

## Summary Quiz (The Periodic Table)

### Section A: Multiple-choice questions

Questions 1 and 2 refer to the following part of the Periodic Table.

Period	Group								
		I	II	III	IV	V	VI	VII	0
2		Li	Be	B	C	N	O	F	Ne
3		Na	Mg	Al	Si	P	S	Cl	Ar

- Which element is the most reactive non-metal?
  - F
  - Cl
  - Ne
  - Ar
- Which element is the most abundant element on the Earth?
  - C
  - O
  - Al
  - Si
- Which of the following statements about nitrogen-14 is correct?
  - It has two occupied electron shells.
  - It has five electrons in the outermost shell.
  - Its relative atomic mass is 14.
  - (1) and (2) only
  - (1) and (3) only
  - (2) and (3) only
  - (1), (2) and (3)
- Which of the following metals reacts with water most vigorously?
  - Li
  - Na
  - K
  - Rb
- Rubidium is an alkali metal. The electronic arrangement of rubidium is 2, 8, 18,  $r$ ,  $s$ . Which of the following combinations of the values of  $r$  and  $s$  are correct?
 

	$r$	$s$
A.	18	1
B.	18	3
C.	8	1
D.	8	2
- Radium is a Group II element in Period 7. Which of the following statements is INCORRECT?
  - Radium forms  $\text{Ra}^{2+}$  ion.
  - Radium reacts with water to give hydrogen.
  - Radium hydroxide is an alkali.
  - Radium is an alkali metal.

7. Which of the following statements about chlorine and bromine is INCORRECT?
- A. They are coloured substances.
  - B. They have the same physical state at room conditions.
  - C. They belong to the same group in the Periodic Table.
  - D. They react with metals to form ionic compounds.
8. Which of the following statements about neon is correct?
- (1) It belongs to Group 0 in the Periodic Table.
  - (2) It has no reaction with metals.
  - (3) It can be used in advertising signs.
- A. (1) and (2) only
  - B. (1) and (3) only
  - C. (2) and (3) only
  - D. (1), (2) and (3)

### Section B: Structured questions

Caesium is a very soft metal. It has a melting point of  $28.4^{\circ}\text{C}$ . It reacts explosively with water even at very low temperatures to give an alkaline solution.

- (a) To which group in the Periodic Table does caesium belong?
- (b) Name a metal that shows similar properties to caesium.
- (c) Suggest a safety precaution for handling caesium in the laboratory.
- (d) Caesium reacts with halogens to give ionic compounds.
  - (i) Name the halogen that is a liquid at room conditions.
  - (ii) How many electrons are there in the outermost shell of a halogen atom?
  - (iii) Which element, fluorine or chlorine, is more reactive towards caesium? Explain your answer.

## Suggested Answer

### Section A: Multiple-choice questions

1.	A	5.	C
2.	B	6.	D
3.	A	7.	B
4.	D	8.	D

### Section B: Structured questions

(a) Group I

(b) Rubidium

(c) Wear safety spectacles / protective gloves.

(d) (i) Bromine

(ii) 7

(iii) Fluorine

Fluorine is at a higher position in the group. Reactivity of Group VII element decreases down the group.