දලාන් මධරංග- රසායන විදපාව විභාග මධපස්ථානය

Special Online Speed Test

අධ්යයන පොදු සහතික පතු (උසස් පෙළ), 2023 අගෝස්තු General Certificate Of Education (Adv. Level) Examination, August 2023





Universal gas constant $R = 8.314 \text{ J K}^{-1} \text{ mol}^{-1}$ Avogadro constant $N_A = 6.022 \times 10^{23} \text{ mol}^{-1}$

Plank's constant $h = 6.626 \times 10^{-34} \text{J s}$ Velocity of light $c = 3 \times 10^8 \text{m s}^{-1}$

Answer all the Questions.

- In which of the following hybridizations of the central atom are not the same? 1.
 - 1) NH₃; NCl₃

- 2) C_2H_4 ; C_2Cl_2
- 3) H₂O; H₂S

- 4) CH₄; CHCl₃
- 5) $BeCl_2$; C_2H_2
- What is the shape of XeO_2F_2 ? 2.
 - 1) Trigonal bipyramidal
- 2) Square planar
- 3) See- saw

4) Tetrahedral

- 5) Square pyramidal
- 3. Which answer consists of square pyramid and T-shape pair of species?
 - 1) XeF, and I,

- 2) XeOF₄ and POF₃
- 3) ICI, and CIF,

- 4) XeOF₄ and CIF₃
- 5) ICl and XeOF,
- 4. In most acceptable Lewis structures of the following species, which has five atoms in the same plane?
 - 1) CCl₄
- 2) SF₄
- 3) XeF₄
- 4) PCl₄
- 5) NH⁺
- 5. Electron geometry of the valence shell of the central atom is most similar to the shape of the species in,
 - (1) H₂O
- (2) H_3O^+ (3) NO_2 (4) SO_2
- (5) SO₃
- Central atom of which of the following species shows sp³ hybridization? 6.
 - (a) NH_4^+
- (b) CH₃
- (c) NO_2^+
- (d) CH_3^+

7. Which molecule or ion hasn't a similar shape to the shape of N₂O

- 1) NO_2^+ 2) CIO_2^-
 - 3) BeCl₂

5) CO₂

8. Which of the following pair of molecules has same electronic geometry?

- H₂O and SO₂
- (2) NH₃ and IF₅ (3) IC ℓ_3 and IC ℓ_2
- (4) CCl₄ and PCl₆⁻
- (5) ICl₃ and CCl₄

9. In below structure oxidation state and valency of X atom are same. X can be,

$$F - X = O$$
 $F - X = O$
 $F -$

- 1) N

10. Identify the molecule or ion from those given below whose shape is distinctly different from that of SO₃²-ion.

- (1) ClO₃
- (2) PCl₃ (3) SOCl₂ (4) H₃O⁺ (5) NO₃⁻