

T.Y.B.SC. SEM – V (2014 COURSE) : SUMMER - 2018
SUBJECT : CHEMISTRY INORGANIC CHEMISTRY – V

Day : **Thursday**
Date : **12/04/2018**

Time : **03.00 PM TO 05.00 PM**
Max. Marks : 40

S-2018-0740

N.B.

- 1) All questions are **COMPULSORY**.
- 2) Figures to the right indicate **FULL** marks.
- 3) Draw neat and labelled diagrams **WHEREVER** necessary.

Q.1 Attempt any **TWO** of the following: **(10)**

- a) Write a comparison between Double salt and Complex salt.
- b) Define coordination number and ligand. Also write IUPAC nomenclature for following complexes.
i) $K_3[Al(C_2O_4)_3]$ ii) $K_4[Fe(CN)_6]$ iii) $[Cr(en)_3]Cl_3$
- c) Write a note on differential Aeration principle.

Q.2 Attempt any **TWO** of the following: **(10)**

- a) Explain the bonding in following complexes on the basis of VBT:
i) $[MnCl_4]^{-2}$ ii) $[Cu(NH_3)_4]^{+2}$
- b) Explain the following types of isomerism with suitable examples
i) Ligand isomerism ii) Linkage isomerism
- c) Write assumptions of Crystal Field Theory.

Q.3 Attempt any **TWO** of the following: **(10)**

- a) Explain the application of CFT to Tetrahedral Complex.
- b) What are assumptions of Valance Bond Theory (VBT)?
- c) What is EAN rule? Whether EAN rule is obeyed or not in following complexes.
i) $Fe[(CN)_6]^{-4}$ ii) $[Co(NH_3)_6]^{+3}$

Q.4 Attempt any **TWO** of the following: **(10)**

- a) Explain Soil Corrosion, Pitting Corrosion and Stress Corrosion, with suitable examples.
- b) What do you mean by CFSE? Find CFSE for a d^5 system in a weak field octahedral complex.
- c) Write limitations of Crystal Field Theory.

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