



GCE EXAMINERS' REPORTS

**GCE (NEW)
PHYSICAL EDUCATION
AS/Advanced**

SUMMER 2019

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Annual Statistical Report

The annual Statistical Report (issued in the second half of the Autumn Term) gives overall outcomes of all examinations administered by WJEC.

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PHYSICAL EDUCATION
General Certificate of Education (New)

Summer 2019

Advanced Subsidiary/Advanced

UNIT 1

General Comments

There were some excellent papers, whereby candidates demonstrated detailed knowledge and understanding of many topics, particularly within skill acquisition and psychology. However, there were also many superficial answers with candidates often only achieving AO1 and on occasion AO2 marks. It is suggested that candidates continue to be made aware of the assessment objective weightings for the paper and time is spent developing understanding of the command words e.g. outline/explain/discuss etc. and as importantly having specific examples when required to support knowledge and understanding.

Comments on individual questions/sections

Q.1 Tick the appropriate box

(a) VO_2 max is a measurement of: (1)

There was a mixed response for this question with many candidates selecting ventilation as their response.

(b) Describe three ways of ensuring that fitness test results are reliable. (3)

Most candidates achieved at least 1 mark with many achieving 2 for this question, however there was often repetition of the same point relating to keeping the environment the same.

(c) Critically analyse the use of the Multi Stage Fitness Test to provide an accurate measurement of VO_2 max. (6)

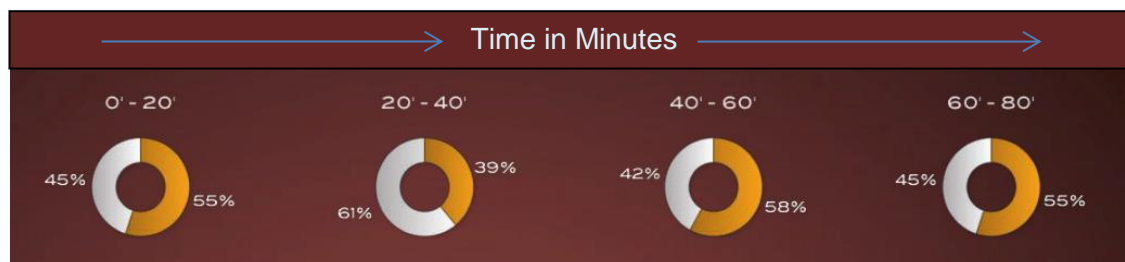
This question proved very challenging to many candidates, marks were achieved through analysing the test protocol and being critical of the procedures to gather data e.g. motivation levels of performers. Apart from a few candidates, most responses presented superficial knowledge of the test procedures and there was little criticality in the analysis.

(d) Explain why a high VO_2 max could be beneficial to an endurance athlete. (4)

There was a significant variation in this question not only between candidates but also between centres. Most candidates gained at least one mark, usually by explaining that an endurance athlete can work aerobically for longer. However, many then failed to develop this point further and often repeated the same point.

It is important that candidates understand that a higher aerobic fitness will be of benefit when exercising and recovering after high intensity activity.

Figure 1 – Possession for a team game with teams playing in white and orange.



Q.2 (a) Using figure 1 complete the following table: (3)

| Question | Answer |
|---|--------|
| (i) Which team had the greatest amount of possession in the 1 st half | |
| (ii) Which team had the greatest amount of possession in the 2 nd half | |
| (iii) Which team had the greatest amount of possession overall | |

Almost all candidates achieved the maximum of 3 marks.

(b) Using examples, explain what is meant by qualitative data in relation to performance analysis (2)

There was a wide range of responses predominantly between centres for this question. Generally, candidates either had 2 marks or had 0. Most were confused with quantitative analysis and referred to the use of statistics.

(c) There is an over reliance on the use of performance analysis data within modern sport. Discuss this statement, providing appropriate examples. (8)

Inevitably, there was a varied response for this question with many candidates demonstrating some knowledge and understanding about performance analysis techniques and many focussed on how they are used by coaches, performers and officials. However, very often the information was superficial and failed to enter into detailed discussions on the benefits and limitations of its use.

