

D 32344

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Name.....

Reg. No.....

**FIRST SEMESTER (CBCSS—UG) DEGREE EXAMINATION
NOVEMBER 2022**

Chemistry

CHE 1C 01—GENERAL CHEMISTRY

(2019—2022 Admissions)

Time : Two Hours

Maximum : 60 Marks

Section A (Short Answers)*Answer questions up to 20 marks.**Each question carries 2 marks.*

1. Define oxidation and reduction in terms of oxidation number.
2. What are redox titrations ? Give an example.
3. What is meant by microanalysis ? Mention two examples.
4. What substances are called secondary standard in titrimetry ?
5. Define Lattice energy.
6. Name two organic compounds which shows H-bonding.
7. What are nuclear forces and its different types ?
8. Explain term isotopes with suitable with suitable example.
9. What is meant by radioactive tracer ?
10. Name two trace elements in biochemistry.
11. What are metalloenzymes ?
12. Name two zinc containing enzymes.

Section B (Short Essay)*Answer questions up to 30 marks.**Each question carries 5 marks.*

13. What are metal ion indicators ? Explain their function with a suitable example.
14. A moving body with mass 0.1 mg. has wavelength of 3.312×10^{-29} m. Calculate its kinetic energy.

Turn over

15. Give the shapes of following molecule on basis of VSEPR theory : (a) BeCl_2 ; (b) BF_3 ; (c) SnCl_2 .
16. State and illustrate group displacement law.
17. Calculate age of Uranium mineral that contain 0.2 g. of ^{206}Pb per gram of ^{238}U . $t_{1/2}$ of Uranium is 4.5×10^9 years.
18. Write short note on role of chlorophylls in photosynthesis.
19. What structural changes do occur when haemoglobin carries oxygen and when it detaches oxygen ?

Section C (Essay)

*Answer any **one** question.*

The question carries 10 marks.

20. Describe low solubility product principle and common ion effect as applied in qualitative inorganic analysis.
21. (a) What are the postulates of Bohr atomic theory ?
(b) How is the spectrum explained on basis of Bohr theory ?