

**PHYSICAL SCIENCES GRADE 10**

**QUESTION 1**

1.1 m.s<sup>-1</sup> (1)

1.2 Potential difference (1)

1.3 Period (1)

[3]

**QUESTION 2**

2.1	A	B	C	<del>D</del>
2.2	A	<del>B</del>	C	D
2.3	A	B	C	<del>D</del>
2.4	<del>A</del>	B	C	D
2.5	A	<del>B</del>	C	D
2.6	A	B	C	<del>D</del>

[6 X 2 = 12]

**TOTAL SECTION A : 15**

**QUESTION 3** ✓

3.1  $v = \Delta x / \Delta t$  ✓  
 $v = 140 / 2$  ✓  
 $v = 70 \text{ m.s}^{-1}$  ✓ (3)

3.2 Negative. ✓ If the forward motion is positive it is slowing down. ✓ (2)  
 Positive. ✓ If the forward motion is negative it is slowing down ✓

3.3  $v_f^2 = v_i^2 + 2a x$  ✓  
 $0^2 = 70^2 + 2(-4)x$  ✓  
 $x = 612.5 \text{ m}$  ✓

$1600 - (100\text{m} + 140\text{m} + 612.5) = 747.5 \text{ m}$  ✓ **from the end of the runway** (6)

3.4 Faulty brakes, heavy plane, tail wind (any one) ✓ (1)

**[12]**

**QUESTION 4**

4.1  $R_T = 6 \text{ (Parallel)} + 6 = 12$

4.2  $I = \frac{V}{R} = \frac{24}{12} = 2A$

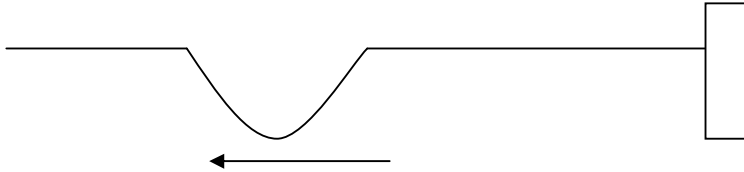
4.3  $V = IR = (2)(6) = 12V$

4.4  $I = \frac{V}{R} = \frac{12}{9} = \frac{4}{3}A$  or 1.33A

[10]

**QUESTION 5**

5.1.1



✓✓

- 5.1.2 a) SAME ✓  
 b) SMALLER ✓  
 c) SAME ✓

5.2.1 frequency =  $1/T$   
 $T = 20s$   
 Frequency =  $1/20$   
 = 0.05 Hz ✓✓

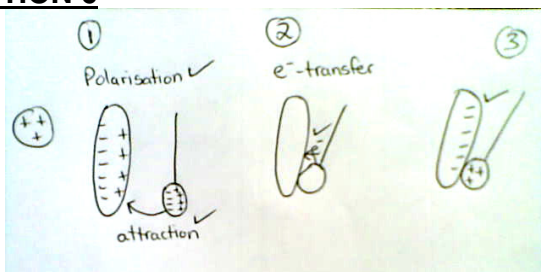
5.2.2  $v = \text{frequency} \times \text{Wavelength}$   
 Wavelength =  $v/\text{frequency}$   
 =  $100/0.05$   
 = 2000m ✓✓✓

- 5.3 NODE – Area of zero displacement ✓  
 ANTINODE – Area of maximum displacement. ✓

[12]

**QUESTION 6**

6.1



- 6.2 Magnetic field: ✓ a region around a magnet ✓ in which another magnetic material will experience a force ✓ (4)  
 6.3 Fridge doors, alarm sensors, speakers stc. (Any 2) ✓✓ (3)  
 6.4 inversely proportional ✓✓ (2)

[15]

**TOTAL: 60 MARKS**