

Chapter I

Physical World

1. Who proposed elliptical orbit of the planets around sun?

Kepler

2. Mention one of the demerits of Newtonian mechanics .

It fails to explain some basic features of atomic phenomenon.

3. What is the result of α - ray scattering experiment conducted by Rutherford ?

It established nuclear model of the atom.

4. Who introduced the concept of anti particle theoretically for the first time ?

Paul Dirac

5. Who confirmed the existence of positron experimentally?

Anderson

6. Mention the phenomenon included in (i) macroscopic domain (ii) microscopic domain

Macroscopic domain includes phenomena at the laboratory, terrestrial and astronomical scales. Microscopic domain includes atomic, molecular and nuclear phenomenon.

7. What are the important topics covered under classical physics?

Mechanics, electrodynamics, optics, thermodynamics.

8. A feather and a stone are dropped from same height. Do they reach the ground at the same time (i) in presence of atmosphere? (ii) in absence of atmosphere?

(i) No (ii) Yes

9. Does the value of acceleration due to gravity depend on the mass of the falling body?

No

10. Discoveries in physics generates new technology . Give an evidence to this.

Wireless communication technology follows the discovery of the basic laws of electricity and magnetism.

11. Who discovered the phenomenon of neutron induced fission of uranium ?

Hahn and Meitner.

12. Mention the important contribution by Archimedes in fluid mechanics.

Principle of buoyancy.

13. Who proposed wave theory of light?

Huygens.

14. Who proposed the universal law of gravity?

Newton.

15. Who proposed the laws of electromagnetic induction?

Faraday.

16. Light is an electromagnetic wave – who proposed this?

Maxwell

17. Who discovered X – ray?

Roentgen

18. Who discovered electrons?

J J Thomson

19. Who discovered radium and polonium?

Marie Curie

20. Who was awarded a Nobel prize for the explanation of photo electric effect?

Einstein

21. Who won the Nobel prize in the field of inelastic scattering of light by molecules?

C V Raman

22. Who is the founder of controlled nuclear fission reaction? (nuclear power reactor)

Fermi

23. Who discovered neutron?

Chadwick.

24. Mention the fundamental forces in nature.

- (i) Gravitational force
- (ii) Weak nuclear force
- (iii) Electromagnetic force
- (iv) Strong nuclear force

25. Name the (i) strongest (ii) weakest fundamental force in nature

- (i) Stronger nuclear force
- (ii) Gravitational force

26. Does the laws of nature change with time?

No

27. Name the elementary particle emitted during β - decay along with the electron.

Anti Neutrino.

28. Does the law of gravitation valid on the surface of moon?

Yes

29. The value of acceleration due to gravity is different for different planets. Is it the violation of the law of gravitation?

No

30. Name the principle behind the uplift of aircraft (aeroplane)

Bernoulli's principle

31. What is the principle behind the working of electric generator.

Faraday's law of electromagnetic induction.