

(b) Write the full form of CT and MRI. Discuss briefly, the working of the MRI instrument.

(c) Name an over-the-counter medicine used to soothe itchy skin. Discuss its composition. (5,5,5)

(1500)

[This question paper contains 4 printed pages.]

Your Roll No.....

Sr. No. of Question Paper : 6057

H

Unique Paper Code : 2174001210

Name of the Paper : GE : Roles of Metals in Medicines

Name of the Course : **B.Sc. (H) / B.Sc. (Prog.)**

Semester : II

Duration : 2 Hours

Maximum Marks : 60

Instructions for Candidates

1. Write your Roll No. on the top immediately on receipt of this question paper.
2. Attempt any **four** questions (including all their sub-parts).

1. (a) Draw the structure of Melarsoprol. What is the purpose of this medicine? Explain.

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- (b) Discuss the biological significance of calcium and magnesium metals in humans.
- (c) Name and discuss the uses of a vitamin B12.
(5,5,5)
2. (a) Draw the structure of cisplatin and explain its mode of action.
- (b) What are trace elements. Discuss any two trace elements with respect to human health.
- (c) Name a heavy metal used as a contrast agent in MRI. Discuss its significance. (5,5,5)
3. (a) What are radiopharmaceuticals? Discuss their characteristics.
- (b) What are antacids? Discuss the uses and composition of Alka-seltzer.

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- (c) Name and discuss an alkali metal-based medicine used for mental health treatment. (5,5,5)
4. Short notes on :
- Iodide 123 as a radiopharmaceutical
 - Importance of Iron based medicines
 - Auranofin (draw the structure also) (5,5,5)
5. (a) What are contrast agents? Discuss the role of barium sulphate as a contrast agent.
- (b) Metal ions play a pivotal role in maintaining human well-being. Explain the statement.
- (c) Discuss the role of Gallium in the treatment of cancer. (5,5,5)
6. (a) Name the metal which plays a significant role in managing Diabetes. Discuss its mode of action in brief.

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