PHYSICAL SCIENCE SG PAPER 1

It is quite evident in the National Guidelines that questions that appear in the HG paper could be repeated in the SG paper. Teachers must be aware of this. It would be a useful exercise if teachers could implement this in the setting of their question papers and apply Bloom's taxonomy to categorize the questions according to the necessary cognitive levels.
Many candidates lost marks unnecessarily by not doing the following:
1 Starting the calculation with the correct equation
2 Supplying the correct SI unit in the final answer
3 Showing substitution into the correct equation
A question-by-question analysis follows.

QUESTION 1
An understanding of the content examined in questions 1.5; 1.8; 1.10; 1.12 and 1.15 was severely lacking as many candidates failed to answer them correctly. It is a pity that an error in question 1.12 (English and Afrikaans distractor different) crept into the paper.

QUESTION 2
Generally not well answered.
The use of W (instead of F_g) as a symbol for weight was still prevalent. Measuring skills and conversion skills needed to have been practiced more. Teachers need to emphasize the difference between non-zero resultant and zero resultant vector diagrams.

QUESTION 3
Candidates did not understand the concept "constant velocity." Many interpret this as acceleration and some used it to determine acceleration. Teachers have to expose candidates to questions that involve two types of motion in one situation, e.g. constant velocity together with constant acceleration. Since candidates cannot apply the equation $s = ½ (v+u)t$ correctly, they are advised to refrain from using this equation to solve problems.

QUESTION 4
Although well answered, many candidates still confused the concept of inertia and Newton's first law of motion. Many supplied the definition of inertia instead of Newton's first law.

QUESTION 5
It is evident that learners know the rote definition of Newton's Second Law but clearly do not understand its implications.
Question 5.3 was well answered.

QUESTION 6
Generally poorly answered, as the majority of the candidates could not calculate the change in momentum.

QUESTION 7
The application of the principle of mechanical energy needs urgent attention.

QUESTION 8
The definition of the electric field strength as well as the sketching of the electric field pattern between parallel plates was extremely poorly answered. Generally questions 8.3 and 8.4 which involved calculations in the electric field were well answered.

QUESTION 9

Generally well answered. It is highly recommended that the parallel and series calculation for resistance should not be done in one step. Candidates' general mathematical skills, especially fractions require special attention.

QUESTION 10

The definition for alternating current was poorly answered, as many candidates did not specify the direction in which the current was changing continuously.

NATUUR-EN SKEIKUNDE SG VR 1

Dit is duidelik dat die Nasionale riglyne die herhaling van vrae in HG en SG bevorder. Opvoeders moet
hiervan bewus wees. Dit sal ‘n handige oefening wees as opvoeders hierdie vernuwing in die opstel van hul vraestelle kan gebruik en dan onthou om die vrae volgens Bloom se kogitiewe vlakke te gradeer.
Baie kandidate verloor punte onnodig deurdat hulle

1 nie die berekening met die korrekte vergelyking begin nie.
2 nie die korrekte SI eenheid in die finale antwoord het nie
3 substitusie nie in die korrekte vergelyking aandui nie.

‘n Vraag-vir-vraag analise volg

VRAAG 2
Oor die algemeen is die vraag nie goed beantwoord nie.
Die gebruik van W (in plaas van F_g) as simbool vir gewig word nog steeds op grootskaal gebruik. Meetvaardighede sowel as omskakeling moet meer geoefen word. Opvoeders moet die verskil tussen ‘n nie-nul-resultante en 'n nul-resultante vektordiagram beklemtoon.

VRAAG 3
Kandidate verstaan nie die konsep “konstante snelheid ” nie. Baie interpreter dit as versnelling of gebruik dit om versnelling te bepaal. Opvoeders moet kandidate bloostel aan vrae wat twee tipes beweging in een vraag behandel, bv. Konstante snelheid saam met konstante versnelling.
Aangesien kandidate nie die vergelyking $s = ½ (v+u)t$ korrek kan toepas nie, word dit aanbeveel dat hulle versuim om dit te gebruik by die oplos van probleme.

VRAAG 4
Alhoewel goed beantwoord, het baie kandidate nog steeds die konsep van Newton se eerste wet en traagheid verwar. Baie het die definiisie van traagheid in plaas van Newton se eerste wet verskaf.

VRAAG 5
Dit is duidelik dat kandidate die definisie van Newton se tweede wet goed ken, maar duidelik nie die implikasies daarvan verstaan nie.
Vraag 5.3 is goed beantwoord.

VRAAG 6
Die vraag is swak beantwoord aangesien die meederheid van die kandidate nie die verandering in momentum kon bereken nie

VRAAG 7
Die toepassing van die beginsel van die behoud van meganiese energie benodig baie aandag.

VRAAG 8
Die definisie van die elektriese veldsterkte sowel as die tekening van die veldpatroon tussen die parallelle plate was swak beantwoord. Vrae 8.3 en 8.4 wat berekeninge in die elektriese veld insluit, is baie goed beantwoord.

VRAAG 9
Oor die algemeen is dit goed beantwoord. Dit word voorgestel dat die berekening van parallelle en serie resistors nie in een stap voltooi word nie. Die kandidate se algemene wiskundige vaardighede, veral breuke het meer aandag nodig.

VRAAG 10

Die definisie vir wisselstroom is swak beantwoord aangesien baie kandidate nie die rigting waarin die stroom voortdurend verander gespesifiseer het nie.