

Name of the Student: _____

Max. Marks : 18 Marks

Time : 18 Minutes

Mark Schemes

Q1.

(a) 85

1

(b) (i) thickness (of glass)

accept how thick the glass is

*do **not** accept light intensity*

1

(ii) transmits less infra red

accept radiation / or heat for infra red

accept transmits less energy (at all wavelengths)

*accept (glass **B**) absorbs more infra red*

accept infra red is the same as heat

ignore reference to visible light

1

infra red has a heating effect

or

infra red warms the room

ignore references to conservatory

keeping cool

1

[4]

Q2.

(a) (i) bat(s)

1

(ii) elephant(s)

1

(iii) any example in the inclusive range 5 ↔ 29 Hz / hertz

appropriate number and unit both required

1

(b) (i) **B**

1

(ii) **F**

1

[5]

Q3.

- (a) (i) infra red (rays)
accept IR
or
radio (waves)
do **not** accept heat waves
do **not** accept TV waves
1
- (ii) radio (waves)
this answer only
1
- (b) frequency
1
- (c) (i) answer should be in terms of establishing if harmful or not
harmful ie trying to clear up any uncertainty
do **not** accept answers that assume it is harmful
eg Wi-Fi systems will make you ill

need to know if it is harmful / makes you ill
accept idea that safety issue may worry people
accept idea that (more) research may reassure people
accept idea of finding out (the truth)
1
- (ii) an opinion
1

[5]

Q4.

- (i) X-rays

infra red (rays)

radio (waves)
all three in correct order
allow **1** mark for **1** correct
2
- (ii) to kill cancer cells
1
- (iii) energy
1

[4]