

D.K.M. COLLEGE FOR WOMEN (AUTONOMOUS), VELLORE-1**SEMESTER EXAMINATIONS****NOVEMBER - 2016****15CCH1A****GENERAL CHEMISTRY - I****Time : 3 Hours****Max. Marks : 75****SECTION – A (10 x 2 = 20)****Answer ALL the questions.**

1. Define Ionisation potential.
2. State Aufbau's principle.
3. Define molality.
4. What is meant by primary standard?
5. What are intensive and extensive properties?
6. What are isothermal and adiabatic process?
7. Define the term "Photoelectric effect".
8. State Heisenberg's uncertainty principle.
9. What is meant by hyperconjugation effect?
10. Define Inductive effect.

SECTION – B (5 x 5 = 25)**Answer any FIVE of the following questions.**

11. What are the characteristics of d and f block elements?
12. What are the factors that affect electron affinity?
13. Discuss about theories of acid - base indicators.
14. Write short note on Iodimetric titrations.
15. Explain the significance of Ψ and Ψ^2 .
16. What is meant by hybridization? Discuss about sp^3 hybridization in methane molecule.
17. Explain about Compton Effect.
18. Explain different types of system.

SECTION – C (3 x 10 = 30)**Answer ALL the questions.**

19. (a) i) Define electronegativity and explain the factors affecting electronegativity? (6)
ii) Explain Hund's rule of maximum multiplicity. (4)
(Or)
(b) Explain in detail about redox and complexometric titrations.
20. (a) i) Derive the relationship between C_p and C_v . (6)
ii) Explain first law of thermodynamics. (4)
(Or)
(b) Explain the following
i) Schrodinger wave equation. ii) deBroglie's relationship (5+5)
21. (a) Explain resonance effect and steric effect.
(Or)
(b) Explain the hybridization and geometry of acetylene and benzene.