

Edexcel GCSE

Physical Education

1827

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Mark Schemes (Results)

SECTION ONE

1. (a) D (1)
(b) B (1)
(c) D (1)
(d) D (1)
(e) C (1)
(f) C (1)
(g) B (1)
(h) B (1)
(i) C (1)
(j) C (1)

(Total 10 marks)

TOTAL FOR SECTION ONE: 10 MARKS

SECTION TWO

2. (i) Relieve/reduce/lose/lower/get rid of/release/stop/relief
Mental/psychological (2)
- (ii) It can increase confidence/feel better about themselves (or
equivalent) (1)
- (iii) 1st mark for reference to 'more/working harder' than you normally
do
2nd mark for reference to 'using more calories than taken in' (or
equivalent) (2)
- (iv) Social (1)
- (v) Aesthetic (1)

(Total 7 marks)

3. (a) Fitness (1)
- (b) Deteriorate/decrease/get worse/fall off/not be able to balance/be
poor (or equivalent) (1)
- (c) How well a task/activity/something is completed (or equivalent) (1)

*NB: this question asks for an explanation NOT a definition,
therefore exact replication of the standard definition is not
required*

- (d) Credit any reference to how the activities differ, i.e. physically or
due to equipment, e.g. (in relation to gymnast) performer in Figure
2 needs greater flexibility/needs to be more powerful/doesn't have
to work for as long/needs to be able to work on apparatus (or
equivalent) (1)

NB Must be clear which performer candidate is discussing

- (e) **Gymnast in Figure 2**
Achieve body position/shape required/swing around rings (or
equivalent) (1)

Long distance runner in Figure 3
Greater stride length/good technique/reduction in chance of injury
(or equivalent) (1)

- (f) (Health is freedom from disease) we cannot tell by looking at the
images whether or not either performer is suffering from an illness/
one might have a disease that we can't see(or equivalent) (1)

(Total 7 marks)

4. (a)

	How speed is used in the performance
Athlete - Sprinter	To get to the finish line first/faster time/win race (or equivalent)
Games Player	To beat opponents to the ball / to lose opponents/to get around opponents(or equivalent)
Athlete - Discus	To throw the discus further/ increase power To move faster across the circle/ Fast arm

(3)

(b)

	Body parts being coordinated - Example	Why coordination is important - Explanation
Athlete - Sprinter	Arms & legs	Good technique to increase speed/power
Games Player	Feet & eye	looking (vision) where to kick and kicking

(4)

NB1: example of body parts being coordinated must link to why coordination is important for FULL marks

(Total 7 marks)

5. (a)

Principle of Training	Explanation of Principle
Overload	(Fitness can only be improved through) training more than you normally do
Progression	Start slowly and gradually increase (the amount that you do)/increase intensity gradually
Specificity	Training must match needs of activity (DO NOT allow specific)
(Meeting) individual needs	Tailoring the training programme to suit you, not generalised for a group (or equivalent)
Thresholds of training	Levels that you should work within
Moderation	Be realistic with your training programme - don't attempt too much
Reversibility	Adaptations will be lost if you stop training (DO NOT allow reverse)

(8)

NB1: Maximum of 4 principles listed in any order, provided answers match stated principle of training. Do not credit the FITT principle
NB2: If incorrect principle ignore explanation

(b) Name of Principle	Specific example of how principle was applied in PEP
Overload	I started off working twice a week and increased this to 3 times (or equivalent)
Progression	I lifted 5Kg to start with and increased this to 6Kg (or equivalent)
Specificity	My sport is badminton so I included a lot of short sprints and shot shadowing in my circuit training sessions (or equivalent)
(Meeting) individual needs	Rather than try 2 minutes on each station like John, I only completed 1 min as I know I would have found 2 minutes too difficult (or equivalent)
Thresholds of training	I worked between 60 - 85% of my maximum heart rate (allow range between 60 - 85%). Accept HR values between 120 - 170
Moderation	Although I was really keen to begin with I made sure that I only trained every other day to give myself time to recover between training sessions
Reversibility	Due to a bad tackle I was injured and out of the game for 6 weeks, this has meant that I couldn't train, when I started again I reduced my work load from 30 minutes to 15 minutes which was more in line with my reduced level of fitness

(2)

NB1: do not credit name of principle

NB2: Maximum of 2 principles listed in any order, provided answers match stated principle of training

NB3: If incorrect principle stated do not credit explanation

(Total 10 marks)

6. (a) Isometric (1)
- (b) (i) Isotonic (1)
- (ii) Muscle contraction that results in limb movement/move joint (1)
- (iii) Accept any technique or description of technique that results in limb movement, e.g. serve in tennis; running action in 100m; throwing phase of shotput (or equivalent) (1)

NB: accept concentric/eccentric muscle contractions if given

(Total 4 marks)

