

BS/2110

Paper - I
Inorganic Chemistry

10373/NH

Max. Marks : 26 Marks

Max. Time : 3 hrs

Min. Pass Marks : 35%

Candidates are required to attempt two questions (4 marks each) selecting each from section A & B. Section C is compulsory (2 marks each question).

SECTION - A

1. Why do transition metals have higher melting and boiling points than representative elements?
2. What is coordination number? How does the coordination number determine the geometry of the molecule?
3. Comment on the various oxidation states and magnetic properties of lanthanides?
4. Discuss lanthanide contraction and what are its consequences?

SECTION - B

5. Compare and contrast the important features that distinguish the elements of first transition series from that of the second and third row transition elements?
6. Give the comparative account of the chemistry of titanium, zirconium and hafnium.
7. Compare and contrast the properties of lanthanides and actinides?
8. Why electronic configuration of actinides are not definite compared to those of lanthanides?

SECTION - C

9. (a) Why do transition metal form alloys?
(b) List important uses of lanthanides?
(c) What are isopolyanions and heteropolyanions?
(d) What are actinides?
(e) Why actinides form deep colored compound?