ups and cool-downs
- involving active and passive manipulation of the joints and muscles.

NB. All parts of the question must be answered to gain full marks (1+1+13).

(15 marks)

B3

- (a) Involve sport and physical activity by...:
- walking to work/school/taking the stairs/walking the dog
 - engaging in physical pastimes, e.g. going for a walk/cycle in the evening/at weekend + swim/jog
 - having a night out involving dancing
 - having a (friendly) kickabout with friends/colleagues
 - joining an amateur sports club
 - going to the gym/pool for a workout
 - joining an exercise class
 - joining a recreational evening/adult education class
 - studying an 'after hours' GCSE
 - attending a course - 'learn how to e.g. self-defend'
 - doing an activity in lunch time/extra-curricular school sport
 - going on an activity-based holiday/outward bound course
 - setting a challenge e.g. running a marathon, climbing a mountain
 - entering competitions (regular/one-off)
 - going to watch/spectate live
 - subscribing to reading material/other media
 - gambling
 - coaching/training/managing a team
 - officiating a sport
 - organising a match/event
 - joining a summer school
 - taking part in award schemes.
- (b) Sport can be used to develop friendships by/through:
- open competitions to bring together all ages
 - providing discount schemes for **juniors, students, OAPs and the unemployed** that can also reduce stigma and facilitate social mixing
 - family fun-days which encourage people of different generations to play together
 - provision of family enclosures for attending events
 - provision of sports bars for communal spectating
 - local schools engaging in competitions
 - open competitions to bring together amateurs/professionals
 - mixed-gender PE and activities where **girls and boys** can play alongside on an even basis
 - open competitions to bring together both genders
 - wider-ranging competition and more considerate attitudes to allow open access for **people of varying degrees of disability** to take part both among themselves and with their able-bodied contemporaries
 - adapted/improved facility design/equipment
 - events such as the London Marathon which brings together **people of differing abilities** where recreational athletes can run alongside elite performers
 - international competition to introduce and integrate **people from different countries**
 - popular activities which provide a common interest for **people from different educational backgrounds and experiences**
 - the world-wide popularity of particular activities which provide a common interest for **people from different cultures or religions**
 - providing cheap activities **for people from different economic backgrounds**
 - making available the facilities at convenient times to bring together those **people with similar commitments**
 - and those **people who have more free time.**

NB. Both parts of the question must be answered to gain full marks.

(15 marks)

| |
|--|
| MARKING CRITERIA FOR QUALITY OF WRITTEN COMMUNICATION |
|--|

3582/W

| | | |
|------------------------------------|--|------------|
| High Performance | Candidates spell, punctuate and use the rules of grammar with almost faultless accuracy, deploying a range of grammatical constructions; they use a wide range of specialist terms adeptly and with precision. | 4 marks |
| Intermediate Performance | Candidates spell, punctuate and use the rules of grammar with considerable accuracy; they use a good range of specialist terms with facility. | 2 –3 marks |
| Threshold Performance | Candidates spell, punctuate and use the rules of grammar with reasonable accuracy; they use a limited range of specialist terms appropriately. | 1 mark |
| Below Threshold Performance | | 0 marks |