**I.P.S.Sr.Sec.School**

**Max Time : 1 hr** **Class : 12th Chemistry Max Marks : 30**

**Unit Test**

1. At the equilibrium position in the process of adsorption \_\_\_\_\_\_\_. [ 1 ]
2. Define “occlusion”? [ 1 ]
3. Distinguish between the meaning of the term adsorption and absorption. Give one example of each. [ 2 ]
4. What is meant by unidentate and ambidentate ligands. Give two examples of each. [ 3 ]
5. Find the oxidation number of metals in the following coordination entities : [ 3 ]

|  |  |  |
| --- | --- | --- |
| a) K3 [Fe (CN)6] | b) [Cr (NH3)3 Cl3] | c) [Co Br2 (en)2] + |

1. What is an adsorption isotherm ? Describe Freundlich adsorption isotherm. [ 3 ]
2. What are lyophilic and lyophobic sols ? Give one example of each type. Why is hydrophobic sol easily coagulated ? [ 3 ]
3. Discuss the nature of bonding in the following coordination entities on the basis of valence bond theory [ 3 ]

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| --- | --- | --- |
| a) [Fe (CN)6] 4 – | b) [Co F6] 3 – |  |

1. [Cr(NH3)6]3+ is paramagnetic while [Ni (CN)4]2 – is diamagnetic. Explain ? [ 3 ]
2. Define following : [ 3 ]

|  |  |  |
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| a) Adsorbate | b) Adsorbent | c) Desorption |

1. Write the name of following coordination complexes : [ 1 x 5 = 5 ]

|  |  |  |
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| a) K2 [Ni (CN)4] | b) K3 [Fe(C2O4)3] | c) K2 [Pd Cl4] |
| d) [Co(NH3)6] Cl3 | e) [Cr(en)3] Cl3 |  |