

# PHYSICAL EDUCATION

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Paper 0413/11  
Theory

## **Key messages**

- Candidates should note the number of marks awarded for questions to ensure they answer the question in appropriate depth.
- Where questions require the use of a physical activity throughout an answer, candidates should carefully consider their choice before beginning to answer.
- Candidates should be aware of the level of detail required from the key word in the question such as explain, describe, suggest, state or identify.
- Candidates should avoid using part of the question in their answer.

## **General comments**

The majority of candidates responded to all questions and there was no evidence to suggest that there was insufficient time to complete the paper. The standard of responses was generally good with answers clearly constructed in many cases.

## **Comments on specific questions**

### **Question 1**

Most candidates were able to identify appropriate movements at the shoulder, but a small number included flexion and extension which were part of the question.

### **Question 2**

- (a) Generally, this was a well-answered question with most candidates using the photograph to guide their response. The most typical answers were speeding on the run up creating momentum in the jump and flexibility in the hip allowing legs to stretch forward to gain a longer jump.
- (b) Most candidates were able to gain credit for naming and describing the Vertical Jump Test. There were examples of candidates incorrectly naming the test but gaining partial credit for a correct description.
- (c) This was a well-answered question, and most candidates demonstrated a good understanding of the topic.

### **Question 3**

- (a) Generally, candidates found it challenging to identify and describe the types of muscle contraction taking place during exercise shown in the diagram.
- (b) (i) Most candidates correctly identified the group of performers most likely to be a sprinter.
- (ii) This was a well-answered question. Most candidates gave the equation of anaerobic respiration to gain full credit.

- (iii) The majority of candidates gained credit by showing a good understanding of the topic. One mistake by weaker candidates was to not describe a difference but to describe a feature of one muscle fibre type.

#### Question 4

- (a) Most candidates were able to provide at least one appropriate response. Some weaker responses did not include enough detail, with answers suggesting that media encouraged participation but not describing how they achieved this.
- (b) Most candidates were able to gain credit here and there was clearly a good understanding of the topic. Many candidates gave well considered responses such as there being fewer female coaches, discrimination against female participation, certain cultures preventing female participation and fewer opportunities for female participation.

#### Question 5

- (a) (i) The majority of candidates gave a clear definition of cardiac output.
- (ii) Most candidates correctly calculated the cardiac output from the data provided but applying an appropriate unit of measure proved to be more difficult.
- (b) Most candidates gained credit with typical responses relating to age, use of a cool down and the level of fitness of a performer.

#### Question 6

- (a) A number of candidates gave responses that related to a warm up and cool down which did not gain credit as these points formed part of the question. Typical responses that gained credit related to the appropriate technique being used and wearing appropriate clothing or footwear.
- (b) (i) Most candidates were able to gain at least partial credit with many gaining full credit with answers such as muscle strains and tears and dislocations of the joint at the shoulder.
- (ii) Many candidates answered fully and correctly. Overstatements by weaker candidates including ice, stopping swelling rather than reducing swelling, and elevation stopping the flow of blood to the injured area rather than slowing the flow of blood to the area.

#### Question 7

- (a) Most candidates gained credit for the correct placement of the named bones.
- (b) (i) The majority of candidates gained full credit for identifying the short and long bone. Fewer were able to recognise the sternum as a flat bone.
- (ii) Most candidates were able to describe functions of the skeleton.

#### Question 8

- (a) Most candidates were able to name and describe characteristics of a skilled performance. Some candidates found it more challenging to match the description to named characteristic, e.g. naming accuracy as a characteristic but describing consistency.
- (b) Most candidates showed a good understanding of the concept of an open skill with typical answers being the position of opponents, position of teammates and environmental factors.

#### Question 9

- (a) The vast majority of candidates were able to complete or partly complete the flow diagram.
- (b) A number of candidates showed some confusion by describing the movement of the diaphragm and intercostal muscle rather than describing the function of each during breathing at rest.

- (c) Most candidates gained at least partial credit with some achieving full credit. A common error was to include stroke volume in responses and not giving complete descriptions of breathing volumes.

