ITS
Tutorial School

Waves – Light and Sound Quiz 4

Properties of waves

longitudinal waves → move in the _____ as the medium movement
transverse waves → move _____ to the medium movement
amplitude→ _____ _____ unit: metre (m)
frequency→ _____, unit: hertz (Hz)
wavelength → _____, unit: metre (m)
period → _____
waves transfer _____without transferring _____
wave speed = _____
v _____
frequency = 1/ _____
f = _____
waves can be _____ (spread out) through gaps or when they pass an edge, and the extent of diffraction depends on the _____and the physical dimension of the gap

The electromagnetic spectrum

electromagnetic spectrum goes from _____wavelength -- radio, microwave, infra-red, visible, ultraviolet, X-ray and gamma rays – _____wavelength
electromagnetic waves travel at the same _____in free space

uses of electromagnetic radiations,
- _____waves: broadcasting and communications
- _____: cooking and satellite transmissions
- _____: heaters and night vision equipment
- _____: optical fibres and photography
- _____: fluorescent lamps
- _____: observing the internal structure of objects and materials and medical applications
- _____: sterilising food and medical equipment

detrimental effects of excessive exposure of the human body to electromagnetic waves
- _____: internal heating of body tissue
- _____: skin burns
- _____: damage to surface cells and blindness
- _____ : cancer, mutation

Light

light waves are _____ waves which can be reflected, _____ and _____

the angle of incidence equals the angle of _____

refractive index n=_____

_____ _____ is used in transmitting information along optical fibres

when the angle of incidence is greater than the _____ there is t___ i____ r____

the relationship between critical angle c and refractive index N _____

sound

sound waves are _____ waves which can be reflected, _____ and _____

the frequency range for human hearing is _____ Hz – _____ Hz

an _____ and microphone can be used to display a sound wave by converting it to an electrical signal

the pitch of a sound depends on the _____ of vibration

the loudness of a sound depends on the _____ of vibration