amplitude
the maximum displacement from rest position

centre of gravity
the point through which the whole weight of an object appears to act

conduction
the process of thermal energy transfer without any flow of the material medium. Thermal energy is transferred from one particle to the next by atomic or molecular vibrations

convection
the transfer of thermal energy by means of currents in a fluid. Thermal energy is transferred by the movement of the heated fluid particles due to density differences

conventional current
the movement of positive charges from a positively charged end to a negatively charged end. The direction of flow is opposite that of electron flow

critical angle
the angle of incidence in the optically denser medium for which the angle of refraction in the optically less dense medium is 90°

current
the rate of flow of charge

Earth wire
a wire of zero electrical potential that carries no current when an appliance is working normally. It provides a connection from the metal casing of an appliance to the earth. It is a safety device that serves as a path of least resistance for current to flow when the metal casing becomes 'live' due to an electrical fault

electric field
a region in which an electric charge experiences an electric force

electromotive force
work done by a source in driving a unit charge around a complete circuit

electron flow
the movement of electrons flowing from a negatively charged end to a positively charged end.

Faraday's law of electromagnetic induction
the electromotive force induced in a conductor is proportional to the rate of change of magnetic field lines of force linking the circuit

focal length
the distance between the optical centre and the focal point for a converging lens

force
a push or a pull that one object exerts on another. It produces or tends to produce motion, and stops or tends to stop motion

frequency
the number of complete waves produced per second

gravitational field
a region in which a mass experiences a force due to gravitational attraction

gravitational field strength
the amount of gravitational force per unit mass

heat capacity
the amount of thermal energy required to raise the temperature of a body by 1 Kelvin

latent heat
energy released or absorbed during a change of state

Lenz's law
the direction of induced current always oppose the change or motion that produces it

live wire
a wire with high electrical potential

longitudinal waves
waves that travel in a direction parallel to the direction of motion

mass
a measure of the amount of matter in a body

moment
the product of the force and the perpendicular distance from the pivot to the line of action of the force

neutral wire
a wire with zero electrical potential

Ohm's law
the current passing through a metallic conductor is directly proportional to the potential difference across its ends, provided that physical conditions are constant.

pascal's principle
pressure applied to an enclosed fluid is transmitted unchanged to every part of the fluid as well as the walls of the container

period
the time taken for one point on a wave to complete one oscillation

potential difference

the work done to drive a unit charge though a component in an electrical circuit

pressure
force acting per unit area

principle of conservation of energy
energy can neither be created nor destroyed in any process, It can only be transferred from one body to another or converted from one form to another. The total amount of energy in the universe remains constant

principle of moments
when a body is in equilibrium, the sum of clockwise moments about a pivot is equal to the sum of anticlockwise moments about the same pivot.

Radiation
the continual emission of infrared waves from the surface of all bodies, transmitted without the aid of a medium.

refractive index
a ratio between the speed of light in vacuum and the speed of light in a medium

resistance
the ratio of potential difference across a component to the current flowing through it

Scalar quantities
Physical quantities that have magnitude only

specific heat capacity
Amount of thermal energy required to raise the temperature of 1kg of a substance by 1 Kelvin or 1 degree celsius

specific latent heat of fusion
amount of thermal energy required to change the state of 1kg of a substance from solid to liquid, or vice versa, without any change of temperature

specific latent heat of vapourisation
amount of thermal energy required to change the state of 1kg of a substance from liquid to vapour, or vice versa, without any change of temperature

Speed
distance moved per unit time

stability
the ability of an object to return to its original position after it has been tilted slightly

Total internal reflection
the reflection that occurs when light in the optically denser medium strikes the shared boundary with the optically less dense medium at an angle of incidence greater than the critical angle.
transverse waves

waves that travel in a direction perpendicular to the direction of motion

ultrasound
sound with frequencies above 20kHz

uniform acceleration
a type of motion in which the velocity of an object changes by an equal amount in every equal time interval

Vector quantities
Physical quantities that have both magnitude and direction

Velocity
change in distance in a specific direction per unit time

wavefront
an imaginary line on a wave that joins all points that are in phase with each other

wavelength
the shortest distance between any 2 points of a wave that are in phase

wave motion
the process by which a disturbance at one point is propagated to another point more remote from the source with no net transport of the material medium itself.

weight
the amount of gravitational force acting on a body