

Question 5

The table below shows eight elements **Q** to **X** with consecutive proton number.

Element	Q	R	S	T	U	V	W	X
Valence electronic configuration	$3s^2 3p^1$		$3s^2 3p^3$					$4s^2$

From the table,

a) Write the ground state valence electronic configuration of elements **R**, **T**, **U**, **V** and **W** and state their most stable oxidation numbers.

Element	Ground state valence electronic configuration	Most stable oxidation numbers	Z_{eff}
R			
T			
U			
V			
W			

b) Choose one

i) Noble gas

ii) Alkaline earth metal

iii) Group 14

iv) Element that form acidic oxide

v) Element that form basic oxide

vi. Element that forms amphoteric oxides

${}_{11}\text{N} = 1s^2 2s^2 2p^6 3s^1$
 $Z_{\text{eff}} = \text{proton number} - \text{inner shell electron}$
 $= 11 - 10$
 $= +1$

vii) Biggest size of atom

viii) Smallest size of atom



Remember!

Size of atom $\propto \frac{1}{\text{electronegativity}}$

ix) Weakest Electronegativity

x) Strongest electronegativity



Remember!

size of atom $\propto \frac{1}{I.E.}$

xi) Lowest first Ionization energy

xii) Highest first ionization energy