K17U 1659

Reg. No. : .....

Name : .....

V Semester B.Sc. Degree (CBCSS – Reg./Sup./Imp.) Examination, November 2017
(2014 Admn. Onwards)
CORE COURSE IN CHEMISTRY
5B08 CHE : Inorganic Chemistry – II

Time : 3 Hours Max. Marks : 40

SECTION – A

Answer **all** questions. **Each** question carries **one** mark.

1. Crystal field splitting in tetrahedral complexes are lower than that of octahedral complexes. Why ?
2. What is meant by hydrometallurgy ?
3. Give one example for coordination isomerism.
4. Name two Zn containing enzymes. **(1×4=4)**

SECTION – B

Answer **any seven** questions. **Each** question carries **2** marks.

5. What is meant by spectrochemical series ?
6. Give any two methods for corrosion control.
7. Explain the froath flotation process.
8. What is the role of Ca in biological systems ?
9. Explain the toxic effects of As and Cd.

P.T.O.

10. How is stepwise and overall stability constants related ?
11. Aquous solution of Ti^{3+} ion is purple in colour. Explain.
12. Compare the electronic spectra of lanthanides and actinides.
13. What are active and passive transport ?
14. Calculate the EAN of
    a) $NiCO_4$ b) $[Fe(H_2O)_6]^{3+}$ **(7x2=14)**

SECTION – C

Answer **any 4** questions. **Each** question carries **3** marks.

15. What are trans uranic elements ? How are they prepared ?
16. Discuss the geometrical isomerism in octahedral complexes.
17. Explain the extraction of Cu.
18. Explain the separation of lanthanides by ion exchange method.
19. Mention the factors affecting crystal field splitting.
20. Explain the biological nitrogen fixation. **(3x4=12)**

SECTION – D

Answer **any 2** questions. **Each** question carries **5** marks.

21. Explain the application of complexes in qualitative and quantitative analysis.
22. Give an account of various functions of Na and K and Mg in biological systems.
23. a) Discuss the electrochemical theory of corrosion.
    b) What are the methods for preventing corrosion ?
24. a) What are the postulates of crystal field theory ?
    b) Draw the crystal field splitting in the following complexes. $[Co(NH_3)_6^{3+}$, $[MnCl_4]^{2}$.

(5x2=10)

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