



GCE EXAMINERS' REPORTS

**GCE
PHYSICAL EDUCATION
AS/Advanced**

SUMMER 2022

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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
Summer 2022
Advanced Subsidiary/Advanced
UNIT 1

General Comments

The majority of candidate's demonstrated good knowledge and understanding. They were able to recall information across the paper, accessing AO1 marks consistently. On occasions, AO2 marks were awarded for candidate's ability to support their answers with specific examples; however, this was not consistent throughout the paper. It is suggested that candidates understand the command words used in each question e.g. discuss and evaluate, to ensure that they answer the question fully, particularly where an AO3 objective is being assessed.

Comments on individual questions/sections

- Q.1**
- (a)** The majority of candidates attempted this question, achieving the mark.
 - (b)** Many candidates were able to link an open skill to variable practice. Their justification of its use often came through the sporting examples used to illustrate the answer.
 - (c)** Good knowledge and understanding was demonstrated by many candidates in their response to this question. The more developed answers were able to discuss both the benefits and limitations of each type of guidance in all stages of learning.
- Q.2**
- (a)**
 - (i)** Many candidates answered correctly, identifying that the PCW-170 was the sub maximal test within the list.
 - (ii)** The majority of responses were developed, where candidates could identify the benefits of using each of the tests. Where responses were further developed, candidates were able to discuss the limitations of both tests.
 - (b)** Another well answered question. The majority of candidates provided detailed explanations about how a coach could interpret and use data. Some candidates made reference to the data in the table to support their answers

- Q.3 (a)** Few candidates achieved full marks on this question. Overall, there was a good understanding of the type of joint and agonist muscle. Where marks were lost, the axis and movement pattern had not been attempted or was answered incorrectly. Most candidates were able to identify that fast twitch muscle fibres are predominantly used during the take-off allowing them to access one mark. Better candidates were able to make reference to the characteristics of these fibres and directly linked these to the take-off action.
- (b)** Basic responses to this question involved candidates explaining that the relationship between weight training and the long jump would require explosive, high intensity, short duration movements. Further developed answers included specific detail on sets and reps and linked these to intensity and energy systems.

The majority of candidates were able to identify that the macrocycle is the longest of the three periodisations.

- Q.4 (a)** Well answered with nearly 100% answering correctly.
- (b)** Many candidates were able to give detail on all three cycles and explain where in the training year they would be used and how long they should be implemented for. The more developed responses were able to explain the purpose of each cycle and gave practical examples to support their answers.
- (c)** Candidates displayed a good understanding of altitude training with many candidates linking the benefit to increased red blood cells and improved aerobic capacity. Better developed responses further explored the physiological reasoning behind these and were able to discuss the limitations linked to performance and the population.
- Q.5 (a)** The majority of answers were developed, with candidates explaining the potential problems associated with using tangible rewards as a way of motivating a sports person.
- (b)** A better understanding of the command word 'evaluate' would have been beneficial to some candidates. Many candidates were able to provide information about the various theories of arousal and performance and were able to use appropriate sporting examples to illustrate their points; however, not all candidates were able to use the word 'evaluate' to make judgments about the credibility of each theory and make comparisons and contrasts between each one.

- Q.6** This question was attempted by all candidates. This was very pleasing as it offered the highest awarding of marks on the paper. Excellent responses included knowledge of the influence of public schools and the links to the original sporting values as well as knowledge of the rise of professionalism. Where candidates had understood the command word 'discuss', their responses also offered an insight into additional factors, such as commercialism at the Olympics.

Summary of key points

All centres would benefit from developing the candidates understanding of the command words in relation to the assessment objectives.

Encourage candidates to back up the theory with relevant sporting examples.

Continue to reinforce the three assessment objectives and their weighting within the paper.

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UNIT 2

General Comments

Centres had the opportunity to arrange remote or live moderation days. CPD at the start of the year ensured that centres were aware of the protocols for both. Most centres followed correct protocol and ensured effective organisation of the live moderation days and remote moderation days respectively. Their contribution continues to be greatly appreciated.

Administration continues to improve, with very few centres missing the submission date for the PEASU2 forms. 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. Centres are also reminded of the need to film the live moderation day. A small minority failed to do this.

