Important Questions

Science

Ques1: Derive an expression for potential energy of a body of mass m which is taken to a height h above ground.

Ques2: Define Power. Calculate the power of the motor pump which pumps 250 kg of water to a height of 15m in 10 minutes. (Take g= 10 m/s²)

Ques3: State Archimedes Principle. Write its applications.

Ques4: An element 'M' with atomic number 12 forms an oxide. Give the formula of its oxide.

Ques5: Calcium and Argon have atomic numbers 20 and 18 respectively but the mass numbers of both of them is 40u. What is the relation between these two elements?

Ques6: What are polyatomic ions ? give two examples.

Ques7: Define Atomicity.

Ques8: A block of wood of mass 10kg and dimensions 40cm x 10cm x 30cm is placed on the table top. Find the minimum pressure and maximum pressure exerted by the block on the table.

Ques9: A boy of mass 40kg runs up a flight of 50 steps, each of 10cm height in 5s. Find the power developed by the boy.

Ques 10: How is Density different from Relative Density?

Ques11: Draw Nitrogen cycle. Explain the different steps.

Ques12: Highlight differences between Cryptogams and Phanerogams giving examples.

Ques13: Differentiate between Fungi and Monera.

Ques14 : What do mean by Mechanical energy of the body? Prove that the law of conservation of energy holds true in case of a freely falling body.

Ques15: A gas exerts pressure on the walls of the container. Give reason.

Ques16: What is the molecular mass of-

   (a) Calcium Hydroxide
   (b) Sodium Carbonate
   (c) Ammonium Sulphate
   (d) Hydrogen Chloride
   (e) Aluminium Oxide

Ques17: How many grams of Neon will have the same number of atoms as 4g of Ca?

Ques18: Give the electronic configuration and valency of He, Ne and Ar. Why are these elements inert?

Ques19: State the law of conservation of energy.

Ques20: How is thrust different from pressure? What are the factors on which it depends upon?

Ques21: Summarize the rules for writing of distribution of electrons in various shells for the first eighteen elements.

Ques22: Explain Plantae and Animalia with its subdivision.

Ques23: What are the steps and rules of writing a chemical formula?

Ques24: State the postulates of Bohr's Model of an atom.

Ques25: Write the difference between the types of mixtures.

Ques26: Describe different types of Meristems.

Ques27: Explain how the human ear works.

Ques28: Explain the functions of Nervous Tissue.

Ques29: Differentiate between:

(a) Blood and Lymph
(b) Voluntary and Involuntary muscle
(c) Striated, Unstraited and Cardiac muscle
(d) Parenchyma, Collenchyma and Sclerenchyma
(e) Meristematic and Permanent tissue

Ques30: Fill in the blanks:

(1) The maximum number of electrons which can be accommodated in any energy level of the atom is ---------
(2) Mass Number = -------- + Number of electrons
(3) The arrangement of electrons in which the various shells of an atom of the element is known as ----------
(4) The maximum number of electrons in M shell are ----------
(5) The electrons present in the outermost shell of an atom are known as ---------- electrons.
(6) ----------- Is the capacity of combining atoms and elements with each other.
(7) Octet can be achieved by ----------, ---------- and ----------
(8) Elements in common salt are ---------- and ---------