

B A, BSC, BCOM DEGREE END SEMESTER EXAMINATION – MARCH 2026**UGP (HONS.) SEMESTER – 4: – DISCIPLINE SPECIFIC COURSE****COURSE: 24UCHEDSC209 – BIOINORGANIC AND AGRICULTURAL CHEMISTRY***(For Regular 2024 Admission)*

Time: 1.5 Hours

Max. Marks: 50

PART A**One Word Questions*****Answer all questions. Each question carries 1 Mark***

1. Define R_f value. (A CO2)
2. Name the metal ion in myoglobin. (U CO3)
3. Mention any two functions of DNA. (U CO3)
4. What are alkaloids? (U CO3)
5. Write an example for a plant growth hormone. (A CO4)
6. What are biofertilizers? (A CO4)
7. Give two examples for artificial sugar. (A CO4)
8. Would you prefer a disinfectant or an antiseptic to control infection on a wound? (A CO4)

(1 x 8 = 8)**PART B****Short Answer Questions*****Answer any five questions. Each question carries 3 Marks***

9. Explain the kinetics of enzyme catalysis. (U CO1)
10. Write a short note on FTIR and NMR. (A CO2)
11. Name any two trace elements in biological systems and mention their functions. (U CO3)
12. Which are the main components present in the structure of a nucleotide? (U CO3)
13. How is piperine extracted from pepper? (U CO3)
14. With suitable examples, explain natural and synthetic fertilizers. (A CO4)
15. Differentiate between mineral oil and vegetable oil. (A CO4)
16. How does the excessive use of fertilizers affect the environment? (A CO4)

(3 x 5 = 15)**PART C****Short Essay Questions*****Answer any two questions. Each question carries 6 Marks***

17. How is order of a reaction different from its molecularity? (U CO1)
18. Explain the mechanism of oxygen transport by haemoglobin. (U CO3)
19. Compare the structures of DNA and RNA. (U CO3)
20. Prepare a short note on the source, structure and physiological function of citral. (U CO3)

(6 x 2 = 12)

PART D

Long Essay Questions

Answer any one question. Each question carries 15 Marks

21. Outline the basic principle, instrumentation and applications of column chromatography. (A CO2)
22. What are pesticides? How are they classified? Explain each type with examples. (A CO4)
- (1 x 15 = 15)**