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. Once again, the best evidence included video footage of the candidate in a variety of competitive situations. As a result of the global pandemic, this was not always possible, but the majority of centres adapted accordingly and produced the required evidence of candidates performing rich tasks.

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 four or top of band three. Very few candidates were assessed as being in band two.

Coaching/Officiating

This element was removed as a result of the pandemic.

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 two/bottom of band three. A small minority of candidates struggled to produce any quantitative data. Some centres overcame this issue by getting candidates to include 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.

Summary of key points

Very difficult to make direct comparisons with previous years due to the effects of the global pandemic. This was very much a unique cohort.

Due to the adaptations that were made to the NEA as a result of the pandemic, the practical element of the AS course carried more weighting as the coaching element was removed. It was, therefore, expected that there would be an increase in the mean NEA marks.

Effective organisation by 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.

Centres are encouraged to annotate candidates' Personal Performance Profiles.

PHYSICAL EDUCATION
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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 Q.1 (a) (99.7%) and Q.5 (99.7%), whilst the lowest attempted question was Q.4 (c) (94.6%) and Q.2 (c) (ii) (95.1%).

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.

AO1 marks were awarded for candidates displaying good knowledge of the topics.

AO2 marks were awarded when candidates provided examples to reinforce the points made in their answer.

AO3 marks were awarded where candidates were able to analyse and discuss the topics within the question.

Where candidate answers were weaker there was a lack of detailed knowledge evident, questions had not been carefully read, answers were superficial or did not meet the criteria to, for example, outline, discuss, describe, or explain the relevant topic. Candidates should support answers with a relevant current sporting example or refer to relevant theories where this is specifically asked for in the question.

There were 17 questions in total and the mean mark was higher than 50% in 10/17 questions and lower than 50% in 8/17 questions. Q.2 (a) had the highest mean (77.7%) whilst the lowest mean was Q.4 (b) (32.7%).

The medium of entry provides interesting statistical comparisons. English medium candidates had a higher percentage attempt rate on 10/17 questions than Welsh medium candidates.

The mean mark was below 50% in 7/17 questions for English medium candidates, whilst the mean mark was below 50% in 11/17 questions for Welsh medium candidates.

Comments on individual questions/sections

- Q.1 (a) Identify the potential risks of the use of anabolic steroids on health.**
The question required knowledge of the health risks associated with the use of performance enhancing drugs and short-term responses in the cardiorespiratory system. There were three marks available, and the command word 'identify' meant that answers should have given three 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 and providing examples that repeated the same point. Candidates could have accessed three marks by giving a physiological risk e.g. kidney failure; psychological risk e.g. addiction and financial risk.
Mean mark = 1.6
Attempt % = 99.7
- (b) Outline how chemoreceptors influence heart rate during exercise.**
This question was very well answered by some candidates, but other candidates did not have sufficient knowledge to outline how chemoreceptors influence heart rate. Reference to lactic acid and carbonic acid detection were worthy of credit provided the answer then explained that heart rate increased or decreased as a consequence.
Mean mark = 1.8
Attempt % = 98.1
- (c) Describe how the heart works as a dual-action pump when circulating blood during exercise.**
This question was well answered by a large number of candidates. These candidates were able to explain the circulatory path of oxygenated and deoxygenated blood via the pulmonary and systemic circulations. Credit was also awarded if candidates, correctly, outlined the chambers, valves, arteries, and veins involved in the circuit
Mean mark = 2.9
Attempt % = 98.1
- Q.2 (a) Explain, using examples, the causes of Learned Helplessness.**
The candidates that provided a good answer to this question had sound knowledge and were able to access good marks. The weaker answers only provided an outline explanation of learned helplessness and were not able to explain in detail the causes. Only a few candidates made reference to global and specific learned helplessness.
Mean mark = 1.9
Attempt % = 97.0
- (b) Explain why a coach would use attribution retraining to improve sporting performance.**
This was another question where detailed knowledge of the theory was vital to secure high marks. There were some answers that showed good knowledge of the attribution theory and crucially how it could be used by a coach. Many candidates were able to extend their answers to show how a coach could motivate athletes by attribution retraining, mastery orientation, and self-serving bias.
Mean mark = 1.8
Attempt % = 97.3