7. (a) Obese (1)
- (b) Burning off a lot of calories during their training/have a carefully planned diet to make sure they do not gain weight
Burning off fat (or equivalent) (1)
- (c) Increased muscle mass/Hypertrophy/Bigger muscles which weigh more/Bone structure (1)

(Total 3 marks)

8. Reason 1 Avoid punishment by the referee/ fair play/ respect for the game/ good example (role model) (or equivalent) (1)
- Reason 2 Reduce the chance of injury/ stop it becoming dangerous (or equivalent) (1)
- Reason 3 Increase enjoyment/fun/ limits breaks in play/reduce arguments/ fluent game (or equivalent) (1)

NB1: Maximum 1mark per type of reason

NB2: Answer in any order

(Total 3 marks)

9. (a) A competition where there has been an attempt to make the sides even/fair two sides of equal strength and ability/fair (1)
- (b) To make the competition fairer/more exciting/interesting/safer/more fun/not one sided (or equivalent) (1)

(c)

Competition	How competition has been balanced
Under 19s' football tournament	(Same) age/only under 19/under 19 only
Women's indoor athletic championships	(Same) gender/women only/only women/same sex/sex
Judo brown belt competition	(Same)skill/grading/Similar experience/only for brown belts
Heavyweight boxing competition	(Same)weight/only certain weights

(4)

(Total 6 marks)

10. (a) (i)

Activity	Potential Risk Associated With Activity
Badminton	Muscle or joint injury/tennis or golfer's elbow/overuse injury/ hit in face with shuttle (or equivalent)/
Dance	Muscle or joint injury/strained or sprained ankle/bruising
Long Jump	Muscle or joint injury/Bruising/sprained ankle/cuts, grazes, eye problems caused by sand/twisted knee
800m	Muscle or joint injury/cuts/abrasions from spikes/fall/ tripped/slipping
Javelin	Muscle or joint injury/cuts/wounds from point of javelin/ hit with javelin
Rounders	Muscle or joint injury/concussion from ball, bat or person/ being hit with ball or bat/pulled muscle/torn ligaments/dislocated fingers

(3)

NB: accept answers in any order, risk must be appropriate to selected activity, (therefore can use most of risks listed for any of the activities), only credit risk once

(ii) Javelin (1)

NB If javelin not selected ignore (ii)

(iii) Greatest possible injury/could result in death depending where hit (1)

(b) (i) Injury to muscle/ligament rather than bone (1)

(ii) **Sign or symptom 1:**
pain/swelling/tenderness (1)

Sign or symptom 2:
discoloration/bruising/non weight bearing/lack of mobility/can't move it/limping (1)

NB: accept any, in any order

(iii) Rest, ice, compression, elevation/RICE (1)

(Total 9 marks)

11. (a)

	Type of blood vessel	Explanation
A	CAPILLARY	Smallest vessel/very thin walls
B	VEIN	Large lumen
C	ARTERY	Thickest walls/smaller lumen

(6)

NB1: only credit explanation (or reverse of it) once, i.e. candidate can not score 2 marks for saying that veins have a larger lumen than arteries, and that arteries have a smaller lumen than veins
NB2: explanation must match stated blood vessel in mark scheme

- (b) (i) C/artery (1)
- (ii) A/capillary (1)
- (iii) B/vein (1)

(Total 9 marks)

12. (i) X Carbon dioxide/CO₂ (1)
- (ii) Y Water/H₂O (1)
- (iii) Increase/higher/goes up (or equivalent) (1)

(Total 3 marks)

13. (i) Bone (1)
- (ii) Epiphysis (1)
- (iii) Cartilage
Bone (2)

(Total 4 marks)

14. (a) (i) A Tendon/muscle/quadriceps/quadricep (1)
- (ii) B Ligament (1)
- (iii) C Synovial membrane/joint capsule (1)
- (b) Join bone to bone/ stabilise the joint /hold joint together (or equivalent) (1)

(Total 4 marks)

15. (a) Muscles are in a constant state of readiness/muscles partially contracted (or equivalent) (1)
- (b) (i) A/man/person A/man at computer/man at PC (1)
- (ii) Has rounded shoulders/ stomach sticks out/ looking down/hips forward/chin down/slouching forwards/neck out of alignment/back is bent (1)
- (iii) Makes you more confident/improves body shape/feel better (or equivalent) (1)

(Total 4 marks)

