

C.U.SHAH UNIVERSITY

Summer Examination-2019

Subject Name: Inorganic Chemistry-II

Subject Code: 5SC02ICH1

Branch: M.Sc. (Chemistry)

Semester: 2

Date: 16/04/2019

Time: 02:30 To 05:30

Marks: 70

Instructions:

- (1) Use of Programmable calculator and any other electronic instrument is prohibited.
 - (2) Instructions written on main answer book are strictly to be obeyed.
 - (3) Draw neat diagrams and figures (if necessary) at right places.
 - (4) Assume suitable data if needed.
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SECTION – I

- Q-1 Attempt the Following questions. (07)**
- Define: Ion exchanger. 01
 - Define: eluent 01
 - Write a full form of EPR. 01
 - Is Nitrogen ESR active or not? 01
 - What do you mean by monoatomic ion? 01
 - How much spectral line for $-CD_3$ and $-CDH_2$. 02
- Q-2 Attempt all questions (14)**
- Give calculation of energies of Zeeman level. 07
 - Write a note on Determination of “g” value. 07
- OR**
- Q-2 One electron effected by three equivalent proton ($-CH_3$) (14)**
- Q-3 Attempt all questions (14)**
- Write short note on ion-exchange resin. 06
 - Describe cation exchanger and anion exchanger. 08
- OR**
- Q-3 Attempt all questions (14)**
- Theory of ion exchange chromatography. 07
 - Write short note on ion-exchange cellulose and ion-exchange gel. 07



SECTION – II

- Q-4 Attempt the Following all questions. (07)**
- a. Define π -bonded organometallic compound. 01
 - b. What is heteroleptic and σ -bonded organometallic compound? 01
 - c. Give name and structure of any one sandwich type organometallic compound. 01
 - d. What is Metallobiomolecules? 01
 - e. Which are bulk essential elements? 01
 - f. Give the name of essential macro minerals for body. 01
 - g. How many porphyrin ring in myoglobin? 01

- Q-5 Attempt all questions (14)**
- a. Give any seven preparation of σ -bonded OMC of transition metals. 07
 - b. Write chemical property of σ -bonded OMC of transition metals. 07

OR

- Q-5 Attempt all questions (14)**
- a. Give the difference between σ -bonded and π -bonded OMC. 08
 - b. Discuss the preparation of η^2 -alkene complexes. 06

- Q-6 Attempt all questions (14)**
- a. Introduce Na-K pump. 08
 - b. Write role of alkali and alkaline earth metal ions in biological system. 06

OR

- Q-6 Write a note on biological nitrogen fixation in detail. (14)**

