Reg.No: | | | | | | | | | | | |

D. K. M. COLLEGE FOR WOMEN (AUTONOMOUS), VELLORE-1

SEMESTER EXAMINATIONS

JUNE - 2022 21CCH2A

GENERAL CHEMISTRY - I

Time: 3 Hours **Max. Marks: 75**

SECTION – A (10 x 2 = 20)

Answer ALL the questions.

1. Define aromatization.
2. How will you prepare acetylene by dehalogenation?
3. How will you prepare cyclopentane by pyrolysis of Ca salt of dicarboxylic acid?
4. How will you prepare alkynes by oxidation with chromic acid?
5. Define electronegativity.
6. Calculate the bond order of CO.
7. Write a note on the general characteristics of s – block elements.
8. Write a note on crown ethers.
9. Define heat of a reaction.
10. What do you know about Boyle temperature?

SECTION – B (5 x 5 = 25)

Answer ALL the questions.

11. (a) Explain any two methods for the preparation of alkanes.

(Or)

(b) What are dienes? How will you classify dienes? Discuss their stability.

12. (a) Write notes on acetylides.

(Or)

(b) Discuss the substitution and ring opening reactions of cycloalkanes.

13. (a) Define lattice energy. Explain Born Haber cycle.

(Or)

(b) Draw the MO diagram of O_2 molecule.

14. (a) Explain the anomalous behaviour of Lithium.

(Or)

(b) How would you extract beryllium? Write the uses of Be.

15. (a) How will you calculate ΔH from ΔE?

(Or)

(b) Discuss Maxwell's distribution of molecular velocities.

SECTION – C (3 x 10 = 30)

Answer any THREE of the following questions.

16. (a) Define chlorination. Explain the mechanism of free radical substitution reaction.

(b) Write notes on Markonikkof's rule.

17. Write note on the following: (i) Wurtz reaction (ii) Dieckmann's condensation

(iii) Preparation of cyclohexane by cycloaddition.

18. Based on VSEPR theory, predict the geometry of H_2O, BF_3 and SF_6 molecules.
19. Write a notes on the extraction of Magnesium, its physical and chemical properties and uses.
20. (i) Discuss the variation of heat of reaction with temperature.

(ii) Derive an expression for Joule-Thomson coefficient.

* * * * *