**Question 10**

- (a) Most candidates gained credit for their responses and the strongest answers usually related to visual and mechanical guidance. Those candidates who included verbal guidance often did not give clear justification when relating their answer to the autonomous stage of learning.
- (b) This was answered well with candidates providing a good range of responses. The most typical responses related to being able to correct errors, identify strengths and motivate a performer.

**Question 11**

- (a) The majority of candidates correctly identified the class of lever.
- (b) Most candidates were able to correctly identify the components of a lever from the diagram.

**Question 12**

- (a) Most candidates correctly identified a function for each nutrient, and many gained full credit.
- (b) Stronger candidates answered this well and demonstrated an understanding of the concept of energy balance.

**Question 13**

Most candidates understood the characteristics of an introvert personality. A frequent error was to use an activity that is not on the syllabus list of activities.

**Question 14**

- (a) This was often answered well but there was some repetition in many responses with candidates stating that the method of training would improve different components of fitness.
- (b) The question required examples relating to continuous training rather than a description of the principles of overload.
- (c) Some candidates confused long-term effects of exercise with short-term effects, but the majority of candidates were able to achieve at least partial credit. Typical responses included an increase in heart rate, increasing breathing rate, sweating and fatigue.

**Question 15**

- (a) Candidates needed to describe how one of the senses provided information about the speed or direction of the ball. In some cases, candidates did not provide enough detail.
- (b) Most candidates gave responses relating to the amount of information retained in the short-term memory and the time that it retains it for.

**Question 16**

Most candidates showed a good understanding of the topic of components of blood.

# PHYSICAL EDUCATION

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Paper 0413/12  
Theory

## **Key messages**

- Candidates should note the number of marks awarded for questions to ensure they answer the question in appropriate depth.
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- Candidates should be aware of the level of detail required from the key word in the question such as explain, describe, suggest, state or identify.
- Candidates should avoid using part of the question in their answer.

## **General comments**

The majority of candidates responded to all questions and there was no evidence to suggest that there was insufficient time to complete the paper. The standard of responses was generally good with answers clearly constructed in many cases.

## **Comments on specific questions**

### **Question 1**

- (a) Most candidates identified the bone as the humerus.
- (b) A significant number of candidates did not classify the bone but named the bone which could not be given credit.
- (c) Most candidates gave movement as their response, which did not provide sufficient detail to gain credit. A more detailed response that did gain credit was that the bone provides muscle attachment for movement. Other typical responses included that the bone produces blood cells and provides support or shape.

### **Question 2**

- (a) The majority of candidates were able to identify the two types of anxiety, and most were then able to give an appropriate description. However, some candidates identified the types of anxiety as physical and mental which did not gain full credit, but if further detail was provided in the description partial credit was awarded.
- (b) This question was answered well, and the most frequent answer related to the crowd watching.
- (c) Most candidates identified an appropriate method of relaxation. Descriptions were not always sufficiently detailed to gain credit. The most common method identified was a form of controlled breathing and visualisation.

### **Question 3**

- (a) This question was often answered well, and most candidates identified the elite level, but fewer were able to identify both levels correctly.
- (b) Stronger candidates showed a very good understanding of the sports development pyramid and gave appropriately detailed responses. A number of candidates seemed to confuse the level of the development pyramid with the stages of learning.
- (c) Many candidates showed a good understanding of the topic by recognising the role of schools and education at level 1 of the pyramid. Typical appropriate responses included the introduction of activities and teaching basic skills and basic rules. Errors included schools playing fixtures against other schools and describing the cognitive stage of learning.

#### Question 4

Most candidates recognised the components of the RICE method of treatment. Descriptions were less well done with many describing rest as enabling recovery rather than preventing further injury, and ice as stopping or preventing swelling rather than reducing swelling.

#### Question 5

- (a) There was some confusion over identifying an appropriate test for strength. Few candidates were able to correctly name the test, but a number could describe the test which enabled partial credit to be awarded.
- (b) (i) The question required candidates to apply the effects of weight training on a rugby player rather than just describing the effect of weight training. A significant number of candidates did not apply their understanding to a rugby player but understood the effects of this type of training.  
(ii) Most candidates gave responses describing the use of a spotter, taking part under supervision, not lifting weights that were too heavy for the performer and describing the type of clothing to be used.

