

PSG COLLEGE OF ARTS & SCIENCE  
(AUTONOMOUS)

BSc DEGREE EXAMINATION JUNE 2014  
(Third Semester)

Branch – PHYSICS

CHEMISTRY - I

Time : Three Hours

Maximum : 75 Marks

SECTION-A (20 Marks)

Answer ALL questions

ALL questions carry EQUAL marks (10 x 2 = 20)

- 1 Define Coordination compounds.
- 2 What is Chelates?
- 3 State isoprene rule.
- 4 Write any one preparation of Teflon.
- 5 Define: Symmetry.
- 6 What is axis of symmetry?
- 7 Define rate constant.
- 8 Give any 2 examples for 2<sup>nd</sup> order reactions.
- 9 What is conventional source of energy?
- 10 Differentiate nuclear fission and fusion.

SECTION - B (25 Marks)

Answer ALL Questions

ALL Questions Carry EQUAL Marks (5 x 5 = 25)

- 11 a Give an account of Werner's coordination theory with suitable example.  
OR
- b Write the preparation and properties of ICl, IF<sub>5</sub>?
- 12 a Discuss the isolation of nicotine and give its uses.  
OR
- b Write a note on acid and basic dyes with example.
- 13 a Describe the symmetry elements.  
OR
- b Define the miller indices and Weiss indices and mention its uses.
- 14 a What are complex reactions? Explain with suitable examples.  
OR
- b Give an account of consecutive, parallel and opposite reactions? With examples.
- 15 a Write a note on the various components of environment.  
OR
- b Define photovoltaic effect, and about Si solar cell.

SECTION - C (30 Marks)

Answer any THREE Questions

ALL Questions Carry EQUAL Marks (3 x 10 = 30)

- 16 a) Give the preparation and properties of perdisulphuric acid. Mention its uses.
- b) Write the analytical application of coordination compounds.
- 17 a) Explain the isolation and uses of menthol.
- b) Describe the preparation and uses of polyesters.
- 18 a) Illustrate the structure of NaCl and diamond.
- b) Differentiate isomorphism and polymorphism.
- 19 Derive the 1<sup>st</sup> order kinetics for
  - i) Decomposition of H<sub>2</sub>O<sub>2</sub>
  - ii) Hydrolysis of Ethyl acetate
- 20 Describe briefly about the radioactive pollution effects and control measures.

Z-Z-Z

END