Q.3 (a) Which form of connective tissue is found on the surface of bones within a joint. (1)

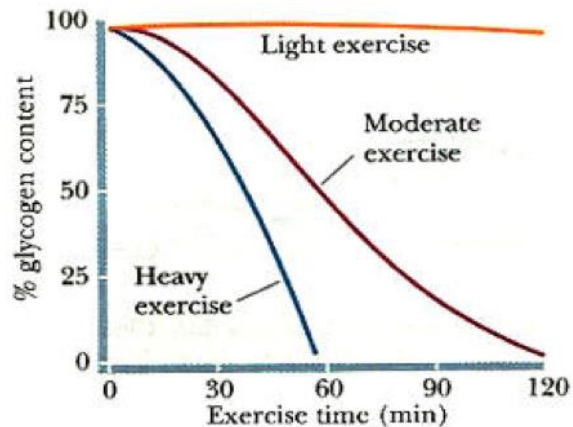
- Patella
- Tendons
- Cartilage
- Ligaments

There was a varied response to this question with tendons often being identified incorrectly.

- (b) Using a sporting example, explain antagonistic muscle action (3)

There was generally good knowledge and understanding of antagonistic muscle action with most candidates achieved at least 1 or 2 marks for this question.

Figure 2 shows the percentage of glycogen found within the muscle



- (c) Outline what is happening to levels of muscle glycogen shown within a muscle in the graph (Figure 2). (3)

The vast majority gained at least one mark, although many did not provide specific data response information from the graph.

- (d) Discuss how exercise intensity and individual levels of fitness affect the food fuel usage of a performer. (6)

There was a varied response between centres, where it was evident that many candidates were not familiar with the term food fuel usage. This led to many answers not being relevant to the question and candidates achieving 0 marks. The candidates who were familiar with the term understood and discussed the variation in food fuel usage in relation to intensity. However, only a few candidates provided correct information regarding how individual levels of fitness impact on the fuel used.

- Q.4** (a) Place a specific skill on each continuum below. Justify your answer. (3)

Almost all candidates had an understanding of open and closed skills, achieving at least 1 mark. However, many did not have the depth of knowledge required to achieve the max of 3 marks.

- (b) Providing examples, explain the strategies that could be used to improve the skills of a performer within the cognitive stage of learning. (4)

Generally, this was a relatively well answered question with many candidates achieving at least 2 marks. Those who didn't achieve 3 or 4 marks often failed to provide relevant examples as the question required.

- (c) Using sporting examples, discuss how the transfer of learning could influence performance. (4)

Many candidates provided relevant and specific examples of the different types of transfer, with many achieving 3 or 4 marks. While candidates often provided examples, some failed to develop their answers in relation to how transfer could affect performance both positively and negatively.

- Q.5** (a) Identify the theory that suggests that academically intellectual individuals take on the main decision-making roles within a team (1)

It was clear that many candidates did not understand the difference between the various terms linked to race and ethnicity relative to participation in sport and physical activity.

- (b) Describe the terms stereotyping and stacking and briefly discuss how they have affected sporting participation in ethnic minority groups. (4)

Many candidates had some knowledge and understanding particularly around stereotyping, with a minority describing stacking. There was some discussion about how sports participation has been affected by stereotyping and stacking but often responses were superficial.

- (c) Describe a government or national governing body campaign aimed at increasing participation in physical activity within disadvantaged groups. (2)

Most candidates provided examples of schemes; however, many were not always government or national governing body schemes.

- Q.6** Discuss how various psychological factors affect sporting performance. Provide appropriate examples to support your answer (14)

Many candidates demonstrated knowledge and understanding of the various psychological factors and some developed points through explaining the points and providing some examples. This meant that many marks were achieved through AO1 and AO2. However, there was little discussion on how these factors affect sporting performance, which was the main aspect of the question.

Summary of key points

- Continue to reinforce the three assessment objectives and the levels of response required
- Further develop candidates understanding of the command words in relation to the assessment objectives
- Ensure that candidates are familiar with all the key terminology as used in the guidance and specification to allow candidates to understand the requirements of the question.

PHYSICAL EDUCATION
General Certificate of Education (New)
Summer 2019
Advanced Subsidiary/Advanced
UNIT 2 NEA

General Comments

Host centres' effective organisation of the moderation days helped the moderation days to run smoothly. Their contribution continues to be greatly appreciated.

In order to facilitate a smooth and efficient day it is helpful when the organising of activities is shared between the staff of the centres attending the moderation day.

