A.D.M.COLLEGE FOR WOMEN, NAGAPATTINAM

(AUTONOMOUS)

B. Sc. (CHEMISTRY) Degree Examination

I Semester – November – 2022

CC I – GENERAL CHEMISTRY I

Time: 3 hours   **Maximum Marks: 75**

Section –A   **10X2=20**

Answer **ALL** the Questions:

1. State Paulis's exclusion principle.

2. The expected electronic configuration of chromium is [Ar] $3d^4$ $4s^2$. What is it actual configuration? Why?

3. What is common ion effect?

4. Write a simple test to identify carbonate radical.

5. What is hyperconjugation?

6. Indicate the nature of hybridization on ethylene and acetylene molecule.

7. Summarize the uses of alkynes

8. What are the sources of alkenes?

9. Define gold number.

10. What is reverse osmosis?

Answer **ALL** the Questions:

11. a) Explain Pauling's scale of electronegativity.

(or)

b) What is ionization energy? Give its variation along periods and groups.

12. a) Define the terms Normality and Molarity

(or)

b) Explain the principle of complexometric titration with suitable example.

13. a) Discuss Bayer's strain theory.

(or)

b) Construct the mechanism for E1 elimination.

14. a) State and explain Hammond's postualate.

(or)

b) Summarize the formation and stability of free radicals

15. a) What are emulsions? Explain their types with example.

(or)

b) Apply electro dialysis method for the purification of colloids

Answer any **THREE** Questions:

16. What are quantum numbers? Explain their types. Give their significance.
17. Apply the concept of solubility product in the separation of cations in qualitative inorganic analysis.
18. Criticize the conformation analysis of n-butane.
19. Investigate the following with examples
    i) Markovinkov's rule
    ii) Peroxide effect
20. Determine the molecular weight of a macromolecule by osmotic pressure method.