

10. Three different elements react by losing electrons. The ions formed all have the electronic configuration 2, 8. Which statement about these elements is correct?
- A They are in the same group.
 B They are in the same period.
 C They are noble gases.
 D They are same period and same group.

11. Which three elements exist as diatomic molecules at room temperature?

- A hydrogen, oxygen, helium
 B nitrogen, chlorine, neon
 C nitrogen, oxygen, fluorine
 D oxygen, chlorine, helium

5 elements exist as diatomic molecules at room temperature
 H_2, O_2, F_2, Cl_2, N_2
 (not fluorine)
 D petrol (gasoline)

12. Which is a pure compound?
 A dry air
 B ethanol
 C sugar solution
 D petrol (gasoline)

13. Helium and xenon are both noble gases. What is true of both elements?

	they are chemically inert	the atoms have eight electrons in their outer shell
A	✓	✓
B	✓	x
C	x	✓
D	x	x

* noble gases -
 • 8th group
 • non flammable, colourless
 • orderless
 • extremely stable
 • unreactive.
 $He \text{ (outer)} = 2$
 $Xe \text{ (outer)} = 8$

14. An ion contains 20 electrons and has a charge of +3. From which element was the ion formed?
 A aluminium
 B calcium
 C iron
 D vanadium

15. Which statement about states of matter is correct?
- A When a liquid freezes it becomes a solid and energy is released to the surroundings.
 B When a liquid reaches its boiling point it becomes a gas. This process is called evaporation.
 C When a solid changes directly to a gas the process is called condensation.
 D When a solid melts the particles get further apart and have less energy.

* Same group showing same outer electrons
 * Same periods showing same number of shells
 - Example for pure compound, (Pure substance made up of only one kind of particles and a fixed structure).
 ex:- Tin, Sulfur, ethanol, diamond, gold