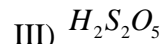
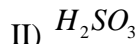
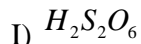


7. Identify the correct sequence of increasing number of π -bonds in the structures of the following molecules (EAMCET 2004M)



1. I, II, III

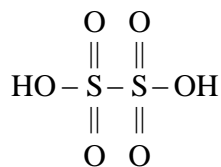
2. II, III, I

3. II, I, III

4. I, III, II

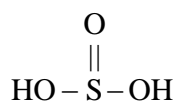
Ans: 2

Sol: i) $H_2S_2O_6$



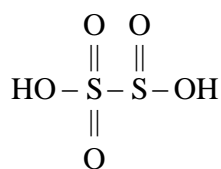
4π bonds

ii) H_2SO_3



1π bond

iii) $H_2S_2O_5$



3π bonds

8. Which one of the following is a correct set? (EAMCET2003 E)

1. H_2O, sp^3 , angular

2. H_2O, sp^2 , linear

3. NH_4^+, dsp^2 , square planar

4. CH_4, dsp^2 , tetrahedral

Ans: 1

Sol: H_2O molecules is angular with sp^3 hybridisation

9. Sulphur trioxide is dissolved in heavy water to form a compound X. The hybridisation state of sulphur in X is (EAMCET 2003 E)

1. SP^2

2. SP^3

3. SP

4. dSP^2

Ans: 2

Sol: $SO_3 + D_2O \longrightarrow D_2SO_4$

In D_2SO_4 there is sp^3 hybridisation

10. O_2^{2-} is the symbol of ion (EAMCET 2003M)

1. Oxide

2. Super oxide

3. Peroxide

4. Monoxide

Ans: 3

Sol: O_2^{2-} is a peroxide ion

11. For the preparation of sodium thiosulphate by "Springs reaction", the reactants used are (2003M)

1. $Na_2S + Na_2SO_3 + Cl_2$

2. $Na_2S + SO_2$

3. $Na_2SO_3 + S$

4. $Na_2S + Na_2SO_3 + I_2$

Ans: 4

Sol: $Na_2S + Na_2SO_3 + I_2 \longrightarrow Na_2S_2O_3 + 2NaI$

12. What is the number of sigma (σ) and Pi (π) bonds present in sulphuric acid molecule. (2002M)

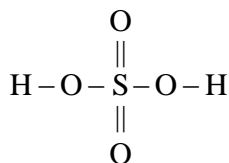
1. $6\sigma, 2\pi$

2. $6\sigma, 0\pi$

3. $2\sigma, 4\pi$

4. $2\sigma, 2\pi$

Ans: 1



6 σ and 2 π bonds

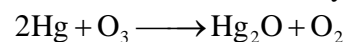
Sol:

13. What is the product formed when ozone reacts with mercury? [EAMCET 2001 M]

1. HgO 2. Hg₂O₂ 3. Hg₂O 4. HgO₂

Ans: 3

Sol: Ozone reacts with mercury gives mercurous oxides



This process is called tailing of mercury because mercury sticks to the walls of the container

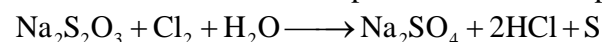
14. What are the products formed when chlorine is passed through aqueous hyposulphate

[EAMCET 2001 E]

1. Na₂SO₃ + HCl + S 2. Na₂SO₃ + SO₃ + HCl
3. Na₂SO₄ + HCl + S 4. Na₂SO₄ + HCl + SO₂

Ans: 3

Sol: Cl₂ oxidises sodium thiosulphate to sodium sulphate



15. Which of the following has more acidic character? [EAMCET 2000 M]

1. H₂O 2. H₂Te 3. H₂S 4. H₂Se

Ans: 2

Sol: In VIA group hydrides acidic character increases from H₂O to H₂PO

16. In which of the following compounds, oxygen exhibits an oxidation state of +2? [EAMCET 2000 M]

1. H₂O 2. H₂O₂ 3. OF₂ 4. H₂SO₄

Ans: 3

Sol: Oxidation state of oxygen in OF₂ is + 2

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