PHYSICS

REVISION SHEETS

POINTS TO NOTE

- A **distance –time graph** tells us how far an object has moved with time
- The steeper the graph, the faster the motion
- A **horizontal lines** means the object is not changing his position , it is not moving , it is at rest
- A **downward slopping line** means the object is returning to the object
- In physics the term acceleration applies to both **increase** and **decrease** in speed
- Acceleration is change in speed , a change in **velocity** or both
- Acceleration is a vector quantity because it has both **magnitude** and **direction**
- Speed=distance/time (m/s)
- Time=distance/speed (s)
- Distance=speed x time (m)
- **Instantaneous speed** : the speed at a particular moment
- **Relative motion** : the difference between the speed of two moving objects, or of a moving and a stationary object
- A gas exerts a pressure on the walls of its container because the particles **collide with the walls**
- If the gas gets hotter the pressure will be **bigger**
- If the volume gets bigger the pressure will be **smaller**
- As you go up a mountain the air pressure is **smaller** because there are fewer gas particles
- Liquid are **incompressible** because the particles in a liquid are touching each other and there is very little space between them.
- The pressure in a liquid acts in **all** direction
- The pressure in liquid **increase** as you go deeper because the molecules of water above you get compressed

- Pressure =force/area
- Pressure is measured in newton per metre square (N/m^2)
- The **smaller** the **area** the bigger the pressure and the bigger the are the smaller the **pressure**
- **Pivot** : It is the central point or shaft on which a mechanism or body turns or oscillate
- **Moment** : It is the turning effect of force with respect to distance
- Moment is measured in **Newton metre (Nm)**
- **Moment=**force x distance
- **Distance** =moment/force
- **Force**=moment/distance
- **The law of moment**: The law states that , when a body is in equilibrium the sum of the clockwise moment is equal to the sum of the anticlockwise moment.
- **Centre of gravity** : The point in an object where the force of gravity seems to act
- **Analogue** : The signal that can have any value
- **Digital** : The signal that can only have a high or a low value
- **A binary**: Are numbers that can only have two values. 0 or 1
- **100 bytes** =1 kilobyte (1kb)
- **1 million byte** = 1 megabyte (1MB)
- **1 thousand million byte** =1 gigabyte (1GB)
- **Microwave :** The wave of the electromagnetic spectrum used for heating and for communicating
- **Radio waves** : The wave with the lowest frequency in the electromagnetic spectrum and used for communicating
- **Efficiency** : It is the state of quality of being efficient
- **Light Emitting Diode (LED)**: It is a semiconductor light source that emits (release) light when current flows through it. Usually used as an indicator
- **An LDR (light – dependent resistance**) : It is a device or component that has a variable resistance that changes with light intensity that falls upon it
- Light is totally **internally reflected** as it goes down an optical fibre
- **An endoscope** contains optical fibres to see inside a patient

- **Reaction time**: The time the brain takes to process information and act
- The geocentric models or story comes from the **Middle East country**
- People in India thought that a flat Earth was supported by **12 pillars**
- A model can be something **physical** or it can use **equation**
- The geocentric model of the universe has **Earth** at the center
- Galileo explained that objects in orbit around **Jupiter** are not in orbit around the Earth
- Most widely accepted theory regarding the origin of universe is the **Big Bang**
- The two forces that acts on a rocket when it takes off are **the force of the gases on the rocket and the force of rocket on the Earth**
- The geostationary satellite is about **36000km** from the Earth
- To land at a safe speed the astronauts needed a **parachutes** to slow down
- The materials that give out alpha, beta and gamma radiation are said to be described as **radioactive**
- **Radiation** can damage cells and cause cancer, it could also be used to sterilized objects as well as treatment of cancer in radiotherapy
- If a satellite is always over the same place it is said to be in **Geostationary** orbit
- **Radioactivity** is said to be the term used to describe the process of radiation
- A reflecting telescope uses a **concave mirror** to reflect light
- **Morse code** is a series of dots and dashes that represented letters
- Astronomers uses computers to estimate the **habitable zone** around other stars
- **SETI** project use radio telescope to detect radio signals from space
- Astronomers finds distance to object in the solar system using **radar**
- A **microwave** converts speech into an electrical signals
- The spreading out of waves around an obstacle is said to be **diffraction**
- The radio wave that carries a signal is said to be a **carrier wave**
- **Modulating** is described as changing the amplitude or frequency of a wave
- Particles were detected from the tracks in **cloud chambers** or bubble chambers or using semiconductors