- (c) (i) **Outline, using examples, how anticipation can influence reaction time.**
This question was generally well answered at a basic level where a generic descriptive scenario was given. Many candidates did not provide enough detail in relation to how prediction and cue detection influence reaction time. Some candidates did not even note that reaction time would be quicker or slower in relation to the example they had provided.
Mean mark = 1.8
Attempt % = 98.9
- (ii) **Explain how the Psychological Refractory Period (PRP) can affect reaction time.**
This was a straightforward question if the candidates had the relevant knowledge about PRP. Failure to explain the introduction of a second stimulus and the effect this would have, was a common error. The better answers made reference to single channel hypothesis and Hick's law. In general, the examples provided were good and enabled candidates to obtain one mark.
Mean mark = 2.2
Attempt % = 95.1
- (d) **Describe the strategies a coach could use to ensure information is stored in a performer's long-term memory.**
This was a question with the potential for very good marks and in general there were a number of good responses. The specification outlines the 'strategies for improving memory such as chunking, imagery, association, organisation and rehearsal'. Many answers included some of these factors, but it is important that candidates understand that a six mark question would expect more than two or three of these factors. Credit was given for amplification and a relevant example.
Mean mark = 2.8
Attempt % = 98.4
- Q.3 (a) **Explain how an understanding of Newton's third law of motion could aid the sprinter at the start of a race.**
This question was well answered with many candidates able to access both the marks by explaining Newton's third law and then applying the law to, for example, the push off the blocks. Candidates that did not score on this question had not learnt the law and, therefore, could not access the marks available.
Mean mark = 1.6
Attempt % = 96.3

(b) (i) Identify three long-term physiological adaptations of anaerobic training on the muscular system of a sprinter.

This question was well answered on the whole. Most candidates were able to identify some adaptations to the muscular system. Muscular hypertrophy was the most popular answer. Marks were not awarded to candidates who identified short-term adaptations. Research has argued that aerobic adaptations do occur with anaerobic training adaptations, however, any aerobic adaptations noted in the answer were limited to one mark maximum. 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.

Mean mark = 1.6

Attempt % = 98.6

(ii) Explain the effects of these adaptations on a sprinters performance.

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 muscular 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 sprinter greater speed for a longer duration (adaptation linked to effect) and then stated that this would allow a sprint towards the finish line in a faster time (effect linked to performance).

Mean mark = 1.9

Attempt % = 97.2

Up to this point in the examination paper there have been eleven questions, with a total value of 40/90 marks.

The remaining six questions carry 50/90 marks and are, therefore, vital for those candidates who wish to secure the higher grades. These six questions were heavily weighted to AO2 and AO3 criteria and were mainly banded answers.

Q.3 (c) Explain, using examples, how a performer's understanding of stability could develop performance.

This was a banded question with three AO2 marks allocated. There were good answers seen in this question by a number of candidates. However, these answers tended to be limited to band two. Many candidates were able, generally, to explain the concepts of centre of gravity and base of support. The better answers backed up these explanations with relevant examples. There were some very good answers that were able to access band three as candidates showed an excellent understanding and examples of stable, unstable, and neutral equilibrium.

Mean mark = 3.7

Attempt % = 98.9

Q.4 (a) Explain, using examples, the relationship of the elements within the Golden Triangle.

This was a straightforward question. However, it is important that centres and candidates remember that no credit can be given for describing figure 2.

Many candidates presented good answers to this question and were able to provide examples to explain the symbiotic relationship of the Golden Triangle. The emphasis in the answer should have referred to the relationship of the elements and how they affect each other.

Mean mark = 1.8

Attempt % = 99.3

(b) Describe the phases of a talent identification process to develop elite performance.

This question was poorly answered due, in the main, to lack of topic knowledge. This was not a question about the performance pyramid as quite a few candidates thought, but rather the section of the specification that refers to 'Talent identification processes and development initiatives; Methods of identifying talent; The structure of the World Class Performance Pathway'

Mean mark = 1.3

Attempt % = 96.0

(c) Analyse how government bodies such as Sport Wales has promoted sport for all and lifelong participation.

This was another question where a number of candidates did not show good knowledge of a range of strategies that promote lifelong participation.

Candidates would have been awarded marks for analysing government body schemes, such as 5x60 in schools, free swimming for adults, and the various grants that have been available to communities and clubs.

Mean mark = 1.6

Attempt % = 94.6

Question 4 (d) 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.