Administration continues to improve with very few centres missing the submission date for the PEASU2 forms. A few centres failed to include marks for the Personal Performance Profile (PPP) and coaching/officiating aspects on this form. All assessments must be made by the submission date in early March. These marks should correlate with the marks on the cover sheets of candidates' work. Centres are reminded that the lead moderator should, whenever possible be informed prior to the day of candidates who are unable to participate in/attend the moderation.

A minority of centres failed to provide medical certificates for candidates unable to perform on the moderation day. Medical certificates are required for any candidate unable to participate through illness or injury.

Comments on individual questions/sections

Practical Performance

Assessment of practical activities continues to improve in accuracy with most assessments in the correct band.

The evidence provided for the coaching of off-site activities continues to improve, with most candidates providing evidence of their performance in both practice and competitive situations. The best evidence included video footage of the candidate in a variety of competitive situations. As in previous years the assessment of off-site activities was generally less accurate than the assessment of centre-based activities, with a tendency to be over-generous in marks awarded.

Major games are still the most popular activities. Application of assessment criteria in these activities was largely accurate with the majority of candidates placed in the correct Band.

The majority of candidates were assessed as being in Band 4 or top of Band 3. Very few candidates were assessed as being in Band 2. In athletics and swimming centres are to be reminded that candidates must be assessed on their current rather than previous performance, with times/distance data being taken from performances completed within the current academic year.

Coaching/Officiating

Coaching remains the more popular option for the candidates. Candidates assessed as being in the top band delivered progressive sessions demonstrating excellent communication, appropriate organisational skills and high-quality feedback. The assessment of coaching was largely accurate with the majority of candidates being assessed at Band 3. Candidates assessed by moderators as being in the lower bands often delivered sessions that lacked progression with little intervention by the coach. There was an improvement in the accuracy of assessment of officiating this year. Similarly, to the coaching many candidates officiate on a regular basis often with younger pupils in the school setting or in junior clubs outside school/college. These candidates were generally all assessed as being in Band 4. Netball continues to be the most popular activity for officiating. Those candidates who officiate on a regular basis were much more secure in the correct application of rules, their movement around the field of play and in the use of correct hand signals. Candidates being assessed in off-site activities should ensure that they have video evidence of their coaching/officiating to support the mark awarded.

Personal Performance Profile

The accuracy of assessment of the Personal Performance Profile (PPP) continues to improve. The majority of work was assessed as being at the top of Band 2/ bottom of Band 3. In the analysis of performance, the best candidates included objective data e.g. fitness/skill test results and performance analysis statistics, along with informative coach feedback. They used this information to set appropriate SMART targets which usually included at least one technical and one physical fitness target. Candidates at the top end applied the relevant theory when justifying their target selection. The evaluation aspect continues to be the weaker area of the PPP. Similarly, to last year, evaluations were generally too descriptive and needed further in-depth discussion to achieve the top band. The majority of candidates fail to achieve Band 3 in the evaluation of appropriate quantitative data. There is an over reliance on comparisons with normative data in fitness tests. Candidates should be encouraged to source data from a broader range of sources e.g. performance analysis data such as benchmarking their performance against elite performance.

Summary of key points

- Effective organisation by host centres of moderation days continues to ensure smooth running of the day, allowing candidates to perform to the best of their ability.
- Medical certificates should be submitted to the lead moderator on the day of the moderation for candidates unable to perform on the moderation day.
- The mark submitted on the PEASU2 form should be the final internal assessment. Centres are not permitted to subsequently change marks should a candidate re-submit improved written coursework (PPP) after the initial submission date.
- Candidates should be encouraged to be more analytical in their evaluation of performance improvement in the PPP, linking their evaluation to underpinning theory.

PHYSICAL EDUCATION
General Certificate of Education (New)
Summer 2019
Advanced Subsidiary/Advanced
UNIT 3

General Comments

Many candidates presented good examination papers and were able to show a sound level of knowledge across the range of questions. The percentage of questions attempted by all candidates was very good with the highest attempted questions being 2a (98%) and 2b (98%) whilst the lowest attempted question was 4b (91.6%). In general candidates ability to understand the requirements of a question was pleasing and they showed a good understanding of the Assessment Objectives and associated command words. There were 15 questions in total and the mean mark was higher than 50% in all but two of the questions. Question 1ci had the highest mean (66.2%) whilst the lowest mean was question 4b (42.3%).

The medium of entry provides interesting statistical comparisons. English medium candidates had a higher percentage attempt rate on all 15 questions than Welsh medium candidates. The mean mark was above 50% on all but two questions for English medium candidates, whilst the mean mark was below 50% on 7 questions for Welsh medium candidates.

