

The question paper contained many questions that were scaled down versions of the HG questions. To answer some of the questions, a conceptual understanding of the subject matter was required. Many candidates lacked these skills. It would thus be advisable to develop the candidates' skills along these lines.

Candidates are still losing marks unnecessarily by not completing the following when answering the questions:

1. Starting the calculation with the correct equation
2. Supplying the correct unit in the final answer
3. Showing substitution into the correct equation

A detailed analysis of the questions follows.

Question 1

Very poorly answered

Candidates had difficulty interpreting the following questions:

- 1.7
- 1.11
- 1.15

Question 2

- 2.1 Well answered
- 2.2 Poorly answered
Labelling of forces needs urgent attention.
When labelling a force, the agent of the force has to be mentioned.
- 2.3 Poorly answered

Candidates drawing skills are severely lacking.

Question 3

Equations of motion are used at will. The data provided could not be analysed, even though candidates were provided with a sketch

- 3.1 Poorly answered
- 3.2 Well answered
- 3.3 Poorly answered

Question 4

- 4.1 Poorly answered
- 4.2 Poorly answered

Use of calculator and manipulation of formula are severely lacking.

Question 5

Very poorly answered

- 5.1 Very poorly answered. The graphing skills need urgent attention.
- 5.2 Well answered. Candidates should be able to express relationships, viz. directly proportional and inversely proportional, and NOT “indirectly” proportional.
- 5.3 Many candidates could not determine the gradient of the graph. The gradient of the graph represents a physical quantity and therefore the correct unit has to be given.
- 5.4 Very poorly answered.
The interpretation of the gradient of the graph has to be emphasized
- 1.5 Well answered, although there were centres where candidates were still using the term “unbalanced” instead of “resultant” force.

Question 6

- 1.1 Well answered
- 1.2 Well answered
The focus should be placed on layout and order, as well as units and interpretation of the answer.

Question 7

- 7.1 Well answered
- 7.2 Well answered
- 7.3 Well answered
- 7.4 Please note $W = \frac{1}{2}E_k$ and not $W = E_k$
- 7.5 Very poorly answered

Question 8

- 8.1 Well answered
Candidates were penalized for not drawing field lines that were
 - perpendicular to the surface
 - straight
 - uniformly distributed.
- 8.2 Well answered.
Some areas of concern are
 - use of the wrong formula e.g. $F \propto \frac{kQ}{r^2}$ instead of $E \propto \frac{kQ}{r^2}$
 - substitution into the formula
 - converting to metres
 - use of calculator
 - unit of E
- 8.3 Well answered

Substituting into the correct formula and calculator skills need attention.

Question 9

9.1 Well answered

9.2 Well answered

9.3 Same mistakes are still evident. Candidates are still writing the equation as

$$R ? \frac{1}{r_1} ? \frac{1}{r_2} ? \frac{1}{r_3}$$

9.4 Poorly answered

9.5 Poorly answered

Candidates could not interpret the concept emf.