SECOND TERMINAL EVALUATION 2016-17

B

CHEMISTRY

Standard : IX

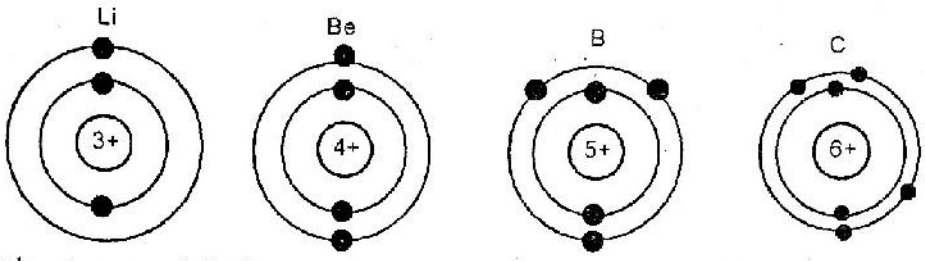
Score : 40

Time : 1½ hour

Instructions

1. First 15 minutes is given as cool off time. This time is to be used for reading and understanding the questions.
2. Write down answers for all questions.
3. The score for each question is given along with the question.

1.



The Bohr atom model of some elements belong to the second period are shown in order.

a) The size of atom decreases as we move from left to right in a period. Why? (2)

b) What is the group number of the element Be (Beryllium)? How many protons are there in this atom? (2)

2. $\overset{A}{\text{.....}} + \text{heat} \rightarrow K_2MnO_4 + MnO_2 + O_2$

a) Identify the substance 'A'? (1)

b) Write any one method to identify oxygen gas. (1)

c) Give the industrial preparation of oxygen? (1)

3. Identify the wrong statements and correct accordingly.

i) As the size of the atoms increases, ionization energy decreases.

ii) As we move from left to right in a period, ionization energy decreases.

iii) As the ionization energy increases, metallic character increases.

iv) As the nuclear charge increases, ionization energy increases along a period. (2)

4. Analyse the given table and answer the following questions by choosing suitable element.

Group number	Element
2	Mg
11	Cu
18	Ar
7	Mn

a) Element which usually does not take part in chemical reactions.

b) Transition elements

c) Alkaline earth metals

d) Representative elements (4)

5. The chemical equations for the laboratory preparation of nitrogen gas are given below.

$$NH_4Cl + NaNO_2 \rightarrow NH_4NO_2 + NaCl$$

$$NH_4NO_2 \rightarrow N_2 + 2H_2O$$

a) Give the chemical names of the reactants used to prepare nitrogen. (1)

b) Identify the unstable compound formed during the reaction? (1)

c) Write any two uses of nitrogen. (2)

6. $H_2CO_3 \rightarrow H^+ +$ .....(A)..... .

A $\rightarrow H^+ +$ .....(B).....

The above chemical equations are incomplete.

a) Find out A and B, and complete the equation. (2)

b) Acids are classified as monobasic, dibasic and tribasic. Which one of these types do H_2CO_3 belongs to? (1)

c) Identify the salt formed by the reaction between carbonic acid and calcium hydroxide? (1)

7. i) What are the limitations in using hydrogen as a common fuel ? (1)

ii) What is heavy water? Write any one use. (1)

8. A. pH values of some substances are given below. Analyse these values and answer the following.

Substance	pH value
Vinegar	4.2
Lime water	10.5
Water	7
Toothpaste	8.7
Blood	7.36

a) Which substance is acidic? (1)

b) Which is the strongest alkali? (1)

c) What is the importance of pH in agriculture? (1)

OR

B. Analyse the table and answer the questions following.

Substance	pH value
A	11
B	2
C	7

a) Which is the neutral substance? (1)

b) Which substance can produce carbon dioxide when treated with carbonates? (1)

c) Which substance can possibly provide OH^- ions when it dissolves in water? (1)

9. Ammonia is a gas having industrial importance.

a) Which reagents are used to produce ammonia in laboratory? (1)

b) Name the substance used for drying ammonia? (1)

c) Why ammonia is collected in an inverted gas jar? (1)

10. Certain cations, anions and their corresponding salts are given below. Complete the table. (3)

Cations	Anions	Salts
(i)	Cl^-	$MgCl_2$
Na^+	(ii)	NaCl
NH_4^+	SO_4^{2-}	(iii) .....

11. SO_2 is a gas responsible for acid rain.

a) Name the acid formed when SO_2 dissolves in water? (1)

b) Give the balanced chemical equation for the above reaction. (1)

12. A portion of the periodic table is given below.

(Hint: The atomic number of 'X' is 8)

		X	
	Y	Z	

a) In which period does X belong to? (1)

b) How many electrons are there in the outermost shell of the element Y? (1)

c) Which one of these elements has the highest electronegativity? (1)

d) Why the elements X and Z shows similarities in their chemical properties? (1)

13. "The use of 'CFC' is restricted in several countries." Explain the factors behind this statement. (2)