

## **CHEMISTRY**

**BOOKS - PSEB** 

# **Structure of the Atoms**

Exercise

**1.** Compare the properties of electron, proton and neutron



**2.** What are the limitations of J.J. Thomson model of atom ?



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**3.** What are the limitations of Rutherford's model of atom?



4. Describe Bohr's model of atom.



**5.** Compare all the proposed models of atom given in the chapter 3 of the text.



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**6.** Summarize the rules for writing of distribution of electrons in various shells for

the first eighteen elements.

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**7.** Define valency by taking examples of silicon and oxygen.



8. Explain with examples : Atomic number



**9.** Explain with examples : Mass number



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**10.** Explain with examples : Isotopes



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**11.** Explain with examples : Isobars.



**12.**  $Na^+$  has completely filled K and L shells. Explain.



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13. If bromine atom is in the form of say isotopes  $^{79}_{35}Br$  (49.7%) and  $^{81}_{35}Br$  (50.3%) then calculate the average mass of bromine atom.



**14.** The average atomic mass of a sample of an element X is 16.2 u, what are the percentages of isotopes  $^{16}_8X$  and  $^{18}_8X$  in the sample?

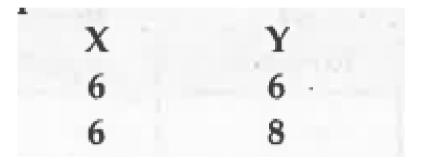


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**15.** IfZ= 3, what would be the valency of the element? Also, name the element



**16.** Composition of the nuclei of two atomic species X and Y are given as under: Give the mass numbers of X and Y. What is the relation between the two species?





**17.** (true/false) J.J. Thomson proposed that the nucleus of an atom contains only nucleons.

**18.** (true/false) A neutron is formed by an electron and a proton combining together. Therefore, it is neutral



**19.** (true/false) The mass of an electron is about 1/2000 times that of proton.



**20.** (true/false) Isotope of iodine is used for making tincture iodine, which is used as a medicine



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**21.** Put tick ( $\sqrt{\ }$ ) against correct choice and cross (x) against wrong choice in following question : Rutherford's alpha-particle scattering experiment was responsible for the discovery of:

- A. Atomic Nucleus
- B. Electron
- C. Proton
- D. Neutron

### **Answer:**



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**22.** Put tick ( $\sqrt{\ }$ ) against correct choice and cross (x) against wrong choice in following question: Isotopes of an element have:

- A. the same physical properties
- B. different chemical properties
- C. different number of neutrons
- D. different atomic numbers.

#### **Answer:**



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**23.** Put tick ( $\sqrt{\ }$ ) against correct choice and cross (x) against wrong choice in following

question: Number of valence electrons in  $Cl^-$  ion are: A. 16 B. 8 C. 17 D. 18 **Answer: Watch Video Solution** 

**24.** Which one of the following is a correct electronic configuration of sodium?

- A. 2,8
- B. 8,2,1
- C. 2,1,8
- D. 2,8,1.

#### **Answer:**

