GAUTENG DEPARTMENT OF EDUCATION

PROVINCIAL EXAMINATION

NOVEMBER 2019

GRADE 9

<div style="border:2px solid black">

NATURAL SCIENCES

</div>

MARKING GUIDELINES

TIME: 1½ hours

MARKS: 80

6 pages

SECTION A

QUESTION 1

1.1 1.1.1 B ✓ (1)

     1.1.2 C ✓ (1)

     1.1.3 C ✓ (1)

     1.1.4 A ✓ (1)

     1.1.5 C ✓ (1)

     1.1.6 B ✓ (1)

     1.1.7 B ✓ (1)

     1.1.8 C ✓ (1)

     1.1.9 B ✓ (1)

     1.1.10 D ✓ (1)
[10]

1.2 1.2.1 E ✓ (1)

     1.2.2 B ✓ (1)

     1.2.3 G ✓ (1)

     1.2.4 C ✓ (1)

     1.2.5 A ✓ (1)
[5]

1.3 1.3.1 Ore ✓ (1)

     1.3.2 Hydrosphere ✓ (1)

     1.3.3 Brown ✓ (1)

     1.3.4 Transformer ✓ (1)
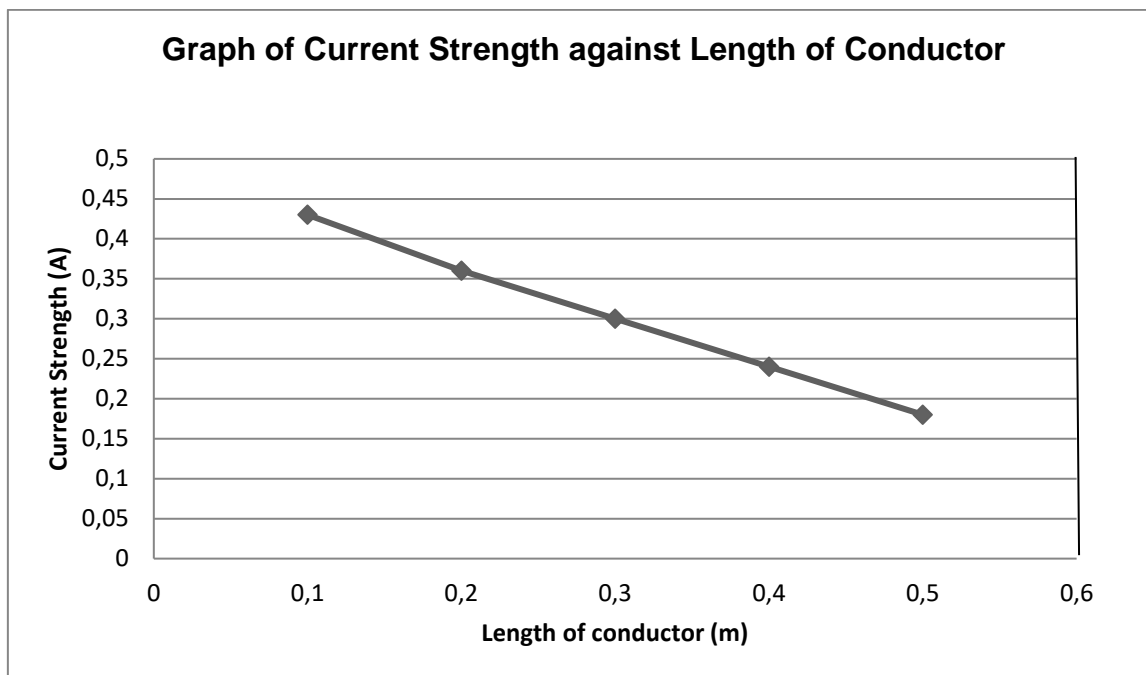
     1.3.5 Mantle ✓ (1)
[5]

SECTION B

QUESTION 2

2.1   2.1.1 Contact force ✓ (1)

       2.1.2 The stationary carton box moves in the direction of the force. ✓ / The force changes the movement of the object. ✓ (1)

       2.1.3 Friction ✓ / Frictional force ✓ (1)

       2.1.4 The box will not move. ✓/Nothing will happen. ✓ (1)

2.2   2.2.1 Positive ✓ / + ✓ (1)

