PHYSICAL SCIENCE SG PAPER 2

Candidates' performance in this paper was generally satisfactory. This was partly due to candidates doing well in Section A: Multiple-choice Questions. Teachers are encouraged to continue exposing candidates to MCQs through class and control tests.

Question 2 was on the Kinetic Molecular Theory and gases. Candidates' responses to 2.1 and 2.2 indicated that they had a very poor understanding of this topic. Too many candidates simply stated Boyle's Law for 2.2, instead of explaining the relationship between temperature and pressure. For 2.3, many candidates did not convert the temperature value from degrees Celsius to Kelvin. In 2.4, very few candidates took into account that there are 2 moles of NO_3^- ions present in the solution.

Question 3 dealt with Inorganic Chemistry. Again, candidate's performance was poor. It is advisable for teachers to revise Grade 11 work with candidates in the Grade 12 year. Candidates were unable to conduct simple tasks such as completing and balancing basic equations, naming the products of Ostwald process and identifying ions in solutions.

Many candidates failed to interpret the potential energy graph in Question 4 correctly.

It was surprising to note that a large number of candidates could neither write a balanced equation for ionisation of HCl in water for Question 5.1, nor state why HCl is considered a strong acid. It is not only important for candidates to know HOW to use a formula to solve a problem, but also which formula to use. Some candidates used the formula $C_aV_a = C_bV_b$ to solve 5.3, whilst the mole ratio for 5.1 was written as 2:1 acid:base.

Candidates had a very poor understanding of the Table of Standard Reduction Potentials. Their responses to Question 6 clearly reflected this. Teachers are advised to introduce candidates to this table as early as Grade 10.

It appears that many teachers did not pay sufficient attention to the section on Organic Chemistry. The questions on the homologous series, the identification and naming of organic molecules, and the writing of structural formulae of organic molecules were poorly answered.