

* SCIENCE :- Science is the systematised and organised knowledge about various natural phenomena which is obtained by careful experimentation.

* PHYSICAL SCIENCE :- These science deal with the properties and behaviour of non-living things.

* PHYSICS :- It is the study of the natural laws & their manifestation in the natural phenomena. It deals with the concepts of space, time, motion matter, energy, radiation etc.

* CHEMISTRY :- It is the study of every substance, its structure, its composition and changes in which it takes part.

* SCIENTIFIC ATTITUDE :- Scientific attitude requires a flexible open-minded approach towards solving problems in which other important points of view are not neglected.

* SCIENTIFIC METHODS :- The step by step approach used by a scientist in studying natural phenomena and establishing laws which govern these phenomena is called scientific method. It involves the steps like.

(a) Experimentation and observation.

- (b) Formation of hypothesis.
- (c) Verification of hypothesis.
- (d) Theoretical predictions.

*SCIENTIFIC THEORY :- It is the name given to a set of a limited number of laws in terms of which other behaviour of a Physical system can be explained.

*PHYSICS IS AN EXACT SCIENCE :- It is because of high precision and accuracy obtainable in the measurement of physical quantities.

*PHYSICS IS A BASIC SCIENCE :- Because of its important role played in the development of life process, medicine, technology and industry, physics is considered as the most basic of all science.

*PHYSICS AND MATHEMATICS :- Mathematics has proved to be the most important tool in the development of physics.

*MECHANICS :- It deals with the nature and propagation of light, slow motion or equilibrium of material bodies.

*OPTICS :- It deals with the nature and propagation of light.

*THERMODYNAMICS :- It deals with the change in internal

energy, temperature, entropy etc. of the macroscopic system through external work and heat.

*ELECTRODYNAMICS:- It deals with electric and magnetic phenomena associated with charged and magnetic bodies.

*QUANTUM MECHANICS:- It deals with the mechanical behaviour of atom, molecules and nuclei.

*RELATIVITY:- It deals with the particles having speeds comparable to the speed of light. It is the theory of invariance in nature.

*GRAVITATIONAL FORCE:- It is the force of mutual attraction between two bodies by virtue of their masses.

$$F = G \frac{m_1 m_2}{R^2} \quad \therefore \text{where } G \text{ is the universal constant.}$$

Properties of gravitational force.

- It is a universal attractive force.
- It is directly proportional to product of the masses of two bodies.
- It obeys inverse square law.
- It is a long range force and does not need any medium.
- Gravitational force between two bodies does not depend upon the presence of other bodies.