TOTAL FOR SECTION TWO: 80 MARKS

SECTION THREE

16. (a) (i) Reduction in stress (improve mental health)/social mixing (social health)/reduction in weight/blood pressure/reduction in cholesterol/reduction in asthma attacks (or equivalent) (physical health) (1)
- (ii) Taking part in an activity he enjoys/has fun/social mixing (or equivalent) (1)
- NB1: only credit social mixing once*
NB2: do not allow single word answers - must be qualified for ('ii')
- (b) (i) (Muscular) strength (1)
- (ii) Cardiovascular fitness/cardiovascular endurance/stamina (1)
- (c) (i) Balance (1)
- (ii) **When (balance):**
during the spin/glide/ movement across the circle (or equivalent); at the end of the throw/rotation (1)
- NB: allow any description of any point of technique*
- Why:**
to help technique (or equivalent); to stop him going over the line for a no throw/stop him falling during the throw (or equivalent) (1)
- NB: check answer matches point of technique given in ('WHEN')*
- (d) (i) Weight/weight training/resistance/resistance training (1)
- (ii) To increase his strength/build muscle /increase distance thrown/ more power on shot (1)
- (iii) Continuous/interval training/fartlek (1)
- (iv) To increase his cardiovascular fitness /cardiovascular endurance/stamina (1)
- NB: allow sensible alternatives, and only award 2nd mark if it justifies 1st answer*
- (e) (i) Cross (training)/circuit (training) (1)
- (ii) Cross training -
Because he is training for two very different events each of which has different requirements (or equivalent)
- Circuit training -
Because it can be used to improve any components and fitness (1)

- (f) (i) B/left ventricle (1)
(ii) Increased strength/size/stronger/ increase strength of contraction/ pump more blood/increase SV (1)
(iii) **Heart rate** Decreases (1)
Stroke volume Increases (1)
(iv) E semi-lunar valve (1)
F bicuspid valve/mitral/AV valve/Atrio-ventricular valve (1)
Important because prevents the back flow of blood (or equivalent) (1)

(Total 20 marks)

17. (a)

	Nutritional requirements	How this helps John participate in sport	
1	Carbohydrates	Provides energy	
2	Fats	Provides energy	
3	Proteins	Growth and repair, therefore repairs damaged tissue (or equivalent); increase in muscle size/ (or equivalent)	
4	Water	Prevents dehydration/replaces water lost through exercise	(8)

NB: accept answers in any order; ensure that (ii) matches the food group given in (i)

- (b) (i) 1. reduces the chance of injury;
2. psychological preparation;
3. physiological preparation/ increase pulse/ pulse raiser
4. skill related/practise skills to be used in activity/ (2)
NB: max one from any line; any two lines to give maximum 2 marks
- (ii) Reduces the chance of muscle soreness/ prevent cramp/ speeds up removal of lactic acid/ maintains circulation (1)
- (c) It is where a bone is moved out of its normal position at a joint/where the bone comes out of socket/bone pops out of socket (1)
- (d) Narcotic analgesics (1)
- (e) (i) Ball and socket (joint) (1)
(ii) Hinge (joint) (1)
Accept gliding if given by candidates as correct response, not given as expected answer to question as not on our specification

- (f) (i) Function protection; shape/support; blood production (1)
(ii) Example cranium protects the brain; gives us upright posture for running (or equivalent); red blood cells carry oxygen which the performer needs; platelets clot cuts so play can continue (1)

NB1: check example matches function
NB:2 must demonstrate physical activity context

- (g) Correct diet/eat calcium in diet (or equivalent) (1)
(h) (i/ii) Hamstrings, quadriceps, gastrocnemius, gluteals/gluteus maximus (1)
NB: any order, accept any of 2 of 4 given for (i) or (ii) (1)

(Total 20 marks)

18. (a) (i) Humerus
Radius
Ulna (3)

NB: any order

- (ii) Hinge (1)
(iii) rotation (1)
(iv) Turn the head (to see the ball) (1)

- (b) To attach muscle to bone (so the muscles can move the bone) (1)

- (c) (i) Flexion (1)
(ii) Bicep(s) (1)
(iii) Tricep(s) (1)
(iv) Antagonistically (1)

- (d) (i) 'extra' oxygen required /more oxygen needed after exercise has stopped to make up for the shortfall of available oxygen during exercise/ working anaerobically/ working without oxygen (3)

NB: 1 mark for concept of 'extra' oxygen required, 1 mark for after exercise (or equivalent) and 1 mark for concept of shortfall during exercise

- (ii) increased breathing breath/breath (deeper, harder, faster) (1)
(iii) 1. increased surface area of alveoli; increase strength in respiratory muscles (or equivalent) (1)
2. drop in resting respiratory rate; slight increase in TV; slight increase in VC (or equivalent) (1)

NB: any order, any of answers listed in (i) or (ii)

- | | | | |
|-----|-------|-------------|-----|
| (e) | (i) | Dehydration | (1) |
| | (ii) | Sprain | (1) |
| | (iii) | Strain | (1) |

(Total 20 marks)

TOTAL FOR SECTION THREE: 60 MARKS

TOTAL FOR PAPER: 150 MARKS