

CHAPTER 1: PHYSICAL WORLD

1. What is science?

Ans: Science is a systematic attempt to understand natural phenomena in as much details and depth as possible. It includes experimentation, exploration and prediction.

2. Write down the two branches of science?

Ans: Biological and physical branch.

3. What is physics?

Ans: It is the branches of science which deals with the study of basic laws of nature and their manifestation in various natural phenomena.

4. What are the two principal thrusts in physics?

Ans: Unification and Reductionism.

5. What is the scope of physics?

Ans: Very wide.

6. What are the two branches of physics?

Ans: The two branches of physics are Macroscopic and Microscopic branch.

7. What does the macroscopic branch include?

Ans: It includes mechanics, optics, thermodynamics.

8. What does the Microscopic branch include?

Ans: It includes quantum physics like atoms, molecules and nuclei.

9. What is Gravitational force?

Ans: It is the mutual attraction between the two bodies in the universe by the virtue of their mass. It was discovered by Isaac Newton.

10. What is Electromagnetic force?

Ans: It is the force associated with charged particles. It may be attractive or repulsive depending upon the charge.

11. What is Strong Nuclear force?

Ans: Nucleus consists of protons and neutrons. Protons are positive which could repel each other and collapse the nucleus, but a new force Strong Nuclear Force came into existence.

12. What is Weak Nuclear force?

Ans: It is the force between the elementary particles involved in nuclear processes like beta decay.

13. Write down the law of conservation of Energy?

Ans: Energy cannot be created nor be destroyed, it can only be changed from one form to another.

14. Write down the laws of conservation of mass?

Ans: Mass can neither be created nor be destroyed. It is modified by Einstein.

15. Write the laws of conservation of Momentum?

Ans: Momentum is the quantity of motion of a moving body. It is a vector quantity.

It is classified into two types.

Conservation of linear momentum : If no external force acts on a system, its linear momentum is conserved.

Conservation of Angular momentum: If no external torque acts on a system, its angular momentum remains constant.

16. Write down the laws of conservation of Charge?

Ans: The net charge of an isolated system remains constant.