

Physics - ICS Part 1 Physics Chapter 1 Short Questions Test

Q1. How many nanoseconds are there in 1 year?

Ans 1: As 1 year = 3.136×10^7 s

1 year = $3.1536 \times 10^7 \times 1$ s

1 year = $3.1536 \times 10^7 \times 10^9 \times 10^{-9}$ s

1 year = $3.1536 \times 10^7 \times 10^{-9}$ ns

1 year = 3.1536×10^{16} ns

Q2. What rules are of rounded off the significant figure?

Ans 1:

1. If the first digit dropped is less than 5, the last digit retained should remain unchanged.
2. If the first digit dropped is more than 5, the digit to be retained is increased by one.
3. If the first digit to be dropped is 5 the previous digit which is to be retained is increased by one if it is odd and retained as such if it is even.

Q3. Write the main type of error.

Ans 1: There are two types of errors possible in physical measurements.

1. Random error
2. Systematic error

Q4. Give the drawbacks to use the period of pendulum as a time standard.

Ans 1:

The value of time periods of a simple pendulum depends upon its length and gravitational acceleration. So, the following drawbacks will be observed.

- The value of g varies with altitudes
- Length of the pendulum varies due to the increase or decrease in temperature .
- Air resistance will affect the time period.

Q5. An old saying is that " A chain is only as strong as its weakest link , " What analogous statement can you make regarding measurement ?

Ans 1: The analogous statement is that the result of an experimental data which is as accurate as measurements can be used in the computation.

Q6. What events occur in anaphase-I in meiosis?

Ans 1: During the anaphase of meiosis -1. The spindle fibers contract and each member of homologous chromosomes moves toward each pole. In this way half chromosomes reach to one pole and other half reaches to another pole.

Q7. What is physics ? Discuss the importance of physics ?

Ans 1: Physics:

The branch of science which deals with the properties of matter energy and their mutual relationship is known as physics.

Physics has played an important role in our daily life.

1. The electronic media like T.V, radio, Loudspeaker, Telephone, cell phone, Photo phone for machine etc are the important source of communication which works on the principles of physics.
 2. Information technology is based on the principle of physics which is the scientific method of storing, protecting, processing, Transmitting, receiving and retrieving information
 3. The whole world has become a global village due to use of computer net works which works on the principles of physics.
 4. Atomic bomb is the invention of physics which can be used for the production of huge amount of energy. It can be also used for defence purposes.
 5. X-rays, Y-rays Laser rays etc. are the inventions of physics which can be used in industry, health and agriculture department for various purposes.
 6. Cathode ray oscilloscope (C.R.O) is the invention of physics which can be used as graph plotting device to see the wave from a repetitive electronic signals the C.R.O can be also used in T.V circuits in computers system and as A.C circuits or D.C circuits.
 7. All means of transport, like aeroplane buses, motor cycles, railways etc work on the principles of physics
 8. Electricity is the invention of physics without which we can not imagine any machine in working conditions
 9. Rockets and satellites are the invention of physics with the help of which we can get information about the upper atmosphere.
 10. The simple machine like pulley, wedge, like lever screw-jack etc are the invention of physics which can be used for various purposes invention of physics which can be used for various purpose in daily life.
 11. Physics explain the natural phenomena in term of fundamental principles and basics and basic Laws
 12. Electron microscope is the invention of physics which is used to see distant objects clearly.
 13. Microphone is the invention of physics which can be used to study microorganisms clearly and easily
 14. Telescope is the invention of physics which is used to see distance objects clearly.
 15. Physics employs the essential steps of scientific method observation recording analysis prediction and verification.
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Q8. What is unit

Ans 1: Once a standard is set for a quantity then it can be expressed in terms of that standard quantity. This standard quantity is called unit.

Q9. Differentiate between law of conservation of Energy.

Ans 1: Energy can neither be created nor be destroyed, but can be changed from one form to another is called Law of Conservation of Energy.

If a chemical change takes place by several different routes, the overall energy change is the same, regardless of the route by which the chemical change occurs, provided the initial and final conditions are the same is known as Hess's Law.

Q10. Define light year. How many meters are there in one light year?

[Speed of light = $3 \times 10^8 \text{ ms}^{-1}$)

Ans 1: A light year is the distance light travels in one year.

Since

$$S = vt$$

$$\text{or } S = vt$$

$$S = (3 \times 10^8 \text{ ms}^{-1})(365 \times 24 \times 60 \times 60 \text{ s})$$

$$S = 9.46 \times 10^{15} \text{ m}$$
