

Bonding and hybridisation in organic compounds

41. Which of the following hybridization is known as trigonal hybridization
 - (a) sp^3
 - (b) sp
 - (c) sp^2
 - (d) dsp^2
42. The types of hybridization present in 1, 2-butadiene are
 - (a) sp, sp^2 and sp^3
 - (b) sp^2 and sp^3
 - (c) sp^2 and sp
 - (d) sp and sp^3
43. The C-H bond distance is longest in
 - (a) C_2H_2
 - (b) C_2H_4
 - (c) C_2H_6
 - (d) C_6H_6
44. Conjugated double bond is present in
 - (a) 1, 2-butadiene
 - (b) 1, 3-butadiene
 - (c) 1, 3-pentadiene
 - (d) β -butylene
45. In which of the following species is the underlined carbon having sp^3 hybridisation
 - (a) $CH_3\text{COOH}$
 - (b) $CH_3\text{CH}_2OH$
 - (c) $CH_3\text{COCH}_3$
 - (d) $CH_2 = \underline{CH} - CH_3$

46. The $H - C - H$ bond angle in CH_4 is
 - (a) $109^\circ 28'$
 - (b) $107^\circ 28'$
 - (c) 90°
 - (d) 180°
47. The hybridisation of carbons of $C - C$ single bond of $HC \equiv C - CH = CH_2$ is
 - (a) $sp^3 - sp^3$
 - (b) $sp - sp^2$
 - (c) $sp^3 - sp$
 - (d) $sp^2 - sp^3$
48. The shape of ethylene molecule is
 - (a) Square planar
 - (b) Furan
 - (c) Trigonal planar
 - (d) Tetrahedral
49. Acetylene molecule has carbon in
 - (a) sp - hybridisation
 - (b) sp^2 - hybridisation
 - (c) sp^3 - hybridisation
 - (d) sp^3d - hybridization
50. In the formation of methane molecule, carbon makes use of
 - (a) sp - hybridised orbitals
 - (b) sp^2 - hybridised orbitals
 - (c) sp^3 - hybridised orbitals
 - (d) Unhybridised orbitals
51. In graphite C-atom is instate
 - (a) sp^3
 - (b) sp
 - (c) sp^2



