

SECTION B.

2.

a) IONIC BONDING DESCRIBES THE TRANSFER OF ELECTRONS BETWEEN ATOMS TO ACHIEVE A COMPLETE OUTER SHELL OF A RECEIVER FROM A DONOR. RECEIVERS WILL HAVE A VALENCY NUMBER HIGHER TO THE MAXIMUM CAPACITY OF THE OUTER SHELL.

COVALENT BONDING IS THE SHARING OF ELECTRONS TO TRY TO ACHIEVE A FULL OUTER SHELL. THIS USUALLY HAPPENS IN NON METALS BETWEEN ATOMS OF SAME OR SIMILAR ELEMENTS ON THE PERIODIC TABLE.

METALLIC BONDING REQUIRES METAL ATOMS TO SHED ELECTRONS FROM THEIR OUTER SHELLS LEAVING SURPLUS ELECTRONS, KNOWN AS DELOCALISED ELECTRONS, TO FILL GAPS MADE BY IONS IN THEIR CLOSELY PACKED LATTICE STRUCTURE. THESE IONS ARE POSITIVELY CHARGED DUE TO THE SHED ELECTRONS. THE NUMBER OF ATOMS IN THESE STRUCTURES IS NOT SET, MEANING THE CHEMICAL FORMULA IS LESS IMPORTANT THAN FOR GASSES.