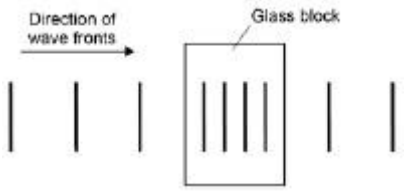
Practice Question Set For GCSE
Subject : Physics
Paper-2 Topic: Waves (Standard Demand Questions)

Name of the Student:_____
Max. Marks : 22 Marks **Time : 22 Minutes**

Mark Schemes

Q1.

(a) at least two wave fronts drawn to the right of the glass block, parallel to the other wave fronts and with equal spacing compared with the wave fronts to the left of the glass block



1

(b) ray of light refracts towards the normal where it is incident on the glass block

1

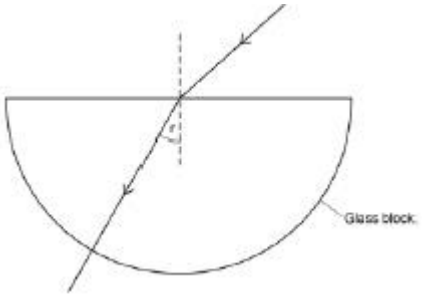
ray of light does not refract when it exits the glass block

1

a normal is drawn on where the ray is incident on the glass block

1

the angle of refraction is labelled



lines should be drawn with a ruler

1

(c) light travels more slowly (in the glass block than in the air)

1

so it changes direction

allow so it bends towards the normal

1

(d) the angle of incidence

1

the type of glass used

allow the glass block

1

(e) the <u>resolution</u> of a normal protractor is too big

1

so it could not measure the difference between results

allow so it could not read angles to 2 decimal places

1

(f) a longer wavelength gives a greater angle of refraction

1

(g) absorbed / reflected

1

[13]

Q2.

(a) any **four** from:

- light waves are transverse whereas sound waves are longitudinal
- light waves travel faster than sound waves
- light waves have a higher frequency than sound waves
- light waves have a shorter wavelength than sound waves
- light waves have oscillations perpendicular (to the direction of energy transfer) whereas sound waves are parallel (to the direction of energy transfer)

4

(b) the baby can be seen in the dark

1

(c) wave speed = frequency × wavelength

accept $v = f \lambda$

1

(d) $3 \times 10^8 = f \times 0.125$

1

$f = 3 \times 10^8 / 0.125$

1

$f = 2.4 \times 10^9$ (Hz)

*allow 2.4×10^9 with no working for **3** marks*

1

[9]