

(b) What happens when sodium hydroxide is made to react with ferrous sulphate. [2]

(c) Complete the table :- [6x½=3]

	Elements	Electronic Configuration	Valence Electrons	Valency
i)	$_{11}\text{Na}$	—	—	—
ii)	$_{17}\text{Cl}$	—	—	—

(d) Complete the given table :- [6x½=3]

	Element/Iron	Atomic No.	Protons	Neutrons	Electrons
i)	$_{19}^{39}\text{K}^+$	19	(1)_____	(2)_____	(3)_____
ii)	$_{17}^{35}\text{Cl}^-$	(4)_____	_____17	(5)_____	(6)_____

## Half Yearly Examination 2018-2019 Chemistry

Class : VIII

Time : 2 hrs. + 15 Mins.

Full Marks : 80

### Section A [40 Marks] Attempt all questions.

#### Question - 1

(a) Fill in the blanks :- [5]

- \_\_\_\_\_ displaces hydrogen from hot concentrated acids only.
- Carbon due to its property of \_\_\_\_\_ has maximum tendency to form chain.
- Isotopes of same element have the same \_\_\_\_\_ number but different \_\_\_\_\_ number.
- Nuclear wastes release high energy radiations which can cause \_\_\_\_\_.

(b) Write the chemical name of the following :— [5]

- NaF
- $\text{CuSO}_4$
- $\text{Al}_2\text{S}_3$
- $\text{Mg}(\text{OH})_2$
- FeO

(c) Balance the following chemical equations :- [5]

- $\text{NH}_3 + \text{H}_2\text{SO}_4 \longrightarrow (\text{NH}_4)_2\text{SO}_4$
- $\text{HgS} + \text{O}_2 \longrightarrow \text{HgO} + \text{SO}_2$
- $\text{Ag}_2\text{O} \longrightarrow \text{Ag} + \text{O}_2$
- $\text{Na} + \text{H}_2\text{O} \longrightarrow \text{NaOH} + \text{H}_2\uparrow$
- $\text{Fe}_2\text{O}_3 + \text{H}_2 \longrightarrow \text{Fe} + \text{H}_2\text{O}$

(d) Write the chemical formulae of the following compounds : [5]

- (i) Barium hydroxide
- (ii) Magnesium nitride
- (iii) Potassium permanganate
- (iv) Sodium bisulphate
- (v) Cobalt nitrate

(e) Name the following :- [5]

- (i) One allotrope of carbon that is a good conductor of electricity.
- (ii) The gas that lends fizziness to cola drinks.
- (iii) A highly poisonous gas used in chemical warfare.
- (iv) The scientist who discovered Radium and Polonium.
- (v) One allotropic form of carbon whose molecular structure looks like a football.

(f) What do you observe when :- [5]

- (i) Copper carbonate is heated.
- (ii) Zinc is treated with dilute hydrochloric acid.
- (iii) Copper sulphate crystals are heated.
- (iv) Dilute hydrochloric acid is added to marble chips.
- (v) Carbon dioxide is bubbled through lime water.

(g) Calculate the relative molecular mass of the following compounds :- [4]

- (i)  $\text{Ca}(\text{NO}_3)_2$
- (ii)  $(\text{NH}_4)_3\text{PO}_4$

Given atomic mass ; Ca = 40, N = 14, O = 16, H = 1, P = 31

Question - 5

(a) Differentiate between diamond and graphite on the basis of :- [3]

- (i) Physical state
- (ii) hardness
- (iii) specific gravity.

(b) State giving a reason whether the underlined substance is getting oxidised or reduced. [4]

- (i)  $\underline{\text{PbO}} + \text{CO} \longrightarrow \text{Pb} + \text{CO}_2$
- (ii)  $\underline{2\text{Mg}} + \text{CO}_2 \longrightarrow 2\text{MgO} + \text{C}$

(c) Write the composition of subatomic particles of the sulphur atom, given the symbol  ${}^{32}_{16}\text{S}$ . [3]

Question - 6

(a) How are the following dried and collected in the laboratory? [4]

- (i)  $\text{CO}_2$
- (ii)  $\text{CO}$

(b) An atom has 12 electrons and 12 neutrons. Find its atomic number and mass number. Also represent the atom symbolically. [3]

(c) Graphite finds its usage in the following ways. Why ? [3]

- (i) As a lubricant for machine parts.
- (ii) In the manufacture of electrodes.
- (iii) In nuclear reactors as moderators.

Question - 7

(a) Give balanced equation for the action of heat on  $\text{Na}_2\text{CO}_3 \cdot 10\text{H}_2\text{O}$ . [2]

{Turn Over}

(h) **Mention whether the following compounds are soluble or insoluble. (Based on the solubility chart). [4]**

- (i) KCl (ii) CaCO<sub>3</sub>  
(iii) NaNO<sub>3</sub> (iv) CaSO<sub>4</sub>

(i) **List any two safety measures that must be adopted while handling nuclear substances. [2]**

**Section B [40 Marks]**

**Attempt any four questions.**

**Question - 2**

(a) **Answer the following :-**

- (i) Name the two hydrogen isotopes that combine to form helium atom. [2]  
(ii) Where does the above process occur naturally. [1]  
(iii) What is the significance of above process. [2]  
(iv) Name the process. [1]

(b) **Explain :- [4]**

- (i) Carbon monoxide is used in metallurgy.  
(ii) A blue flame is often observed on the top of a coal fire.

**Question - 3**

(a) **State whether the following are true or false; if false then correct the statement. [2]**

- (i) If diamond is heated above 1500°C in absence of air, it is transformed into graphite.  
(ii) Diamond is opaque to X-rays.

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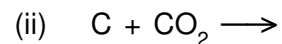
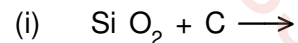
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(b) Complete and balance : also write the conditions necessary to bring about the change. [4]



(c) Name the following :- [4]

(i) An oxide that is yellow and fuses with the test tube on heating.

(ii) A black solid that is an oxidising agent.

(iii) Two radioactive substances.

**Question - 4**

(a)  ${}_8\text{X}^{16}$ ,  ${}_{13}\text{X}^{27}$ ,  ${}_{18}\text{X}^{40}$  represent atoms of three elements; [3]

Which atom has the tendency to

(i) lose electrons.

(ii) gain electrons.

(iii) neither lose nor gain electrons.

(b) List any two uses of radioactivity. [2]

(c) Classify the following examples of a physical chemical or both the kinds of changes. [3]

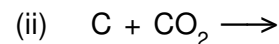
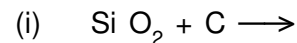
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(ii) A pellet of sodium is sliced into two.

(iii) Sodium hydroxide dissolves in water.

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