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SUBJECT CODE NO:- B-2145
FACULTY OF SCIENCE AND TECHNOLOGY
B.Sc. S.Y (Sem.-IV) Examination OCT/NOV 2019
Chemistry Paper-X
(Inorganic Chemistry)

[Time: 1:30 Hours] **[Max.Marks:50]**

Please check whether you have got the right question paper.

N.B i) All questions are compulsory.

Section A

Q.1 a) Discuss and write the electronic configurations of first transitions series elements. 10

b) Explain geometrical isomerism in octahedral complexes with examples. 10

OR

c) Explain acid-base and precipitation reactions in liquid SO_2. 10

d) Explain oxidation states and position of actinides in the periodic table. 10

Q.2 a) Discuss Lewis theory of acido-bases with examples. 10

b) What are non aqueous solvents? Give the classification solvents. 10

OR

c) Write short notes on: (Any four) 20

1) Metallic properties of 3d-series elements.
2) Cause and consequences of lanthanide contraction
3) Lux-flood concept of acid-bases
4) Assumptions of valence bond theory
5) Solubility of alkali metals in Liq. NH_3
6) Preparation of Np & Am from uranium

Q.3 Multiple choice questions. 10

1) The E.A.N in $[Fe(cN)_6]^{3-}$ is
   a) 31
   b) 32
   c) 33
   d) 35

2) The following is not a Lewis base
   a) NH_3
   b) H_2O
   c) Fe^H
   d) Cl^-

3) The protonic solvent is
   a) $CC1_4$
   b) C_6H_6
   c) Liq. So_2
   d) H_2O

4) The general electronic configuration of Lanthanide is
   a) $[Xe]4f^{1-14}\ 5d'6s^2$
   b) $[Xe]4f^{14}sd^o6s^2$
   c) $[Xe]4f^{0}5d'6s^{0}$
   d) $[xe]4f^{0-14}5d^{0}6s'$

5) The atomic number of plutonium is
   a) 91
   b) 94
   c) 93
   d) 90

6) The cu^{+} ion is
   a) Blue
   b) Green
   c) Colourless
   d) Black

7) The oxidation state of zn^{++} ion is
   a) Zero
   b) One
   c) Two
   d) Three

8) IUPAC name of $[cu(NH_3)_4]SO_4$ is
   a) Copper tetrammine sulphate
   b) Tetra ammino sulphate copper
   c) Tetra ammine copper sulphate
   d) All of these

9) The secondary valency of $[co(NH_3)_6]cl_3$ is
   a) 6
   b) 3
   c) 9
   d) 2

10) Liquid SO_2 is
   a) Non protonic solvent
   b) Protonic solvent
   c) Non ionizing solvent
   d) All of these