

ATOMIC ENERGY CENTRAL SCHOOL NO. 3 RAWATBHATA

CLASS 09 - SCIENCE

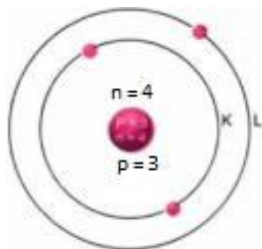
PT-3 (2019-20)

Time Allowed: 1 hour and 30 minutes

Maximum Marks: 40

Section A

- Conversion of solid directly into its vapour form is called : [1]
 - evaporation
 - vaporisation
 - distillation
 - sublimation
- Add dil. HCl to (i) mixture of Fe and sulphur (ii) iron sulphide and choose the correct observation: [1]
 - Mixture of iron and sulphur reacts with HCl to give H₂S gas
 - FeS does not react with HCl
 - FeS reacts with HCl to give H₂ gas
 - Mixture of iron and sulphur reacts with HCl to give H₂ gas
- What is the atomic number of the following figure? (given n = 4, p =3) [1]



- 3
 - 7
 - 4
 - 1
- A girl stands on a box having 60 cm length, 40 cm breadth and 20 cm width in three ways. In which of the following cases, pressure exerted by the brick will be [1]
 - maximum when width and length from the base
 - maximum when length and breadth from the base
 - maximum when breadth and width from the base
 - the same in all the above three cases
 - The mass of body is 10 kg at a place where $g = 10 \text{ m/s}^2$, its weight is [1]
 - 100 N
 - 1000 N
 - 10 N
 - 1 N

Section B

- Give reason for the following observations. [3]
 - Naphthalene balls disappear with time without leaving any solid.
 - We can get the smell of perfume sitting several metres away.

7. Differentiate between chromatin and chromosome. [3]
8. If a potted plant is covered with a glass jar, water vapours appear on the walls of the glass jar. Explain why? [3]
9. A bullet of mass 10 g strikes a sand bag with a velocity of $3 \times 10^3 \text{ m s}^{-1}$ and gets embedded after travelling 5 cm. Calculate [3]
(i) the resistive force exerted by the sand bag on the bullet.
(ii) the time taken by the bullet to come to rest.
10. State Newton's second law of motion, From it, establish the formula For calculation of Force. [3]

Section C

11. Calculate the molar mass of the following substances. [5]
(a) Ethyne, C_2H_2
(b) Sulphur molecule, S_8
(c) Calculate the no. of molecules of Sulphur (S_8) present in 16 g. of solid sulphur
12. (a) Write 3 characteristic features of chordates. [5]
(b) What criteria were used by Whittaker for 5 kingdom classification ?
13. (a) Define Work, Energy and Power. State the SI unit for each of these quantities. [5]
(b) A dog of mass 16 kg is running at a constant speed of 12 ms^{-1} . Calculate the kinetic energy of the dog.
14. 1. Why is prevention better than cure? [5]
2. How can Malaria be prevented and controlled?