

T2-Atomic Structure  
Model Question Paper V

8th Standard

Science

Reg.No. : 

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I. Answer all the questions

Time : 01:45:00 Hrs

Total Marks : 40

5 x 1 = 5

Part-A

- 1) The same proportion of carbon and oxygen in the carbon dioxide obtained from different sources proves the law of \_\_\_\_\_.  
(a) reciprocal proportion (b) definite proportion (c) multiple proportion
- 2) In water, hydrogen and oxygen are combined in the ratio of \_\_\_\_ by mass.  
(a) 1:8 (b) 8:1 (c) 2:3
- 3) Which one of the following is a wrong statement, regarding the postulates of Dalton's Atomic Theory.  
(a) Matter is made up of small indivisible particles called atoms. (b) Atoms of the same element are different in all respects.  
(c) Atoms of different elements are different in all respects.
- 4) Dalton's Atomic Theory successfully explained the Law of \_\_\_\_\_.  
i) Conservation of Mass  
ii) Definite Proportions  
iii) Radioactivity  
iv) Multiple Proportions  
(a) (i), (ii) and (iii) (b) (i), (iii) and (iv) (c) (i), (ii) and (iv)
- 5) Based on the Thomson's model of an atom, say which of the following statements are correct.  
i) The positive charge is assumed to be uniformly distributed over the atom.  
ii) The electrons are uniformly distributed in the positively charged sphere.  
iii) The electrons attract each other to stabilize the atom.  
iv) The mass of the atom is assumed to be uniformly distributed over the atom.  
(a) (i), (ii) and (iv) (b) (i), (ii) and (iii) (c) (i) and (iii)

Part-B

- 6) \_\_\_\_\_ is a negatively charged particle.
- 7) Proton is deflected towards the \_\_\_\_ charged plate.

2 x 1 = 2

Part-C

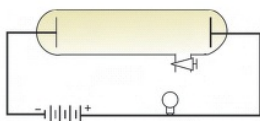
- 8) Cathode rays are made up of large particles with mass and kinetic energy.
- 9) Cathode rays are deflected by the magnetic field.
- 10) Cathode rays depend on the nature of the gas inside the tube.

3 x 1 = 3

Part-D

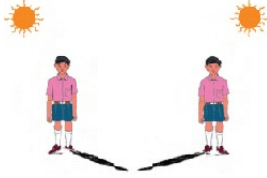
- 11) Why does a light paddle wheel placed in the path of cathode rays begin to rotate, when cathode rays fall on it?
- 12) How can we prove that the electrons carry negative charge?
- 13) Kannagi, Goutam, David, and Saleem collected different samples of water from a well, a pond, a river and underground water. All these samples were sent to a testing laboratory. The test result showed the ratio of hydrogen to oxygen as 1:8.  
a) What conclusion would you draw from the above experiment?  
b) Which law of chemical combination does it obey?
- 14) The postulates of Dalton's law are given below:  
a) Atom can neither be created nor destroyed.  
b) Atoms of different elements may combine with each other in a fixed simple whole number ratio to form compound atoms.  
i. Which postulate of Dalton's atomic theory is based on the Law of Definite Proportions?  
ii. Which postulate of Dalton's Atomic Theory is based on the Law of Conservation of Mass?
- 15) Rani prepared carbon monoxide in the laboratory. It contained 15g of carbon and 20g of oxygen. Ram also prepared carbon monoxide but using another method. It contained 42.9% of carbon. Show that the data of Rani and Ram are in accordance with the Law of Definite Proportions.
- 16) Cathode rays fall on a small object between the cathode and the anode. A shadow of the same size and shape as that of the object is observed on the wall opposite to the cathode. What conclusion can you draw from the above statement regarding the properties of cathode rays?
- 17) Gomathi filled a discharge tube with a particular gas and connected it as shown in the figure.

10 x 3 = 30



She applied high voltage but the bulb did not glow. What should Gomathi do to make the bulb glow?

18) Observe the size and direction of your shadow, when you stand in the sunlight in the morning and in the evening.



(i) Is the length of your shadow the same as your height?

(ii) What is the direction of the shadow? Does it fall in the direction of the source of light or in the direction opposite to the light source?

(iii) Compare the nature of the shadow formed in this activity with that of the shadow formed when an object is kept in the path of the cathode rays.

19) Cathode and Anode rays are negatively and positively charged particles respectively. They travel in a direction opposite to each other. Why don't they get neutralized?

20) Why did Thomson assume that electrons are embedded in a positively charged sphere? Why did he not assume that they are positively charged particles embedded in a negatively charged sphere?

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