

8. Which of these statements about the nucleus of an atom is **incorrect**?
- A. The nucleus is very small in comparison with the total size of the atom.  
 B. Nearly all the mass of the atom is found in the nucleus.  
 C. The nucleus is the central part of the atom.  
 D. The nucleus always contains equal numbers of protons and neutrons ( )
9. The two atoms  $^{55}_{25}\text{Mn}$  and  $^{56}_{26}\text{Fe}$  have the same number of \_\_\_\_\_.
- A. electrons  
 B. protons  
 C. neutrons  
 D. protons and neutrons ( )
10. Which of these contains the most number of atoms?
- A. Four molecules of methane gas  $\text{CH}_4$ .  
 B. Six molecules of oxygen gas  $\text{O}_2$ .  
 C. Three molecules of aluminium oxide  $\text{Al}_2\text{O}_3$ .  
 D. Six molecules of water  $\text{H}_2\text{O}$ . ( )

### SECTION B Structured Questions

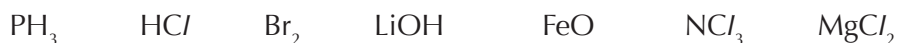
(Total 30 marks)

11. Draw a line to match the definition to the part of the atom to which it applies.

Definition		Part of atom
Positively-charged particle	•	• Nucleus
Negatively-charged particle	•	• Neutron
Small heavy central part of atom	•	• Proton
Atomic particle with no charge	•	• Electron

(4 marks)

12. A molecule is diatomic if it has two atoms, triatomic if it has three atoms and tetraatomic if it has 4 atoms in its molecule. Consider the following molecules:



- (a) Which of these molecules are diatomic?

\_\_\_\_\_ (2 marks)

- (b) Which of these molecules are triatomic?

\_\_\_\_\_ (2 marks)