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Register Number:

Name of the Candidate:

B.Sc. DEGREE EXAMINATION, May 2015

(CHEMISTRY)

(FIRST YEAR)

(PART - III)

(GROUP-A: MAIN)

530: GENERAL CHEMISTRY-I

Time: Three hours

Maximum: 100 marks

SECTION - A

Answer ALL questions

(10 × 3 = 30)

1. Give the shapes of S,P and d orbital's.
2. State Hund's rule.
3. Mention any 3 uses of D₂O.
4. How is baking soda prepared?
5. State saytzeff's rule.
6. List any 3 uses of ethylene.
7. Mention any 3 properties of CHCl₃
8. What is meant by Hydrogen bonding?
9. Write the reduced equation of state.
10. Define: Gold number.

SECTION - B

Answer ALL questions

(5 × 5 = 25)

11. a) State and explain Aufbau Principle.
(OR)
b) Explain the calculation of effective nuclear charge using Slaters rules.
12. a) Give an account of isotopes of H₂.
(OR)
b) Give the preparation and uses of LiCl.
13. a) Distinguish between carbocations and carbanions.
(OR)
b) State and explain Markovnikov rule with an example.

14. a) Distinguish between Monohydric and dihydric alcohols.
(OR)
b) Explain electrophilic aromatic substitution reactions of phenols.
15. a) Derive the reduced equation of state.
(OR)
b) Discuss the application of colloids.

SECTION - C**Answer any THREE questions****(3 × 15 = 45)**

16. Explain the following terms
a) Ionization energy.
b) Electron affinity.
c) Electro negativity.
17. Describe the preparation, properties and uses of plaster of paris and gypsum in detail.
18. Explain the mechanism of free radical halogenation of alkynes.
19. Discuss Gatterman synthesis and Reimer-Tiemann reaction of phenols in detail.
20. Describe the kinetic, optical, electrical properties and stabilities of sols in detail.

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