#### Question 6

- (a) Most candidates were able to describe the named contraction, but some confused the description of concentric with eccentric contraction. Weaker candidates usually managed to describe the isometric contraction, and many gave an appropriate example. Some candidates did not apply their answers to gymnastics and instead used a different activity which could not be accepted.
- (b) Most candidates were able to identify plantar flexion and dorsiflexion as the movements at the ankle. However, the examples given often lacked the level of detail required to justify credit. A very common example given was running, but to gain credit, answers needed to identify the movement used in each part of the running action.

#### Question 7

- (a) Most candidates showed a good understanding of the advantages of sponsoring an event such as the Olympic Games. The most common answers related to advertising, increased sales and raising the company image by being associated with the Olympics. The most common error was describing advantages for the host or an individual.
- (b) Candidates gave a variety of answers such as performers having home advantage, being used to the environment and being more likely to attract sponsorship.
- (c) Many candidates were able to find two benefits that a professional performer has over an amateur with responses such as having more experience and being able to train full time. A number of candidates went on to describe the third factor of the professional being more skilled which was too vague as more detail was required, such as how that situation was brought about, e.g. access to better coaching, facilities, support etc.

### Question 8

- (a) Most candidates were able to identify both muscles from the diagram.
- (b) The majority of candidates were able to identify the muscle labelled C in the diagram. The second part of the question was less well answered with many repeating the information contained in the question.
- (c) Most candidates were able to give clear and accurate comparisons between fast-twitch and slow-twitch muscle when relating to force and fatigue tolerance. The only common error was not making a comparison between the muscle fibre types but instead making a statement relating to just one muscle fibre type.

### Question 9

- (a) Most candidates gained full credit for identifying the characteristics of the alveoli. The most common correct response was providing a large surface area and the cell wall being one cell thick. A common mistake was to identify a characteristic of the cell wall being thin which was considered too vague. Explanations given were generally relevant, but some candidates used terms such as "easier" or "more efficient" which did not provide enough detail to gain credit.
- (b) Many candidates gained at least partial credit with some achieving full credit. Most candidates identified breathing volumes, but some candidates named stroke volume as a breathing volume. The descriptions needed to be detailed to gain credit and many weaker candidates were not precise enough. The effect of exercise on the named breathing volume was generally well-answered.

### Question 10

- (a) The question required an explanation to be given and many candidates were unable to provide the level of detail required. Answers such as for the factor of age, "as people get older, they have less skills compared to young people" did not give an explanation for the difference in skill level.
- (b) A number of candidates showed some confusion between motivation and feedback. The question asked candidates to describe features of extrinsic motivation that would be important to a performer. Answers that gained credit included participation to gain medals, rewards, money and praise.

### Question 11

- (a) Most candidates gained credit for scaling the time axis and plotting the data to provide an appropriate shape of the graph. A number of candidates found the scale on the heart rate axis more challenging, with some using a scale that made it difficult to plot the data and other candidates did not follow basic mathematical principles of scaling.
- (b) Some candidates did not attempt to draw a graph for an elite performer and small number drew a graph that was higher for the elite performer. However, most candidates drew a graph correctly identifying a lower resting heart rate and a lower working heart rate. Some candidates did not show a quicker return to resting heart rate or returned to a different resting heart rate.
- (c) Many candidates gained full credit here with responses such as there being an increase in breathing rate, an increase in muscle temperature and the skin becoming red.

### Question 12

- (a) Many candidates found this question more challenging. Some candidates applied their answer to an activity other than tennis. The most common error was to describe the three stages of learning without any application to a tennis skill. A number of candidates gained partial credit for an appropriate explanation of the performer at the cognitive stage, for example hitting the ball consistently into the net. Making mistakes, on its own, was considered too vague. Few candidates gained credit for the associative and autonomous stages. Typical errors, such as "makes fewer mistakes" and "makes no mistakes" did not meet the demands of question which required an explanation.

- (b) Candidates showed a good understanding of the differences between short-term and long-term memory. The main error was not providing a comparison and just making a statement about a type of memory.
- (c) (i) Candidates needed to avoid the use of terms from the question. However, this was common and as a result many did not answer the question.
  - (ii) Many candidates who did not give an accurate answer in (i), showed an awareness of how it may influence a coach when providing guidance.