Comments on individual questions/sections

- Q.1 (a)** During a cycling training session describe the short-term responses that occur to the cardiorespiratory system (4)
Mean mark = 2.2

The question required knowledge of the short-term responses in the cardiorespiratory system. There were four marks available and the command word 'describe' meant that answers should have given four different responses. There were some very good answers, but many candidates were not able to access full marks. This in the main was due to lack of knowledge or providing examples of long-term adaptation and examples not relevant to the cardiorespiratory system.

- (b) (i) Outline** two physiological adaptations that could occur to the musculoskeletal system as a result of a structured long-term anaerobic cycling training programme. (2)
Mean mark = 1.2

This question was well answered. Candidates were able to identify adaptations to the musculoskeletal system. Muscular hypertrophy was the most popular answer. Marks were not awarded to candidates who identified short term adaptations and adaptations that were relevant to the cardiorespiratory system. There were a number of candidates who confused the effects of the adaptations with the actual adaptation itself and therefore were not able to access the marks available.

- (ii)** Explain the effect of each of these adaptations on performance. (4)
Mean mark = 2.3

The question was directly linked to question b(i). This worked in favour of the candidates who had answered the previous question correctly. However, candidates who explained other effects of anaerobic adaptations on the musculoskeletal system were also given credit. A good answer for two marks would have, for example, stated that an increase in glycogen stores would have given a cyclist greater speed for a longer duration (adaptation linked to effect) and then stated that this would allow the cyclist to sprint towards the finish line in a faster time (effect linked to performance).

- (c) (i)** Identify two factors that influence drag in cycling. (2)
Mean mark = 1.3

This was a simple 'identify' biomechanics question where candidates could have had to marks for air resistance, size, shape or speed. On the whole it was answered well but, surprisingly, there were some candidates who unable to access any marks.

- (ii)** Explain the strategies that could be employed to limit these effects. (4)
Mean mark = 2.6

This question required an explanation of how the strategies to limit the effects of drag could be applied. This biomechanics question required a greater depth of knowledge than the previous question and at A level, candidates should be able to explain how streamlining and laminar flow effects drag. Many candidates answered the question thinking that by only stating, for example, that a cyclist could wear a teardrop helmet, wear a skin suit, shave legs and crouch down on the bike would be worth of 4 marks at A level. This type of answer was only worthy of one mark.

- Q.2 (a)** Explain, giving examples, the difference between assertion, instrumental aggression and hostile aggression. (6)
Mean mark = 4.4

This question was well answered, the majority of candidates were able to access four marks. Weaker answers did not provide a relevant example, as was requested in the question, to explain the differences between the three forms of aggression, The majority of candidates were clear about the difference between assertion and hostile aggression but were unable to clearly explain the characteristics of instrumental aggression. The candidates were given the aggression terms in the question and as such their answers had to convey, they had a clear understanding and knowledge of the differences.

- (b)** Describe the strategies that a coach could use to control aggressive behaviour in football. (4)
Mean mark = 2.4

The 'describe' command word in this question should clarify to candidates that providing a list of strategies will limit the marks awarded. With four marks available candidates should provide four different strategies.

There were some very good answers in this question with those candidates describing, with examples, how a coach could use a Cognitive and Somatic strategy (two marks) and also describing how punishment or rewards could also be effective (two marks). Examples of weaker answers stated that the coach could use biofeedback, breathing techniques, PMR and medication. These are all Somatic strategies and would have been awarded one mark.

- (c)** In relation to the frustration-aggression hypothesis, explain the possible causes of unwanted aggression in sport. (4)
Mean mark = 2.4

The marking for this question was split into two sets of two marks. Two marks were available for knowledge and understanding of the Frustration Aggression hypothesis. There were a considerable number of candidates who did not access high marks in this element. This was due mainly to lack of detailed knowledge of the hypothesis. Marks were not awarded to candidates who simply said that, for example, the hypothesis states that frustration leads to aggression. Explanations were required that goals are blocked, tension is created leading to aggression which acts as a catharsis.

The other two marks were allocated to the causes of aggression. Very good accurate causes in a sport context were provided in the candidate's answers.