Q.4 (d) "Fair play has been eroded in modern day sport".

Discuss this statement using appropriate examples.

This was a banded question and there were a considerable number of good answers that did manage to access band two marks. The candidates that managed to achieve this had been made aware by centres that they need to present a counter argument and include terms like 'however' or 'on the other hand' in the essay in order for it to be a discussion of the topic.

These answers showed good knowledge of how fair play has, or has not, been eroded in sport. Answers were restricted to band one for not providing relevant examples. Candidates were restricted to band two because they failed to discuss in depth both sides of the argument. Many candidates were only able to discuss one side of the argument, and as a consequence were not able to access band three marks by extending their answers.

The candidates who were able to access band three were able to do so because the discussions were detailed. Crucially, band three answers were able to provide current and relevant sporting examples of deviance or good sportsmanship.

Mean mark = 4.4

Attempt % = 97.7

Q.5 Discuss how the psychological factors in figure 3, could impact on your performance.

This question was very well answered by a large number of candidates. The information provided to schools prior to the examination had a positive influence on the answers. The vast majority of candidates were able to access the full marks allocated for AO1 and AO2 by showing good knowledge and application of the psychological principles. Most of the candidates were in band two for AO3 marks, the evaluation and analysis of the principles. The stronger candidates were able to convey their knowledge across the four topics that were in figure 3 and reference relevant theories. The majority of candidates did discuss these four topics, although they were not limited to these topics. Credit would have been awarded for other relevant psychological factors. Weaker answers had candidates only discussing one or two topics and as such their mark allocation was limited to band one.

Mean mark = 12.4

Attempt % = 99.7

Summary of key points

Candidates who answered Q.5 at the start of the examination performed well in this question. The candidates who left Q.5 until the end of the paper tended to rush the answer or even, some ran out of time.

Some candidates do not answer questions as a whole and jumped from e.g. Q.1 (a) to Q.3 (b) and Q.4 (c). There were some candidates who when taking this approach, did not answer every question. It is more difficult to keep track of which questions have been answered with this technique.

These are examination techniques candidates need to consider in future examinations.

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UNIT 4

General Comments

Centres had the opportunity to arrange remote or live moderation days. CPD at the start of the year ensured that centres were aware of the protocols for both. Most centres followed correct protocol and ensured effective organisation of the live moderation days and remote moderation days respectively. Once again host centres' effective organisation of the live/remote moderation days helped the moderation days to run smoothly. Their contribution continues to be greatly appreciated.

Administrative procedures were generally very 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 correct (adapted) marks for the Investigative Research on this form.

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

Performing/Coaching/Officiating

It continues to be the case that most candidates chose to be examined in the role of performer.

As with PE2 there were many outstanding performers, achieving at the highest level. Most candidates were assessed as being in band five or the top of band four.

In the moderation of off-site activities, the best evidence included video footage of the candidate in a variety of competitive situations. Where this was not possible due to the pandemic, centres and candidates adjusted and adapted accordingly to produce the required evidence. As in previous years, 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 team game activities were once again the most popular. Teachers' assessments were generally accurate with marking criteria correctly applied. Most candidates were in the correct band.

Investigative Research

The Investigative Research module was adapted to include only the first two sections. As a result, the analysis and evaluative sections were removed.

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. A small minority of candidates still tend to evaluate their performance in fitness/skills tests as opposed to actual performance in their chosen activity.

Most candidates chose to investigate physical or technical aspects of their performance. 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 number of centres failed to annotate candidates' work.

Many candidates struggled to keep to the word equivalence of 3,500 words. Presentation of the coursework was generally very good, and centres are becoming more effective at helping students to generate quantitative data. This is especially true in the case of activities where there is less of a reliance/use of quantitative data in the first instance.

Summary of key points

Very difficult to make direct comparisons with previous years as, due to the effects of the global pandemic, this was very much a unique cohort.

Due to the adaptations that were made to the NEA as a result of the pandemic, the Investigative research element of the A2 course was adapted to require the completion of the first two sections only. This resulted in the removal of the analysis and evaluation sections. The expectation is that the removal of these two sections (which require higher order skills) will result in a compression of marks for this component. Higher academic performers usually "pull away" during these sections due to the skills needed to analyse and evaluate.

Effective organisation by 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.

Centres are encouraged to annotate candidates' Investigative Research.



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