

# FIRST TERMINAL EVALUATION 2017-18

## CHEMISTRY

Standard: IX

Time: 1½ Hr  
Score: 40**Instructions:**

1. First 15 minutes is given as cool off time. This time is to be used for reading and understanding the questions.
2. Answer the questions based on instructions.
3. Answer the questions according to the score and time.

**Answer any three questions from 1 to 4. (Each question carries 1 score) (3x1=3)**

1. "Mass is neither created nor destroyed in a chemical reaction." Name the scientist who put forward this idea?
2. Which isotope is used to determine the age of fossils?
3. Which element has the highest electronegativity?
4. Which type of chemical bond is in Oxygen molecule?  
(Single bond, Double bond, Triple bond)

**Answer any five questions from 5 to 10. (Each question carries 2 score) (5x2=10)**

5. Among the following, select the statement suitable for Bohr model of atom.
  - a) Atoms cannot be divided during chemical reaction.
  - b) Electrons revolve around the nucleus in fixed paths called orbits or shells.
  - c) Atoms of different elements have different properties.
  - d) The energy of the shells increases as the distance from the nucleus increases.
6. 'Atoms are electrically neutral'. Justify your answer.
7. One of the observations of Rutherford's gold foil experiment is given. Write the inference.

Observation	Inference
some alpha particles are deviated in small angles.	

8. The outermost shell of an element with three shells contains 8 electrons.
  - a) Write the electronic configuration of the element.
  - b) Does the element take part in chemical reaction? Give reason.

9. Give two conditions in which covalent compounds show polar nature.
10. Some statements are given below. Select those suitable for ionic compounds.
- Soluble in water.
  - Do not conduct electricity.
  - Conducts electricity in both aqueous and molten states.
  - They exist in all the three states.

Answer any five questions from 11 to 16. (Each question carries 3 score)

(5x3=15)

11. Write three merits of Mendeleev's periodic table.
12. Observe the symbols of elements given in the box.

$^{40}_{18}\text{Ar}$	$^{14}_6\text{C}$	$^{40}_{20}\text{Ca}$	$^{12}_6\text{C}$
-----------------------	-------------------	-----------------------	-------------------

- Find out the pairs of isotopes and specify the reason.
  - Which isotope of Hydrogen is used in atomic reactors?
13. The mass number of an element is 23 and its atomic number is 11.
- Find the number of electrons.
  - Find the number of neutrons.
  - Write the electronic configuration.
14.  $\text{C}^0 + 2\text{Cl}_2^0 \longrightarrow \text{C}^{+4}\text{Cl}^{-1}_4$
- Find out the oxidising agent and reducing agent in the above chemical equation. Justify your answer.
15. Draw the electron dot diagram of the formation of Magnesium oxide from the combination of Magnesium and Oxygen.
- (Hint: Atomic number - Mg=12, O=8)
16. Find the type of chemical bond in  $\text{MgCl}_2$  and  $\text{CH}_4$  based on the electronegativity values. Justify your answer.

Hint: Electronegativity :

Mg=1.31                      Cl=3.16,  
C=2.55                        H=2.2

Answer any three questions from 17 to 20. (Each question carries 4 score)

(3x4=12)

17. Match those given in column A with those given in column B.

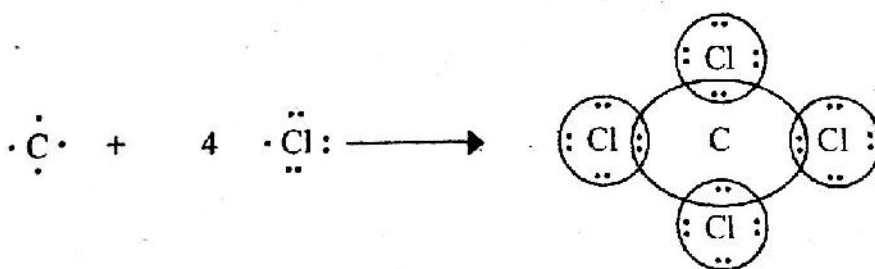
A	B
a) Law of Octaves	Lavoisier
b) Triads	Lothar Meyer
c) Atomic mass- atomic volume graph	Newlands
d) Metals, Non-metals	Dobereiner

18. Certain elements and their valencies are given below.

Element	Valency
Na	1
Mg	2
O	2
Cl	1

Write the chemical formula of all the compounds formed by the above elements.

19. The atomic number of an element is 15. Its mass number is 31. Write the electron configuration and draw its Bohr model.
20. The electron dot diagram of the formation of Carbon tetrachloride ( $\text{CCl}_4$ ) is represented below. Observe the figure and answer the following questions.



- How many electrons are required to complete the octet of carbon atom?
- How many electrons are required to complete the octet of Chlorine atom?
- How many atoms of Chlorine should combine with Carbon to complete its octet?
- Which type of chemical bond is associated with this molecule formation?