#### Question 13

- (a) There were some excellent responses with full and detailed answers. Common answers included the use of goal line technology to see if the ball has crossed the line in football; sensors on starting blocks to see if an athlete has false started; video evidence in rugby to see if the ball has been grounded for a try and pads on the end wall of a swimming pool to record when a swimmer touches at the end of a race.
- (b) Many candidates gained partial credit and a number achieved full credit. Common correct responses included were, technology can stop the flow of a game while checks are made, not all levels of sport having access to certain technologies and technology still being inaccurate.

#### Question 14

- (a) A common error was defining both fitness and health rather than describing the relationship between the two features.
- (b) Answers needed to give a lifestyle choice and the physical effect on the health of a person. Some candidates did not recognise that the command word required a level of detail to gain credit and gave answers such as smoking can damage health rather than smoking can cause lung cancer.
- (c) Most candidates gained credit with typical responses of helping to manage stress and enabling a performer to control emotions.

#### Question 15

The strongest responses included heading a ball in football for a first class lever and kicking a ball for a third class lever. A significant number of candidates found it difficult to gain credit for a first class lever but significantly more gained credit for examples of a third class lever.

# PHYSICAL EDUCATION

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Paper 0413/13  
Theory

## **Key messages**

- Candidates should note the number of marks awarded for questions to ensure they answer the question in appropriate depth.
- Where questions require the use of a physical activity throughout an answer, candidates should carefully consider their choice before beginning to answer.
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- Candidates should avoid using part of the question in their answer.

## **General comments**

The majority of candidates responded to all questions and there was no evidence to suggest that there was insufficient time to complete the paper. The standard of responses was generally good with answers clearly constructed in many cases.

## **Comments on specific questions**

### **Question 1**

- (a) Many candidates were able to correctly name both bones required.
- (b) (i) The majority of candidates were able to identify the hinge joint at the knee.  
(ii) The majority of candidates were able to gain credit by naming another synovial joint, in most cases the ball and socket joint.
- (c) Most candidates gained credit with many correctly identifying cartilage and synovial fluid and giving an appropriate function of each component. Candidates found identifying the ligament more challenging and often confused it with the synovial membrane.

### **Question 2**

- (a) Most candidates were able to name the two missing stages of the information processing model as decision making and feedback.
- (b) The question required a high level of detail as candidates needed to explain the differences between short-term and long-term memory. A significant number of candidates demonstrated an understanding of both types of memory but did not meet the demands of the question by making a statement that did not show a difference between the types of memory.

### **Question 3**

- (a) The most common error was to describe  $\text{VO}_2 \text{ max}$  as a volume of oxygen breathed in rather than the volume of oxygen utilised during maximal exercise.

- (b) A number of candidates identified an appropriate lifestyle choice, usually smoking, and described how it could affect the performer's VO<sub>2</sub> max. However, some candidates incorrectly chose diet as a lifestyle choice. To gain credit for training, candidates needed to identify some aspect of aerobic training. A common error was to describe an increase in training without providing any clarity over the type of training.

**Question 4**

- (a) The majority of candidates were able to gain credit by correctly naming the appropriate principles of SMARTER. The examples needed to be drawn from swimming and some candidates used a different activity which could not be given credit. Candidates needed to include the aspect of swimming and what they wanted to improve in the description of specificity, the method of measuring the target for measurable and for time phased describing the length of time it was expected to complete the target.
- (b) This question was usually answered well but some candidates confused the requirements of the question and described different methods of warm up. Whilst some of the answers could be applied to the question, it led to a great deal of repetition in responses.

**Question 5**

- (a) Most candidates gained full credit by identifying fats and carbohydrates.
- (b) Candidates needed to identify the differences in the diet between a distance runner and a 200-metre sprinter. The most typical responses included the long-distance runner requiring high levels of carbohydrates for long-term energy, with the sprinter needing more protein to aid muscle growth and muscle repair.

**Question 6**

- (a) A number of candidates had an understanding of the topic but did not apply their knowledge to the named activity. Answers needed to demonstrate the increases that created overload rather than, for example just stating the number of sessions taken part in for the description of frequency.
- (b) Most candidates gained credit with answers such as overuse injuries and muscle fatigue. Injuries on its own was too vague.

