

- Magnitude can vary from measurement of quantities from very tiny atoms to extremely large, such as the universe and speed of light. The order of magnitude is called  $M$ . Physical Quantity =  $M \times 10^n$ . Which of the following is correct?
  - The order of magnitude of a physical quantity, is its magnitude is expressed in powers of ten with one digit to the left of the decimal.
  - If  $M$  is greater than 1 but less than 10, it is written as  $0.0,000,000,001 = 1 \times 10$  to the power of -10.
  - If  $M$  is less than 3.2, it is written as under root 10 or 10 to the power of 0.5, rounded to  $1=10$  to the power of 1.
  - All the above are correct.
- S. I. Unit is an abbreviation, recommended in 1960, for
  - 'Système Internationale d'Units'.
  - Systems Investors Unit
  - Systems International Unit
  - None of the above.
- Internationally, a 'metre' is defined in as :
  - "the distance travelled by light in  $1/299,792,458$  of a second, in air or vacuum".
  - The median measure on the metric scale
  - The base unit for a kilometre.
  - None of the above.
- One 'second' of time measure, is defined :
  - 'as the time interval of 9,192,631,770 periods of a specified energy change in the cesium -133 atom, under specified conditions'.
  - 'in terms of speed of light'
  - 'in terms of the daily rotation of the Earth'
  - All the above
- One 'Light Year' is an astronomical unit (AU) of measurement, and it is defined as -

- a) the distance travelled by light in vacuum, in one year
  - b) the mean distance between the Earth and the Sun
  - c) the total distance from the Sun to the outermost planet
  - d) All the above
6. Which of the following is correct? The Astronomical Unit bigger than ‘light year’ is-
- a) ‘Parallax Second’ written as an abbreviation ‘PARSEC = 3.26 times light year’
  - b) There is no AU bigger than a ‘light year’
  - c) A Galactic year is bigger than a light year
  - d) All the above
7. In Measurement of volume, which of the following is correct -
- a) One litre is equal to the volume of one kilogram of pure water at 4 degree Centigrade
  - b) One millilitre is the volume of one gram of pure water at 4 degree Centigrade
  - c) Both the above are correct
  - d) None of the above is correct.
8. Which of the following is NOT an instrument for measuring ‘liquids’
- a) Kilolitre
  - b) Measuring Cylinder
  - c) Pipette
  - d) Burette
9. A ‘Stop watch’ is an instrument for measuring Time, and it indicates -
- a) Sixty equal divisions of one second
  - b) Sixty equal divisions of one minute
  - c) Equal divisions of time up to five minutes
  - d) Equal division of time up to ten seconds
10. Which of the following is NOT a term relating to a pendulum –
- a) Amplitude
  - b) Oscillation

- c) Period of Oscillation
  - d) Frequency of Oscillation
  - e) None of the above.
11. A mass of a body is the quantity of -
- a) Matter it contains
  - b) Water in the body
  - c) weight as expressed in a measuring unit
  - d) None of the above
12. Liquids and Gases are called 'fluids' :
- a) Because of their ability to flow
  - b) Because they need to be distinguished from solids in classification of substances
  - c) Because they are more flexible than solid substances
  - d) None of the above
13. Under Intermolecular force sparking in woollen and synthetic clothing is caused
- a) By friction
  - b) Ionisation of the air during the flow of charge between two surfaces
  - c) Both (a) and (b)
  - d) Destruction of ionized charge
14. Flow of charge occurs due to
- a) Transfer of electrons from one body to another
  - b) Creation of electrons, protons, neutrons
  - c) Destruction of electrons, and protons
  - d) None of the above
15. An electro-magnetic field surrounds High Tension Wires seen across the country, because
- a) Each single electron behaves like a magnet.
  - b) The flow of electron causes the flow of electric current
  - c) Both (a) and (b) create the electro – magnetic field

- d) None of the above
16. The S.I. Unit of an electron charge is coulomb represented by symbol 'C'. The standing numerical value of C is equal to
- a)  $1\text{mC} = 10^{-3}\text{C}$ .
  - b) 'q=ne', with 'n' being the number of electrons, and e being the charge.
  - c)  $e = 1.6 \times 10^{-19}\text{C}$ .
  - d) All of the above.
17. Which of the following is/are True with reference to Direct Current
- a) It is a current of constant magnitude, flowing in one direction
  - b) the Unit of current = Unit of charge / Unit of time
  - c) A battery cell is a source of direct current.
  - d) All the above are true