



Time: 3 hours

SUBJECT – CHEMISTRY (NEET | IIT-JEE)

Marks: 50

(Chemical Bonding & Molecular Structure)

NAME OF STUDENT:- _____

DATE:- ____/____/_____

❖ INSTRUCTION:- ATTEMPT ALL QUESTION.

Q1. Which of the following pairs of compounds is isoelectronic and isostructural? [2017]

- (a) TeI_2 , XeF_2 (b) IBr_2^- , XeF_2 (c) IF_3 , XeF_2 (d) BeCl_2 , XeF_2

Q2. The species, having bond angles of 120° is: [2017]

- (a) ClF_3 (b) NCl_3 (c) BCl_3 (d) PH_3

Q3. In the structure of ClF_3 , the number of lone pairs of electrons on central atom 'Cl' is . [2018]

- (a) one (b) two (c) four (d) three

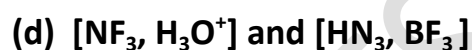
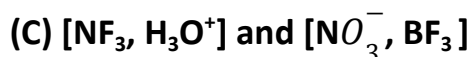
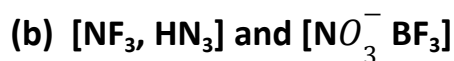
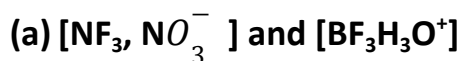
Q4. Which one is the electron deficient compound? [2002]

- (a) ICl (b) NH_3 (c) BCl_3 (d) PCl_3

Q5. PCl_5 exist, but NCl_5 does not exist because

- (a) Nitrogen has no vacant 2-d orbital (b) NCl_5 is unstable
(c) N-atom is much smaller than p (d) Nitrogen is highly inert

Q6. Among the following species identify the isostructural pairs.



Q7. Number of bonds in SO_2

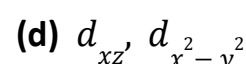
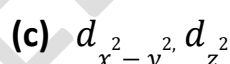
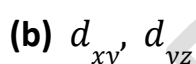
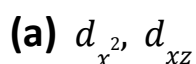
(a) Two σ and two π

(b) Two σ and one π

(c) Two σ , two π and one lone pair

(d) None of these

Q8. In an octahedral structure, the pair of d orbitals involved in d^2sp^3 hybridization is.



Q9. Among the compounds, BF_3 , NCl_3 , H_2S , and BeCl_2 , identify the ones in which the central atom has the same type of hybridisation

(a) BF_3 and NCl_3

(b) H_2S and BeCl_2

(c) NCl_3 and H_2S

(d) NCl_3 and BeCl_2

Q10. The molecule of CO_2 has 180° bond angle. It can be explained on the basis of.

(a) sp^3 hybridisation

(b) sp^2 hybridisation

(c) sp hybridisation

(d) d^2sp^3 hybridization

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