**Question 7**

Many candidates answered this question fully correctly. Typical responses identified mental health and well-being and gave examples managing stress, controlling emotions and raising self-esteem.

**Question 8**

- (a) This question was answered well, and most candidates gained at least partial credit with many achieving full credit. A common confusion was mixing plantar flexion with dorsiflexion at the ankle and flexion with extension at the shoulder.
- (b) Candidates demonstrated a good understanding of forces that act on the volleyball player. The most common answer related to gravity and that it pulls the player down to the ground.
- (c) Most candidates gained credit for correctly naming the class of lever. The diagram was less well done with some confusion over the position of the features of the lever. Some candidates did not label the diagram.
- (d) The vast majority of candidates were able to correctly identify two components of fitness. The application of the components was generally done well with typical responses being power enabling a performer to jump high at the net to block the ball and strength to be able to spike the ball hard so it cannot be returned.

**Question 9**

- (a) Most candidates were able to identify two types of sponsorship with the most common being financial and providing clothes or equipment.
- (b) Most candidates showed a good understanding of the topic with the most common correct answer relating to the interference of sponsors in the running of the sport. A frequent error was linking the negative effect of sponsorship to a performer rather than a sport.

**Question 10**

- (a) (i) The majority of candidates were able to provide an appropriate example of a real risk which mainly linked to injury resulting from a poor landing. Very few candidates showed an understanding of perceived risk.
- (ii) Most candidates gave the example of needing spotters, only performing under supervision and use of a safety harness.
- (b) Most candidates used the Sit and Reach Test as their example and in most cases provided a detailed description. Many candidates achieved full credit.

**Question 11**

Some candidates provided an excellent response demonstrating a good depth of understanding of the topic. Typical responses included an increase in media coverage, an increase in role models, an increase in the number of female coaches, a greater range of physical activities available in schools and the availability of facilities for females.

**Question 12**

- (a) The majority of candidates were able to provide a good definition of both skill and ability.
- (b) There was sometimes confusion between the characteristics of a skilled performance and the components of fitness. Those candidates who were able to distinguish between the two generally went on to gain credit by providing an appropriate example.

**Question 13**

- (a) Most candidates gained partial credit with many achieving full credit. The most common correct answers were red blood cells and white blood cells with an appropriate function.
- (b) Candidates needed to ensure that answers demonstrated why different factors affect the cardiac output of the marathon runner and a sedentary person rather than stating separate factors of how they may create a difference for each performer.

**Question 14**

- (a) The majority of candidates gained credit with responses such as that the alveoli are one cell thick and that they are huge in number or create a large surface area. Explanations were generally accurate, but some responses, such as "allows the transfer of gasses to be more efficient and easier", were vague and could not be credited.
- (b) Most candidates gained credit when completing the table. Some candidates did not provide enough detail to gain a credit for the description of vital capacity.

# PHYSICAL EDUCATION

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Paper 0413/02

Coursework

## **Key messages**

- Please read the assessment requirements for each activity prior to filming.
- Please name the video file that you upload with the name of the activity.
- Filmed evidence for each activity is better as a continuous video and not a series of very short clips.
- At most levels, games activities require appropriate match play to support the marks awarded, particularly for stronger candidates.
- Elaborate video presentations which include music often do not aid moderation and theoretical slides produced by the candidate are often not relevant to the assessment.

## **General comments**

Many centres had prepared using the Coursework Guidelines Booklet well. The overall standard of the coursework paperwork submitted was good. It is important that centres upload the documents at good resolution. A number of centres did not sign the paperwork submitted and some omitted the syllabus code.

Some centres allowed their candidates to produce elaborate presentations of themselves performing an activity. The evidence sometimes included additional music and the slides that contained theoretical information related to the candidate's activity. It is important to emphasise that moderation looks at the candidate's performance. Please note it is the centres' responsibility to collate the information required for moderation, not the candidates.

When planning the evidence to be presented for moderation, it is important that centres read the assessment conditions in the Coursework Guidelines Booklet. The conditions indicate how the practices set up will influence the level of mark awarded. For example, skills demonstrated in isolation will be assessed as being in the lower levels of attainment. Demonstrating skills which are combined in a practice against opposition will allow candidates to potentially be assessed at a higher level.

