

D 93804

(Pages : 2)

Name.....

Reg. No.....

**FIRST SEMESTER B.A./B.Sc. DEGREE EXAMINATION
NOVEMBER 2020**

(CUCBCSS)

Chemistry

CHE 1C 01—GENERAL CHEMISTRY

Time : Three Hours

Maximum : 64 Marks

Section A (One Word)

Answer **all** questions.

Each question carries 1 mark.

1. What is the shape of XeF_2 ?
2. Covalent radius of hydrogen atom is _____.
3. P subshell can have _____ possible orientation.
4. Number of moles of solute dissolved per litre of solution is called _____.
5. Heavy water acts as _____ in nuclear reactions.
6. What is the % of activity that remains after 4 years, if the half life of cobalt 60 is 5.26 year.
7. The phenomenon of radioactivity was discovered by _____.
8. Which indicator is used for the titration of weak acid against strong base ?
9. Solubility of PbCl_2 in water can be reduced by the addition of _____.
10. _____ is used as an indicator in complexo-metric titration.

(10 × 1 = 10 marks)

Section B (Short Answers)

Answer any **seven** questions.

Each question carries 2 marks.

11. What is equivalent mass ?
12. Write a note on Lewis acid-base concept.
13. Write the differences between accuracy and precision.
14. Define common ion effect.
15. What are isotones ? Give one example.
16. What is LCAO ?

Turn over

17. Write the principle of atomic bomb.
18. Explain rock dating with example.
19. How oxygen is transported in human body ?
20. What is the role of zinc in human body ?

(7 × 2 = 14 marks)

Section C (Paragraph)

*Answer any **four** questions.
Each question carries 5 marks.*

21. Explain Pauling scale of electro-negativity.
22. State and explain modern periodic law.
23. Differentiate between Aufbau principle and Pauli exclusion principle.
24. Write the theory of volumetric analysis.
25. Explain sp^3d^2 and sp^3d^3 hybridisation with example.
26. How N/P ratio is related to nuclear stability ?

(4 × 5 = 20 marks)

Section D (Essays)

*Answer any **two** questions.
Each question carries 10 marks.*

27. Explain the terms : (i) Ionisation enthalpy ; (ii) Electron affinity ; (iii) Electronegativity ; (iv) Mole fraction.
28. Give an account of : (i) Microanalysis ; (ii) Complexo-metric titration ; (iii) Indicators ; and (iv) Redox titration.
29. Draw the MO level diagram of N_2 and CO and explain their properties.
30. Explain the principle and working of nuclear reactors.

(2 × 10 = 20 marks)