- (d)** Describe the social facilitation theory in relation to sporting performance. (4)
Mean mark = 2.4

This was another question where detailed knowledge of the theory was vital to secure high marks. There were some very good answers that described how a crowd or others influenced sporting performance. These candidates also provided descriptions of positive and negative effects on arousal, with specific reference to dominant response and evaluation apprehension. In the weaker answers the knowledge of social facilitation theory was superficial, and those candidates were not able to describe in detail its effect on sporting performance.

- Q.3 (a)** Describe the effect of topspin on a tennis ball. (4)
Mean mark = 1.8

This question was well answered. In the good answer's candidates were able to describe how topspin enables the ball to be hit harder and higher because it will dip due to pressure differentials and Magnus force. There was confusion in some candidates answers where they stated topspin but described the characteristics of a slice return of serve.

Up to this point in the Examination paper there have been ten questions with a total value of 38/90 marks.

The remaining five questions carry 52/90 marks and are therefore vital for those candidates who wish to secure the higher grades. These five questions were heavily weighted to AO2 and AO3 criteria and were mainly banded answers.

- (b)** Explain Welford's model of information processing in relation to returning a tennis serve. (8)
Mean mark = 4.1

It is important that candidates realise that high marks cannot be awarded for repeating the facts that are already in the question. In this instance there were several answers that just described the model, these were allocated band one marks. However, there were many very good answers that were able to describe how the information processing model works when returning a tennis serve. In order to access top end band two and band three marks candidates had to show knowledge all the sections. There were some very good descriptions on the Input and Decision-making stages but in many cases the Effector and Feedback stages were either not included or not discussed in much detail.

- (c)** Discuss the influence of increasing television coverage on sport. (8)
Mean mark = 4.8

This was a straightforward question, being a discuss command word it requires both sides of an argument. In this instance it would be the advantages and disadvantages of the increasing influence of television coverage on sport. Many candidates presented good answers to this question and were able to access marks in band two. Those candidates who were able to access band three marks had greater depth of knowledge across both sides of the issue and were also able to provide current relevant examples to reinforce their points.

- Q.4 (a)** Describe how legal supplementation can be used to improve sporting performance. (6)
Mean mark = 3.2

There were six AO1 marks available here for describing a legal supplement and then highlighting its effect on performance. Many candidates scored well on this question, there was good knowledge evident and a clear understanding of the impact. The vast majority of candidates referred to Creatine, Protein and Caffeine in their answers. It was disappointing when some candidates answered this question with reference to illegal methods such as blood doping and steroids, this was a very elementary error to make at A level.

Question 4b and 5 carry a total of 30/90 marks, a third of the total. This Unit 3 paper carries 36% weighting of the total qualification and therefore these two questions alone are worth 12% of the total qualification.

- (b)** Discuss how knowledge of attribution theory could benefit a coach in developing an athlete's sporting performance. (10)
Mean mark = 4.2

This was a banded question and in fairness there were a considerable number of good answers that did manage to access band two marks. These answers showed good knowledge of the Attribution theory and crucially it's benefit to a coach when developing an athlete's sporting performance. Answers were restricted to band one for merely describing Weiner's model and listing the Stability and Locus of control factors.

Many candidates were able to access band three marks by extending their answers to show how a coach could motivate athletes by Attribution Retraining, Self-Serving Bias or avoiding Learned Helplessness in relation to the model.

- Q.5** Discuss the view that developing elite performance should take priority over increasing mass participation levels. (20)
Mean mark = 10.8

This question was well answered. The majority of candidates had been made aware by centres that they need to present a counter argument and include terms like 'however', 'on the other hand' or 'whereas' in the essay in order for it to be a discussion of the topic.

The majority of candidates were able to access marks in band two for this question and in general there was a good understanding of the topic. The answers were restricted to band two because they failed to discuss in depth both sides of the argument.

The candidates who were able to access band three were able to do so because they discussed in detail the merits of developing both elite performance and mass participation. Crucially band three answers were able to provide current, relevant initiatives, strategies and relevant sporting examples.

Answers were restricted to band one when they only provided a description of the Sports Development Pyramid that was included on the question paper.

Summary of key points

- Candidates need to read the command words and answer appropriately
- Candidates tended to not access marks when being asked to explain or offer more in-depth knowledge and understanding.
- Candidates should support answers with a relevant sporting example or refer to relevant theories where this is specifically asked for in the question.

