Name of the Student:_____
Max. Marks : 16 Marks **Time : 16 Minutes**

Mark Schemes

Q1.

(a) focal length

this answer only

1

(b) one correct line drawn from the top of the object, passing through the lens and crossing or meeting given line

ignore any arrow drawn on the line
if two lines are drawn, both must be correct

1

inverted image drawn at the correct position and length

arrowhead required

1

(c) similarity
(both are) diminished

1

difference
concave is <u>virtual</u> and convex is <u>real</u>
or
concave is upright and convex is inverted

allow smaller for diminished
a comparison must be made
ignore reference to positions of images

1

(d)

*an answer of 1.5 (mm) scores **3** marks*

$$6.0 = \frac{9.0}{\text{object height}}$$

1

$$\text{object height} = \frac{9.0}{6.0}$$

1

object height = 1.5 (mm)

*provided working can be seen, an attempt to convert 9.0 mm to cm or m with all other steps correct scores **2** marks*

1

[8]

Q2.

(a) Regrettably, this part of the question assessed content that we had stipulated would only be assessed on the Higher tier. All students were awarded full marks for this part of the question.

1

(b) 0.4

1

(c) wave speed = frequency × wavelength

allow v = f λ

1

(d) 7200 = 0.4 × wavelength

1

$$\text{wavelength} = \frac{7200}{0.4}$$

1

wavelength = 18 000 (m)

*allow up to full marks for ecf using their answer to part **(b)***

a method shown as
7200 × 2.5 = 18 000
*scores **0** marks*

1

*an answer 18 000 scores **3** marks*

(e) Regrettably, this part of the question assessed content that we had stipulated would only be assessed on the Higher tier. All students were awarded full marks for this part of the question.

2

[8]