Province of the
EASTERN CAPE
EDUCATION

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TO: **DISTRICTS HEADS OF EXAMINATIONS**
PRINCIPALS OF SCHOOLS IN THE FET BAND

FROM: **MS N. MBELEKI**
CES: INSTRUMENT DEVELOPMENT AND MODERATION SECTION

SUBJECT: **ERRATA – PHYSICAL SCIENCES P2 GRADE 12 SEPTEMBER 2019**

DATE: **12 SEPTEMBER 2019**

The Physical Sciences P2 Grade 12 September was written on Monday, 09 September 2019. We were made aware of certain amendments and omissions that were discovered during the marking process.

In order to address this and to ensure that learners are not disadvantaged, the following standardised approach to marking must be adopted across the Province. The following guidelines with regard to marking was prepared in conjunction with the examiner and moderator.

ERRATA

THE FOLLOWING IS THE CORRECT ANSWERS.

QUESTION 7

Identified problem

In QUESTION 7.3 an incorrect value (0,02) was used on the **memorandum** instead of the correct value (0,2).

Implications

- ✓ This affected 7.3, 7.4.1 and 7.4.2.
- ✓ Learners who would have done it correctly may be marked incorrect by other markers.

Recommendations

The solution provided must followed for marking the above-mentioned questions.

Corrected solution for 7.3, 7.4.1 and 7.4.2:

7.3. $T \sin\theta = F_E$
$480 \sin 25^o = F_E$ ✓
$F_E = 202{,}8567656$ N

$F_E = \frac{kQ_1Q_2}{r^2}$ ✓
$202{,}8567656$ ✓$= \frac{9 \times 10^9 \times Q^2}{0{,}2^2}$ ✓
$Q = 3{,}00 \times 10^{-5}$ C ✓ (5)

7.4.1 **POSITIVE MARKING FROM 7.3**

OPTION 1	**OPTION 2**
BOTH CHARGES POSITIVE	**BOTH CHARGES NEGATIVE**
$E = \frac{kQ}{r^2}$ ✓ $E_1 = \frac{9 \times 10^9 \times 3{,}00 \times 10^{-5}}{0{,}15^2}$ ✓ $E_1 = 12\,000\,000$ N.C^{-1} right $E_2 = \frac{9 \times 10^9 \times 3{,}00 \times 10^{-5}}{0{,}05^2}$ ✓ $E_2 = 108\,000\,000$ N.C^{-1} left $E_{net} = E_1 + E_2$ $E_{net} =$ 108 000 000 – 12 000 000 ✓ $E_{net} = 96\,000\,000$ N.C^{-1} left. ✓	$E = \frac{kQ}{r^2}$ ✓ $E_1 = \frac{9 \times 10^9 \times 3{,}00 \times 10^{-5}}{0{,}15^2}$ ✓ $E_1 = 12\,000\,000$ N.C^{-1} left $E_2 = \frac{9 \times 10^9 \times 3{,}00 \times 10^{-5}}{0{,}05^2}$ ✓ $E_2 = 108\,000\,000$ N.C^{-1} right $E_{net} = E_1 + E_2$ $E_{net} =$ 108 000 000 – 12 000 000 ✓ $E_{net} = 96\,000\,000$ N.C^{-1} right. ✓

(5)

7.4.2 **POSITIVE MARKING FROM 7.3**

OPTION 1	**OPTION 2**
$E_{net} = \frac{F_{net}}{q}$ ✓ $96\,000\,000 = \frac{F_{net}}{1{,}6 \times 10^{-19}}$ ✓ $F_{net} = 1{,}536 \times 10^{-11}$ N $F_{net} = ma$ ✓ $1{,}536 \times 10^{-11} = 9{,}11 \times 10^{-31}$ a ✓ $a = 1{,}69 \times 10^{19}$ m.s^{-2} ✓	$F = \frac{kQ_1Q_2}{r^2}$ ✓ $F_1 = \frac{9 \times 10^9 \times 3{,}00 \times 10^{-5} \times 1{,}6 \times 10^{-19}}{(50 \times 10^{-3})^2}$ $F_1 = 1{,}728 \times 10^{-11}$ N right $F_2 = \frac{9 \times 10^9 \times 3{,}00 \times 10^{-5} \times 1{,}6 \times 10^{-19}}{(150 \times 10^{-3})^2}$ both✓ $F_2 = 1{,}92 \times 10^{-12}$ N left $F_{net} = F_1 + F_2$ $F_{net} = 1{,}728 \times 10^{-11} – 1{,}92 \times 10^{-12}$ $F_{net} = 1{,}536 \times 10^{-11}$ N right $F_{net} = ma$ ✓ $1{,}536 \times 10^{-11} = 9{,}11 \times 10^{-31}$ a ✓ $a = 1{,}69 \times 10^{19}$ m.s^{-2} ✓

(5)

QUESTION 8

Identified problem

Internal resistance was omitted in the circuit diagram of the Afrikaans version.

Implication

Afrikaans candidates will not be able to answer 8.3.1 with a total of 5 marks.

Recommendation

Afrikaans learners must be marked out of 145 marks and be converted to 150 marks.

We request that this must be brought to the attention of all educators marking these papers and sincerely apologise for the inconvenience.

Yours in education.

MS N. MBELEKI

12 September 2019

DATE