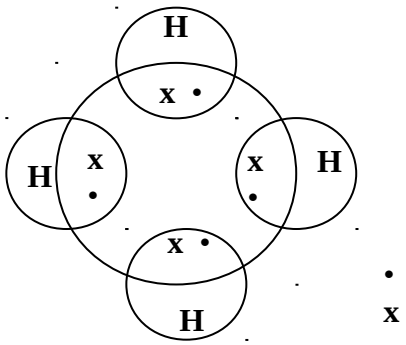
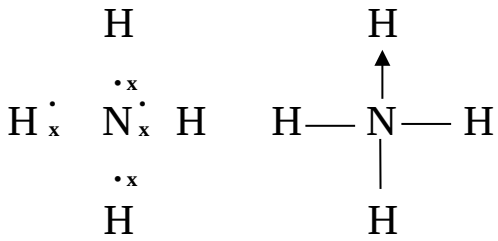
Structure and bonding

1. *Ethanol contains molecules ✓1 which are not✓1 responsible for electrical conductivity*
2. *a) A covalent bond is formed by equal contribution of the shared electrons by the atom. ✓1 Co-ordinate bond is where the shared electrons are contributed by one of the atoms.✓1*

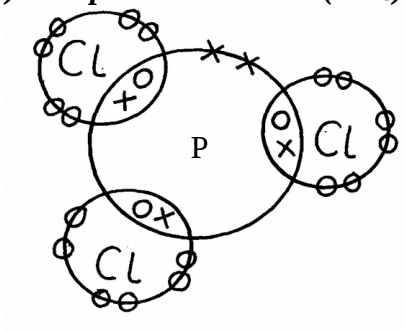
b)



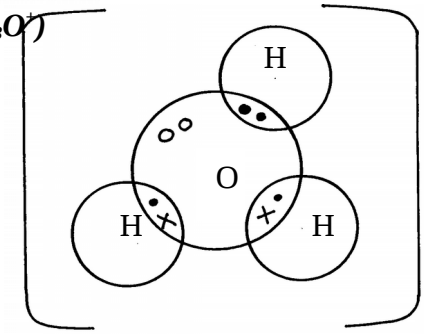
OR



3. *a) Have delocalized valency electrons ✓1*
   b) Aluminium is a better conductor/Aluminium has three delocalized electrons while magnesium has 2. ✓1 It is resistant to corrosion.
4. *In addition to vander waals forces, strong hydrogen✓ bonds exist in ethanol. These bonds require ✓ more energy to break.*
5. *a) Is a covalent bond in which the shared pair of electrons comes from the same atom*
6. *Magnesium has more delocalized electrons than sodium*
7. *(a) Phsophorous chloride (PCl_3)*



(b) Hydroxonium ion (H_3O^+)



8. *Aluminium – it has more delocalized (3) electrons than copper (2 e^-)*
9. *Hydrogen chloride has got only Van der waal while water has H-bonds in addition to Van der waal forces which are stronger*

reaction √1