

Pramukh Swami Science And H.D Patel Arts College, Kadi

Internal Examination, March-2019

B.Sc. Semester- II (Chemistry)

(CCH 201) Fundamentals of Chemistry-II

Time: 2 hrs

07/03/2019

Total Marks: 40

Que-1 Answer any 10 questions. Each question carries 1 mark (10)

1. The co-ordination number of cobalt in the complex  $[\text{Co}(\text{en})_2\text{Br}_2]\text{Cl}_2$  is  
a. (a) 2 (b) 6  
b. (c) 5 (d) 4
2. The IUPAC name of  $\text{K}_4[\text{Fe}(\text{CN})_6]$  is  
(a) Potassium hexacyanoferrate (II)  
(b) Potassium ferrocyanide  
(c) Tetrapotassium hexacyanoferrate (II)  
(d) Tetrapotassium ferroushexacyanide (II)
3. The angle between a eg orbital the central metal & the ligand is \_\_\_\_\_.
4. Give name and symbol of any two known radioactive element from actinide.
5. Give the Full form of CFSE \_\_\_\_\_.
6. Give the definition of coordination compound.
7. EBT indicator is used in complexometric titration (True/False).
8. Calculate the molecular weight and equivalent weight of HCLs?
9. Define normality.
10. What is the Basic pH range?
11. Draw the structure of EDTA.
12. Which indicators are used in Acid-Base titrations?

**Que.2 Answer any five of the following. Each question carries 3 marks (15)**

- 1) Explain the Difference Between Double salt and complex salt.
- 2) Write a note Actinide Contraction.
- 3) Explain the limitation of VBT.
- 4) Calculate EAN for,  
 $[\text{Cr}(\text{NH}_3)_6]^{+3}$ ,  $[\text{Fe}(\text{CN})_6]^{-3}$ ,  $[\text{Ni}(\text{NH}_3)_6]^{+2}$ .
- 5) Write a note on Metalochromic indicators
- 6) How to prepared 0.1 M NaOH?
- 7) What is Redox titration? Find the equivalent weight of  $\text{kmno}_4$  &  $\text{k}_2\text{cro}_7$ .

**Que.3 Answer any three of the following. Each question carries 5 marks (15)**

- 1) Explain crystal field theory discuss the splitting of d – orbitals in octahedral complex .
- 2) Give name, symbol, atomic number and electronic configuration of Actinide elements.
- 3) Write a note on application of complex compounds in brief.
- 4) Discuss precipitation titration by Mohr's Method.
- 5) What is acid base titration? Explain strong acid vs.Strong base titration in detail.