

13.1 Transition Metals

Question Paper

Course	DPIB Chemistry
Section	13. The Periodic Table- Transition Metals (HL only)
Topic	13.1 Transition Metals
Difficulty	Easy

Time allowed: 10
Score: /5
Percentage: /100

Question 1

What is the charge on the complex ion in $[\text{Fe}(\text{H}_2\text{O})_6]\text{Br}_2$?

- A. 0
- B. +1
- C. +2
- D. +3

[1 mark]

Question 2

Which of the following are properties of transition metals?

- I. They have variable oxidation states
- II. They can behave as catalysts
- III. They can have magnetic properties

- A. I and II only
- B. I and III only
- C. II and III only
- D. I, II and III

[1 mark]

Question 3

Which of the following are factors which affect the colour of a transition metal ion complex?

- I. The identity of the metal ion
- II. The oxidation state of the metal ion
- III. The number of neutrons in the metal ion

- A. I and II only
- B. I and III only
- C. II and III only
- D. I, II and III

[1 mark]

Question 4

Which species can not act as a ligand?

- A. H_2O
- B. NH_4^+
- C. Cl^-
- D. OH^-

[1 mark]

Question 5

What is the abbreviated electron configuration of the nickel(II) ion, Ni^{2+} ?

- A. $[\text{Ar}] 3\text{d}^8$
- B. $[\text{Ar}] 4\text{s}^2 3\text{d}^6$
- C. $[\text{Ar}] 4\text{s}^2 3\text{d}^8$
- D. $[\text{Ar}] 4\text{s}^1 3\text{d}^7$

[1 mark]