

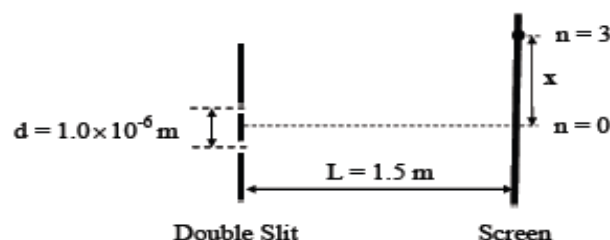
## RATU NAVULA COLLEGE

## Y12 PHYSICS 2021

## WORKSHEET 5 Q.P

## 1. 2017

In Young's double slit experiment, the distance between the slits is  $1.0 \times 10^{-6} \text{ m}$ . A screen is placed 1.5 m from the slits. Light of wavelength  $6.0 \times 10^{-8} \text{ m}$  falls on the slits.



- (i) How are dark bands formed? (1 mark)
- (ii) What is distance,  $x$ , of the 3<sup>rd</sup> dark band from the central maxima? (1 mark)
- (iii) What will happen to the separation distance of the bands if the screen is moved further away? (1 mark)

## 2. 2011

Fill the table below.

1	infra-red	2	3	x-rays	4
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## 3. 2010

The diagram below shows the parts of the electromagnetic spectrum.

$\gamma$ -rays and X-rays	ultra-violet	visible	infra-red	radio waves
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- (i) Name one type of radiation that has a higher frequency than ultra-violet.
- (ii) Name one type of radiation that has a longer wavelength than visible light.
- (iii) Some  $\gamma$ -rays emitted from a radioactive source have a speed in air of  $3.0 \times 10^8 \text{ m/s}$  and a wavelength of  $1.0 \times 10^{-12} \text{ m}$ . Calculate the frequency of the  $\gamma$ -rays.

THE END