

Electromagnetic spectrum – 2023 June O Level 5054

1. June/2023/Paper_5054/11/No.23

Which row names a region of the electromagnetic spectrum with a wavelength longer than that of visible light and a region with a frequency that is greater than that of visible light?

	wavelength longer than visible light	frequency greater than visible light
A	infrared	ultraviolet
B	microwave	radio
C	radio	microwave
D	ultraviolet	infrared

2. June/2023/Paper_5054/22/No.7

(a) Ultraviolet radiation is one component of the electromagnetic spectrum.

(i) State the name of **two** components of the electromagnetic spectrum that have a smaller wavelength than ultraviolet radiation.

1

2

[1]

(ii) State **one** useful application of ultraviolet radiation.

..... [1]

(iii) Exposure to ultraviolet radiation from the Sun damages the eyes.

State **one** type of damage to the eye caused by ultraviolet radiation.

..... [1]

(b) Fig. 7.1 shows a ray of light. The ray passes into a semi-circular block of glass at A and leaves the glass at B, travelling along the surface to C.

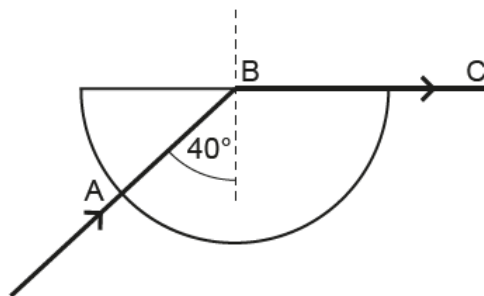


Fig. 7.1

(i) State the name given to the angle of incidence marked as 40°.

..... [1]

(ii) Calculate the refractive index of the glass.

refractive index = [2]

[Total: 6]