E 1525 (Pages : 2) Reg. No.....

Name.....

B.Sc. DEGREE (C.B.C.S.S.) EXAMINATION, MARCH 2016

Sixth Semester

Core Course—APPLIED INORGANIC CHEMISTRY

(Common for B.Sc. Model I, Model II, B.Sc. Petrochemicals B.Sc. Chemistry — Environment and Water Management)

[2013 Admissions]

Time : Three Hours Maximum : 60 Marks

Section A

Answer **all** *questions.*
Each question carries 1 *mark.*

1. Give a reaction to idenfity Zinc ion.
2. What are the applications of Co^{60} and I^{131} ?
3. Give the structure of B_4H_{10}.
4. Define Rf value.
5. Name two adsorbents used in column chromatography.
6. What are pseudohalogens ?
7. What is zone refining ?
8. Give a method for the elimination of oxalate ion.

$(8 \times 1 = 8)$

Section B

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

9. Name two ores of titanium.
10. Distinguish between DSC and DTA.
11. Give the principle of gas chromatography.
12. What is vapour phase refining ?
13. What is standard electrode potential ? What is its significance in metallurgy ?
14. What is hydrometallurgy ?
15. Give two reactions in liquid ammonia.
16. Give the structures of any *two* oxyfluorides of xenon.

Turn over

17. What is electrometallurgy ?
18. Give the structure of borazine.

(6 × 2 = 12)

Section C

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

19. Write a short note on silicone based polymers.
20. Discuss in detail any *two* synthesis of nanomaterials.
21. Give the structures of oxides and oxyacids of chlorine.
22. Discuss briefly HPLC with experimental technique and instrumentation.
23. Write briefly on silicates.
24. Write short note on refining of metals using different methods.

(4 × 4 = 16)

Section D

Answer any **two** *questions.*
Each question carries 12 *marks.*

25. Write note on principle and techniques involved in gas chromatography.
26. What is radio-carbon dating ? Write a short note on disposal of nucleor waste.
27. Give the preparation properties and bonding of diborane.
28. Discuss briefly ion exchange chromatography its principle and experimental techniques.

(2 × 12 = 24)