       2.2.2 Charge A is postive ✓ and like (same) charges repel each other. ✓ (2)

[7]

QUESTION 3

3.1   3.1.1 The light bulb will light up. ✓ (1)

       3.1.2 The light bulb will not light up. ✓ / Nothing is observed ✓ / Nothing will happen. ✓ (1)

(1)

       3.1.3 Circuit B does not have a cell / battery /source of energy. ✓

(1)

3.2   3.2.1 Length of the conductor. ✓

(1)

       3.2.2 Strength of current. ✓

3.2.3

Graph of Current Strength against Length of Conductor

✓ Arrangement of axes ✓ Plotting of points ✓ Drawing of graph (3)

3.2.4 As the length of the conductor increases, the strength of the current will decrease. ✓✓

OR

As the length of the conductor decreases, the strength of the current will increase. ✓✓

OR

The length of the conductor is inversely proportional to the strength of the current. ✓✓

(Any other suitable conclusion where both variables are named.) (2)

[10]

QUESTION 4

4.1 2 A ✓ The current in a series circuit is the same everywhere. ✓ (2)

4.2 $V_T = V_1 + V_2 + V_3$
$4 = 1 + V_2 + 1$ ✓
$V_2 = 2$ V ✓ (2)

4.3 4.3.1 Increase ✓ (1)

4.3.2 Increase ✓ (1)

[6]

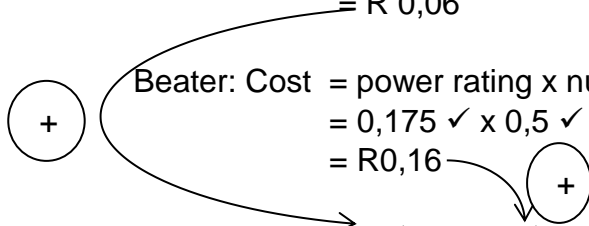**QUESTION 5**

5.1   D; B; A; C ✓✓✓✓ (ONLY: full marks or 0)   (4)

5.2   5.2.1 Television ✓   (1)

       5.2.2 Toaster: Cost = power rating x number of hours x unit price
                      = 0,7 ✓ x 0,05 ✓ x 1,85 ✓
                      = R 0,06

              Beater: Cost = power rating x number of hours x unit price
                      = 0,175 ✓ x 0,5 ✓ x 1,85
                      = R0,16

       (+)

       Total cost = 0,06 ✓ + 0,16 ✓
                      = R 0,22 (OF 22 c) ✓   (8)
[13]

QUESTION 6

6.1   Hydrosphere ✓   (1)

6.2   Nitrogen ✓   (1)

6.3   Organisms / plants in sphere B will absorb the water from sphere C through
       their roots ✓ in order to survive / grow. ✓   (2)
[4]

QUESTION 7

7.1   Metamorphic rocks ✓   (1)

7.2   7.2.1 Melting ✓ of metamorphic rocks.   (1)

       7.2.2 Cooling ✓ of magma.   (1)

       7.2.3 Weathering / Erosion and transport ✓ of igneous rocks.   (1)

7.3   7.3.1 Granite ✓ / Pumice ✓/ Basalt ✓ (Any ONE)   (1)

       7.3.2 Limestone ✓ / Sandstone ✓ / Shale ✓ (Any ONE)   (1)
[6]

QUESTION 8

8.1 Diamonds ✓ / Gold ✓ / Iron ✓ / Platinum ✓ / Coal ✓ (Any ONE) (1)

8.2 chemical ✓ (1)

8.3 Iron is mixed with coke ✓ and other metals ✓ to produce steel.

(2)

8.4 • Emerging of mine dumps ✓
   • Mine dumps that are not rehabilitated. ✓
   • Pollution ✓
   • Damage to places with tourism- or cultural value ✓
   • Loss of farming- and natural environments ✓
   (Any TWO disadvantages)

(2)

8.5 Northern part ✓ / North Eastern part ✓

(1)
[7]

QUESTION 9

9.1 A – Troposphere ✓
   B – Stratosphere ✓
   C – Mesosphere ✓
   D – Thermosphere ✓ (4)

9.2 Decrease ✓ (1)

9.3 A ✓ (1)

9.4 B ✓ (1)
[7]

GRAND TOTAL: 80