

## ANSWERS TO MULTIPLE CHOICE QUESTIONS

**(i) Ans: (a)**

In methane, the hybridization of carbon atom is  $sp^3$ .

**(iii) Ans: (c)**

In  $sp^2$  hybridization, the three  $sp^2$  hybrid orbitals are in one plane and angle between them is  $120^\circ$ . So the shape of these three planar  $sp^2$  hybrid orbitals is triangular.

**(v) Ans: (a)**

In  $sp$  hybridization all atom lies in one plane and shape is linear with angle of  $180^\circ$ . Choice (a) is correct.

**(vii) Ans: (c)**

Ethers show the phenomenon of metamerism. Metamers are structural isomers in which a polyvalent atom is attached with different alkyl groups. So in ethers oxygen atom is linked with different alkyl groups to show metamerism.

**(ii) Ans: (d)**

In t-butyl alcohol, the tertiary carbon atom because in tertiary butyl alcohol is attached with three methyl groups.

**(iv) Ans: (c)**

In 1828 the German chemist Wöhler prepared urea from ammonium cyanate.

**(vi) Ans: (b)**

When two atoms share their electrons, the bond is called sigma bond and when two atoms share two electrons, the bond is called pi bond. So that in double bond, one is sigma bond and the other is pi bond.

**(viii) Ans: (a)**

Compounds in which one hydrogen atom of alkyl group is replaced by hydroxyl group are called alcohols because it has  $-OH$  group.