

①

P P SAVANI UNIVERSITY

Third Semester of B.Sc. Examination

December-2021

SSCH2011- Inorganic Chemistry-II

07.12.2021, Tuesday

Time: 09:00 am to 11:30 am

Maximum Marks: 60

Instructions:

1. The question paper comprises of two sections.
2. Section I and II must be attempted in separate answer sheets.
3. Make suitable assumptions and draw neat figures wherever required.
4. Use of scientific calculator is allowed.

Section-I (Total Marks - 30)

Q.1 Very Short Questions

(10)

1.1 Objectives

05

1.1a Which metal plays an important role in muscle contraction?

- A Aluminum
- B Sodium
- C Magnesium
- D Calcium

1.1b Siderophores are responsible for

- A Iron transport
- B Magnesium transport
- C Iron synthesis
- D Magnesium synthesis

1.1c The ferritin has not been combined with iron is commonly termed as.

- A aboferritin
- B acoferritin
- C apoferritin
- D adoferritin

1.1d Which is super paramagnetic protein?

- A Caretin
- B Hemosiderin
- C Ferritin
- D globulin

1.1e Which metal important for the production of Globular protein?

- A Ferrous
- B Magnesium
- C Vanadium
- D Calcium

1.1f Full form of FDA

- A Food and Drug Administration
- B Foam and Drug Administration
- C Food and Dye Administration
- D Food and Drug Advertisement

- 1.1g Which Chelator used in gold toxicity?
 A DMSA
 B Deferoxamine
 C DMPS
 D Penicillamine
- 1.1h Which is Cu, Zn, Mg containing enzyme?
 A Amino peptidase
 B Phosphatase
 C Carboxypeptidase
 D Oxidase
- 1.1i Which is not the Neutral monodentate ligand?
 A H₂O
 B NH₃
 C NO⁺
 D CO
- 1.1j Who classified the complex on the basis of their stability in solution?
 A Bilzt
 B Blizt
 C Biltz
 D Blitz

- 1.2 **Five Questions (MCQ/Short Question/Fill in the Blanks)** 05
- 1.2a Definition: Monodentate Ligand
- 1.2b Give the name of Toxic metals
- 1.2c Give the name of K₂ [PdCl₄]
- 1.2d Give the use of Cadmium metal
- 1.2e Give the full form of EDTA

- Q.2 **Short Notes (Attempt any two)** 06
- A Coordination Polymer
- B Polydentate Ligand
- C Infra-red Techniques for distinguish for trans-isomers. Importance of Polynuclear complex

- Q.3 **Explain in detail (Attempt any two)** 14
- A Explain Ferritin
- B What is Stereo Isomerism? Explain Geometrical isomerism in 4 Co-ordination Compound.
- C Classification of Complex compound.

Section-II (Total Marks - 30)

- Q.1 **Very Short Questions** (10)
- 1.1 **Objectives** 05
- 1.1a Complex K₄[Fe (CN)₆] nomenclature is
- A Potassium hexacyanoferrate (II)
- B Potassium hexacyanoferrate (I)
- C Potassium cyanohexaferrate (II)
- D Potassium hexacyanoferrate (III)

- 1.1b Complex $K_2 [OsCl_5N]$ nomenclature is
- A Potassium Chloropentanitridoosmate (2-)
 - B Potassium Pentachloronitridomate (2-)
 - C Potassium Pentachloronitridoosmate (2-)
 - D Potassium Chloropentanitridoosmate (2-)
- 1.1c What is isomer?
- A Same chemical composition and Same structural arrangements
 - B Same chemical composition and different structural arrangements
 - C Different chemical composition and Different structural arrangements
 - D Different chemical composition and Same structural arrangements
- 1.1d Hemocynin contain which metal?
- A Iron
 - B Copper
 - C Silver
 - D Gold
- 1.1e Which is the not type of square planer complex?
- A MA_4
 - B MA_3B
 - C MAB_3
 - D M_2A_2
- 1.1f $PCl_5 + 2H_2O$ -----Hydrolysis----- _____ ?
- A dichloro sulphuric acid
 - B dichloro phospho acid
 - C dichloro phosphoric acid
 - D Trichloro phosphoric acid
- 1.1g The ferritin has not been combined with iron is commonly termed as.
- A apoferritin
 - B aboferritin
 - C acoferritin
 - D adoferritin
- 1.1h Chemical formula of Boroxine
- A $(BH)_3O_3$
 - B $(BN)_3H_6$
 - C $(BH)_3O_6$
 - D $(BN)_3O_3$
- 1.1i Organometallic magnets were first discovered in the
- A 1982's
 - B 1988's
 - C 1980's
 - D 1981's
- 1.1j Body absorbed excessive amount of iron known the term as
- A Hemocromasosis
 - B Hemobromatosis
 - C Hemocromacosis
 - D Hemocromatosis

1.2	Five Questions (MCQ/Short Question/Fill in the Blanks)	05
1.2a	Define Cytochrome	
1.2b	Definition: Condensation Polymer	
1.2c	What is siderophores?	
1.2d	Give the chemical formula of Boroxine.	
1.2e	_____chelator used in Iron overload.	
Q.2	Short Notes (Attempt any two)	06
A	Chelation agents	
B	Polyphosphazenes	
C	Molar ratio method for Stability Constant	
Q.3	Explain in detail (Attempt any two)	14
A	Explain Write the notes on Cadmium toxicity (Occurrence, Health consideration and Toxic effect).	
B	Explain Factor that Influence Complex Formation.	
C	What is Ligand and Explain Types of Ligands.	