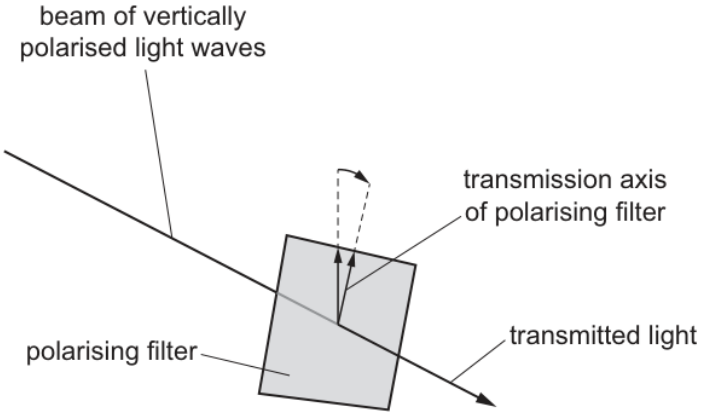
Unit 7: Waves:

Subunit 7.5: Polarisation:

Topical Question No: 1

24 A beam of vertically polarised light is incident normally on a polarising filter. The filter can be rotated so that it is always in a plane perpendicular to the beam. The transmission axis of the filter is initially vertical.



The filter is first rotated clockwise by an angle of 30° so that the transmitted light waves have intensity I_{30}.The filter is then rotated clockwise by a further angle of 30°.

What is the new intensity of the transmitted light waves?

A $0.25\,I_{30}$ **B** $0.33\,I_{30}$ **C** $0.75\,I_{30}$ **D** $0.87\,I_{30}$

Topical Question No: 2

27 Which type of waves **cannot** be polarised?

A radio waves

B sound waves

C ultraviolet waves

D X-rays

Topical Question No: 3

25 When the liquid crystal display of a calculator is observed through a polarising film, the display changes as the film is rotated.

Which property describes the radiation from the calculator display?

A unpolarised

B a longitudinal wave

C a transverse wave

D a wave with a 3 cm wavelength

Space for working

Topical Question No: 4

28 Which group contains only waves that can be polarised?

A infrared waves, radio waves, sound waves

B visible light waves, microwaves, radio waves

C visible light waves, radio waves, sound waves

D microwaves, visible light waves, sound waves

Answer Key

1. B
2. B
3. N/A
4. B