PHYSICAL EDUCATION
General Certificate of Education (New)
Summer 2019
Advanced Subsidiary/Advanced
UNIT 4 NEA

General Comments

Once again host centres' effective organisation of the moderation days helped the moderation days to run smoothly. Their contribution continues to be greatly appreciated.

Administrative procedures were generally good, with most centres submitting the PEA4 forms to WJEC on or before the published submission date. A small number of centres failed to include the marks for the Investigative Research on this form. All marks for the PE4 unit must be submitted by the submission date in early March.

Centres are reminded that the lead moderator should, whenever possible be informed prior to the day of candidates who are unable to participate/attend the moderation. Medical certificates are required for any candidate unable to participate through illness or injury. Some centres failed to adhere to this process.

Comments on individual questions/sections

Practical Performance

Performing

Most candidates chose to be examined in the role of performer. This is to be expected as at this stage of their development the majority of candidates are still focussed on performing. As with PE2 there were many outstanding performers, achieving at the highest level. Most candidates were assessed as being in Band 5 or the top of Band 4.

In the moderation of off-site activities, the best evidence included video footage of the candidate in a variety of competitive situations. Many candidates had edited the footage to present 'highlights. While this makes the evidence more concise, it does not allow the moderator to view the 'whole' performance. Assessment of off-site activities was generally less accurate than the assessment of centre-based activities, with a tendency to be over-generous in marks awarded.

As in PE2 major game activities were the most popular. Teachers' assessments were generally accurate with marking criteria correctly applied. Most candidates were in the correct band; however, the tendency was to over, rather than under mark.

Coaching

This was the second most popular option. The majority of the candidates who chose this option coach/lead regularly either in the school setting e.g. 5x60 activities/assisting with the coaching of school teams, or coaching/leading activities in clubs in the community. The sessions of the best candidates were well-planned, demonstrated excellent subject knowledge and were delivered effectively with excellent communication skills. Aims of the sessions were clear, organisation was effective with smooth transitions between activities and constructive feedback was given. These sessions were well received by the groups being coached.

It was felt that a number of candidates offering coaching were guided towards this aspect by staff as they believed that they could achieve a better mark in this area rather than being assessed as a performer. A significant number of these candidates had been assessed as being in the top of Band 4 or in Band 5. These sessions often lacked coherent structure, consisting simply of a collection of drills/activities with little or no progression. The candidates offered little feedback, and failed to demonstrate detailed knowledge of the activity, demonstrating characteristics more consistent with Band 2/3. Assessment of this area was less accurate than that of performance, with the tendency being to over rather than under-mark.

Officiating

As in previous years this was the least popular option with the candidates. Those candidates who chose officiating were, on the whole, experienced officials. Many regularly officiate in leagues outside of school. This showed in the candidates' performances. The best candidates consistently demonstrated the full range of skills associated with officiating. Assessment of this area was generally accurate.

Investigative Research

The purpose of the Investigative Research being that individuals should research factors that could assist in refining their performance in their chosen role. The Specification outlines the stages that should be followed, and generally this process was followed.

The strongest aspect of candidates' work was the initial self-analysis of their performance. Many candidates used a combination of fitness testing, coach feedback and performance/notational analysis to produce a sound analysis of their current performance, whilst also providing appropriate data. Many of these candidates used digital stills taken from competitive situations to highlight strengths and weaknesses in technique. As with the PPPs in PE2, candidates struggle in the drawing of conclusions –candidates tend to evaluate their performance in fitness/skills tests as opposed to actual performance in their chosen activity. Most candidates chose to investigate physical/technical aspects of their performance. Candidates who chose to investigate psychological aspects often produced work that was superficial and lacked any objective analysis and struggled to evaluate the effectiveness of the training programme.

The centres that provided detailed annotation of their candidates' work were generally more accurate in the application of assessment criteria. This should therefore be encouraged. A significant number of centres failed to annotate candidates' work, this often resulted in work being significantly over-marked. There continues to be a tendency to over rather than under-mark candidates' work.

Many candidates struggled to keep to the word equivalence of 3,500 words. Presentation of the coursework is generally very good.

Summary of key points

- Effective organisation by host centres of moderation days continues to ensure smooth running of the day, allowing candidates to perform to the best of their ability.
- Medical certificates should be submitted to the lead moderator on the day of the moderation for candidates unable to perform on the moderation day.
- Marks for **all** components of PE4 should be submitted on the PEA4 mark-sheet by the published submission date.
- Centres are encouraged to annotate candidates' Investigative Research



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