

Arjuna JEE 2.0 2026

Chemistry

Chemical Bonding and Molecular Structure

DPP: 5

Total Duration-28 Mins.

- Q1** The species, having bond angles of 120° is
 (A) ClF_3
 (B) NCl_3
 (C) BCl_3
 (D) PH_3
- Q2** Consider the molecules CH_4 , NH_3 and H_2O . Which of the given statements is false?
 (A) The $\text{H} - \text{O} - \text{H}$ bond angle in H_2O is smaller than the $\text{H} - \text{N} - \text{H}$ bond angle in NH_3 .
 (B) The $\text{H} - \text{C} - \text{H}$ bond angle in CH_4 is larger than the $\text{H} - \text{N} - \text{H}$ bond angle in NH_3 .
 (C) The $\text{H} - \text{C} - \text{H}$ bond angle in CH_4 , the $\text{H} - \text{N} - \text{H}$ bond angle in NH_3 , and the $\text{H} - \text{O} - \text{H}$ bond angle in H_2O are all greater than 90° .
 (D) The $\text{H} - \text{O} - \text{H}$ bond angle in H_2O is larger than the $\text{H} - \text{C} - \text{H}$ bond angle in CH_4 .
- Q3** The molecule having smallest bond angle is:
 (A) AsCl_3
 (B) SbCl_3
 (C) PCl_3
 (D) NCl_3
- Q4** In which molecule are all atoms coplanar?
 (A) CH_4
 (B) BF_3
 (C) PF_3
 (D) NH_3
- Q5** Which has the least bond angle
 (A) NH_3
 (B) BeF_2
 (C) H_2O
 (D) CH_4
- Q6** The correct order of bond angles is
 (A) $\text{NO}_2^- > \text{NO}_2^+ > \text{NO}_2$
 (B) $\text{NO}_2^+ > \text{NO}_2^- > \text{NO}_2$
 (C) $\text{NO}_2 > \text{NO}_2^+ > \text{NO}_2^-$
 (D) $\text{NO}_2^+ > \text{NO}_2 > \text{NO}_2^-$
- Q7** The correct order of $\text{H} - \text{M} - \text{H}$ bonds angle is
 (A) $\text{NH}_3 < \text{PH}_3 < \text{SbH}_3 < \text{BiH}_3$
 (B) $\text{AsH}_3 < \text{SbH}_3 < \text{PH}_3 < \text{NH}_3$
 (C) $\text{NH}_3 < \text{PH}_3 < \text{BiH}_3 < \text{SbH}_3$
 (D) $\text{BiH}_3 < \text{SbH}_3 < \text{AsH}_3 < \text{PH}_3$
- Q8** The correct order of bond angles (smallest first) in H_2S , NH_3 , BF_3 and SiH_4 is
 (A) $\text{H}_2\text{S} < \text{SiH}_4 < \text{NH}_3 < \text{BF}_3$
 (B) $\text{H}_2\text{S} < \text{NH}_3 < \text{BF}_3 < \text{SiH}_4$
 (C) $\text{H}_2\text{S} < \text{NH}_3 < \text{SiH}_4 < \text{BF}_3$
 (D) $\text{NH}_3 < \text{H}_2\text{S} < \text{SiH}_4 < \text{BF}_3$
- Q9** Which of the following is the correct order of dipole moment?
 (A) $\text{NH}_3 < \text{BF}_3 < \text{NF}_3 < \text{H}_2\text{O}$
 (B) $\text{BF}_3 < \text{NF}_3 < \text{NH}_3 < \text{H}_2\text{O}$
 (C) $\text{BF}_3 < \text{NH}_3 < \text{NF}_3 < \text{H}_2\text{O}$
 (D) $\text{H}_2\text{O} < \text{NF}_3 < \text{NH}_3 < \text{BF}_3$
- Q10** Among the following molecules, which has the zero-dipole moment?
 (A) BF_3
 (B) H_2O
 (C) NF_3
 (D) ClO_2



Answer Key

Q1 (C)

Q2 (D)

Q3 (B)

Q4 (B)

Q5 (C)

Q6 (D)

Q7 (D)

Q8 (C)

Q9 (B)

Q10 (A)



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