

Summer Vacation Homework – Chemistry – O'2

Q1. (a) Choose from the following elements to answer the questions.

- calcium
- chlorine
- chromium
- copper
- krypton
- nitrogen
- oxygen
- sodium
- sulfur

Each element may be used once, more than once or not at all.

Which element:

- (i) is a monatomic gas,
.....[1]
- (ii) makes up 78% of dry air,
.....[1]
- (iii) has an oxide which reacts with the impurities in a blast furnace to form slag,
.....[1]
- (iv) forms aqueous ions with a 2+ charge which give a dark blue solution on addition of excess aqueous ammonia,
.....[1]

(b) Complete the table to show the number of electrons and number of neutrons in the sulfur atom and in the magnesium ion.

	number of electrons	number of neutrons
$^{33}_{16}\text{S}$		
$^{25}_{12}\text{Mg}^{2+}$		

[4]