There are performance descriptions for each level of attainment for each activity and they can be found in the Coursework Guidelines Booklet. This information, together with the assessment conditions, will aid centres in planning the evidence that is to be submitted. It is possible that centres will submit different types of evidence for candidates with very different levels of attainment.

If centres wish to place a candidate in the highest levels, a full competitive game should often be seen where the time and space allowed for the performers is restricted as this will enable them to demonstrate their ability under more challenging conditions.

Each activity should be one continuous piece of evidence where possible. Two or three candidates may be filmed at the same time performing the same skills to reduce filming length if needed and appropriate to their skill levels.

Do not speed up the footage as it does not allow the candidates' techniques to be seen.

Some centres used students to time and measure Track and Field events. Please note that the Coursework Guidelines Booklet states that it must be timed / measured by a teacher / adult.

## **Comments on specific activities**

### **Track and Field Athletics**

When performing the different events within Track and Field Athletics, the candidates must observe the rules associated with the event. For example, the candidate should not step out of the front of the throwing area after completing their performance in the Shot Put, Discuss or Javelin. This constitutes a no throw. When measuring the High Jump, the height of the bar is measured from the top of the cross bar, at the lowest point of the bar in the middle. Roughly approximating a distance using a tape lying alongside the event area is not appropriate. When measuring field activities, good, filmed evidence showed the tape measure being correctly placed before it was zoomed in on to show the measurement of the distance achieved. Filming of field events should enable the action of the throw or jump to be seen along with the relevant landing points, as well as the correct application of the rules.

### **Personal Survival**

Centres are reminded that this activity should be completed and assessed as a continuous task without breaks / rest between tasks and with the tasks completed in the order stated. Evidence must include the filming of a stopwatch to confirm times. The surface dives must be completed during the distance swim and included in the evidence. Please note the clothing required by the different levels in the initial timed swim.

### **Life Saving**

When awarding a level 4 or above, the assessment requirements state that the candidates should be seen performing a combination of appropriate skills that will form a complete rescue. A number of centres filmed their candidates rescuing a conscious casualty and then landed the casualty using the technique for an unconscious casualty. Please note that the skills required to land a conscious casualty are very different to those needed to land an unconscious casualty. The Assessment requirements also state that the candidate should have been seen coiling the rope before the candidate performs the rescue. This part of the evidence was missing from the evidence of a number of centres.

### **Rounders**

The filmed evidence sent by centres generally focused on the ability of candidates to strike and field the ball. In some situations, the pitches used by the centres did not allow the candidates to demonstrate the distance they could hit the ball before its first bounce and the pitches were within an enclosed court. The best evidence of higher ability candidates included tactical play within the recordings and advanced field placings.

### **Weight Training**

Many centres submitted logs and filmed evidence. Good evidence clearly showed the technique and included a summary of the exercise where the candidate applied theoretical knowledge. Weaker candidates needed a greater understanding of the principles that underpin this activity. All sections of the log should be completed, and more than one sheet is required to provide an effective programme. The Coursework Guidelines Booklet states that the candidate should be filmed giving a brief verbal explanation of the exercise. Candidates should not provide a running commentary over the film they have submitted. Good filmed evidence included the optimum performances and the candidate being able to demonstrate the effect the exercise would have on their performance. Elaborate preprepared presentations should not be submitted.

### **Golf**

Please note that the filmed evidence sent by centres generally focused on the candidates' demonstrating skills in isolation and in conditioned drills on a Golf course. When placing the candidates in a level 4 and above, candidates must demonstrate their skills being used on a Golf course during some form of match play. It is therefore helpful if the score card from the match can be presented along with the evidence of the match. Good evidence showed completed holes and not just one or two shots from each hole played.

### Sailing

Many centres presented evidence of candidates rigging their boats, negotiating a limited number of buoys, performing a capsize drill, tacking and gybing. For higher marked candidates, the assessment conditions require them to be filmed and assessed performing their skills whilst sailing an appropriate course with the appropriate wind conditions. Filmed evidence of candidates performing in competition was also supplied by the higher marked candidates.