APPENDIX

A STUDY OF EFFECTIVENESS OF E-CONTENT FOR TEACHING CHEMISTRY TO CLASS IX STUDENTS IN TERMS OF ACHIEVEMENT

INSTRUCTIONS

Dear students, I am conducting a master level dissertation on the above topic. You are requested to answer the given questions without any hesitation. Your answer will be used for research purpose only and the answers given by you will be kept confidential. Please do not leave any item un-attempted. Soliciting your kind cooperation.

In the following page, there is a question paper consisting fifteen multiple choice questions on the topic 'Atomic Structure'. There are four choices for each question and each question carries 2 marks. You have to choose only one. So read each question carefully and mark tick (✓) beside the right answer.

Please fill up the following information.

Name of the student-.....

Standard-..... Age: ..... Gender: .....

Name of the school: .....

Total Marks Obtained in Previous Examination-.....

Full Marks-.....

Regards

Investigator

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CHEMISTRY ACHIEVEMENT TEST PAPER

Time 30mins. **Full mark 30**

NAME OF THE STUDENT ---------- CLASS IX

SCHOOL NAME _____Roll no. _____gender_____

Q 1. Which of the following correctly represents the electronic distribution in the Mg atom?

(a) 3, 8, 1

(b) 2, 8, 2

(c) 1, 8, 3

(d) 8, 2, 2

Q 2. Rutherford's 'alpha (α) particles scattering experiment' resulted in the discovery of

(a) electron

(b) proton

(c) nucleus in the atom

(d) atomic mass

Q 3. The number of electrons in an element X is 15 and the number of neutrons is 16. Which of the following is the correct representation of the element?

(a) 3115X

(b) 3116X

(c) 1615X

(d) 1516X

Q 4. Which of the following are true for an element?

(i) Atomic number = number of protons + number of electrons

(ii) Mass number = number of protons + number of neutrons

(iii) Atomic mass = number of protons = number of neutrons

(iv) Atomic number = number of protons = number of electrons

(a) (i) and (ii)

(b) (i) and (iii)

(c) (ii) and (iii)

(d) (ii) and (iv)

Q 5. Atomic models have been improved over the years. Arrange the following atomic models in the order of their chronological order

(i) Rutherford's atomic model

(ii) Thomson's atomic model

(ii) Bohr's atomic model

(a) (i), (ii) and (iii)

(b) (ii), (iii) and (i)

(c) (ii), (i) and (iii)

(d) (iii), (ii) and (i)

Q 6. The ion of an element has 3 positive charges. Mass number of the atom is 27 and the number of neutrons is 14. What is the number of electrons in the ion?

(a) 13

(b) 10

(c) 14

(d) 16

Q 7. The first model of an atom was given by

(a) N. Bohr

(b) E. Goldstein

(c) Rutherford

(d) J.J. Thomson

Q 8. An atom with 3 protons and 4 neutrons will have a valency of

(a) 3

(b) 7

(c) 1

(d) 4

Q 9. Which of the following statement is always correct?

(a) An atom has equal number of electrons and protons.

(b) An atom has equal number of electrons and neutrons.

(c) An atom has equal number of protons and neutrons.

(d) An atom has equal number of electrons, protons and neutrons.

Q 10. Which of the following statements about Rutherford's model of atom are correct?

(i) Considered the nucleus as positively charged.

(ii) Established that the a-particles are four times as heavy as a hydrogen atom.

(iii) Can be compared to solar system.

(iv) Was in agreement with Thomson's model.

(a) (i) and (iii)

(b) (ii) and (iii)

(c) (i) and (iv)

(d) only (i)

Q 11. Hydrogen exists in three isotopic forms, 11H, 21H, 31H known as protium, deuterium and tritium. Why are all the isotopes neutral in nature?

(a) Since neutrons are neutral in nature hence isotopes are electrically neutral.

(b) All the isotopes have one electron and one proton, hence they are neutral.

(c) All the isotopes have one proton and one neutron, hence they are neutral.

(d) Increasing number of protons in the isotopes make them neutral.

Q 12. How many electrons are present in M-shell of an element with atomic number 20?

(a) 5

(b) 8

(c) 12

(d) 18

Q 13. There are two atomic species X and Y, such that Which of the following statements is true about X and Y?

(a) X and Y are isobars.

(b) X and Y have different chemical properties.

(c) X and Y have different physical properties.

(d) All of these.

Q 14. The ion of an element has 3 positive charges. Mass number of the atom is 27 and the number of neutrons is 14. What is the number of electrons in the ion?

(a) 13

(b) 10

(c) 14

(d) 16

Q 15. An alpha particle is also known as:

(a) subatomic particle

(b) an unionised helium atom

(c) a neutral particle

(d) a doubly-charged helium ion