

Roll.No.

22UCHCT4008

SHRIMATHI DEVKUNVAR NANALAL BHATT VAISHNAV COLLEGE FOR WOMEN  
(AUTONOMOUS)

(Affiliated to the University of Madras and Re-accredited with 'A+' Grade by NAAC)  
Chromepet, Chennai - 600 044.

B.Sc.Chemistry - END SEMESTER EXAMINATIONS - NOVEMBER 2025  
SEMESTER - IV/

**22UCHCT4008- Transition, Inner Transition Elements and Metallurgy**

Total Duration : 2 Hrs.30 Mins.

Total Marks : 60

### Section B

Answer any **SIX** questions ( $6 \times 5 = 30$  Marks)

1. Cite the biological role of transition elements in human.
2. Define ores. Classify the different types of ores.
3. Relate the catalytic activity of Iron Triad to their ability to exhibit multiple oxidation states and complex formation.
4. Explain the use of Pt - halides of Ag in photography and silvering of mirrors.
5. Describe the extraction and uses of thorium.
6. Relate the properties and uses of any two compounds of cerium.
7. Apply any one method of separation of lanthanides.
8. Differentiate between electromagnetic separation and froth flotation process in metallurgy.

### Section C

Answer any **THREE** questions ( $3 \times 10 = 30$  Marks)

9. Explain the preparation, properties and uses of  $K_2Cr_2O_7$  and  $KMnO_4$
10. Classify the various types of platinum based on their properties.
11. Evaluate the characteristic properties of the first-row d-block elements and justify how they differ from non-transition elements.
12. Relate the electronic structure of the lanthanides and the actinides, and compare their difference in properties.
13. Distinguish the any two reduction and refining processes in metal extraction in detail.

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