

D.K.M. COLLEGE FOR WOMEN (AUTONOMOUS), VELLORE-1
SEMESTER EXAMINATIONS
APRIL - 2016
GENERAL CHEMISTRY - II

15CCH2A

Time : 3 Hours

Max. Marks : 75

SECTION – A (10 x 2 = 20)

Answer ALL the questions.

1. Define Lattice energy.
2. Define bond order.
3. What are alkali metals?
4. Write any two elements from IIA group in the periodic table.
5. Define Joule's law.
6. Define RMS velocity.
7. What is meant by ozonolysis?
8. What is Hydroboration?
9. Mention the angle strain in cyclopentane.
10. What are cycloalkanes?

SECTION – B (5 x 5 = 25)

Answer any FIVE of the following questions.

11. State and explain Born – Haber cycle.
12. Draw and explain the molecular orbital diagram for H₂ and O₂ molecules.
13. Write the diagonal relationship of Li with Mg.
14. Write the exceptional property of Beryllium.
15. State and explain Joule – Thomson effect.
16. Explain Inversion temperature and its significance.
17. Write notes on acidity of alkynes.
18. How is cyclopentane prepared by Wurtz and Dieckmann's ring closure reaction?

SECTION – C (3 x 10 = 30)

Answer ALL the questions.

19. (a) Draw and explain the MO diagram of He₂, O₂⁺ and CO molecules.
(Or)
(b) Explain the geometries of H₂O, NH₃ and CH₄ using VSEPR theory.
20. (a) Write the comparative study of alkali metals.
(Or)
(b) Explain in detail about Maxwell's law of distribution of molecular velocities.
21. (a) i) Discuss the mechanism of free radical substitution in alkanes.
ii) Write short notes on Markownikoff's rule and peroxide effect.
(Or)
(b) Discuss Bayer's strain theory.