

## PHYSICAL SCIENCE HG PAPER 2

Many candidates scored a significant number of marks in the multiple-choice questions – Question 1.2 and Question 1.12 were exceptions, as were Questions 1.13 and Questions 1.14 – which required inability to apply their knowledge and understanding of redox chemistry.

When it came to the long questions, weak and average candidates struggled Question 2.1 in which they had to calculate the concentration of a mixed solution containing nitrate. As with a number of other questions, candidates tended to write unnecessarily lengthy explanations in Question 2.2. Seemingly without regard to the mark allocation (in this instance only 2 marks per sub-section). Given the lengthy nature of this papers, teachers are urged to guide their candidates in this regard.

Question 2.3 was poorly answered by many candidates who forgot to apply the correct unit for volume in the calculation  $p = nrt/v$ .

The 'inorganic' questions (Q3-4) were generally well answered. Unfortunately, candidates continued to loose marks when they wrote down the name instead of the formula (or vice versa) in a question.

Question 4.4 was based on a well-known (prescribed) experimental procedure. That many candidates struggled to adequately described the displacement test for halides/precipitation reaction with Agno solution, raises the question whether or not the candidate were comfortable with such procedures. Given the heavy emphasis an experimental chemistry in these chapters of the Grade 11 syllabus, teachers are urged to provide their Grade 12 candidates with opportunities to revise their syllabus prescribed (and immanently examinable) experiments.

Most candidates successfully answered Question 5, which required them to apply their understanding of the important LeChateliers Principle. However, the calculation of  $K_c$  required in Question 6.1 was poorly answered, perhaps because candidates struggled to correctly interpret the changing equilibrium condition (temperature) and the fact that equilibrium had shifted to the left rather than to the right, as is often the case in calculations such as this.

Question 7, which dealt with created problems for many candidates was another higher order (i.e. D-level) question which created problems for many candidates. Teachers are urged to ensure that their learners carry with them into Grade 11 an adequate grounding in stockhiometry – perhaps the essential ingredient in coming to a successful answer in both 7.1 and 7.2 whereas Question 8 was a relatively straightforward (and well answered question), some candidates continue to be penalized for writing double arrows in half reactions.

The contextual nature of Question 8.2 is clearly a sign of questions to come as an attempt is made to broaden the assessment modes in the FET.

Organic chemistry (Question 9) was reasonably well answered, unfortunately same candidates appeared to have run out of time by this question – a further indication that many found this paper somewhat lengthy.

As a final comment, teachers are urged to bring to their attention candidates the marking rules as applied in Matric papers and to prepare them to answer accordingly.