C. ABDUL HAKEEM COLLEGE (AUTONOMOUS),
MELVISHARAM - 632 509.
SEMESTER EXAMINATIONS, NOVEMBER - 2018

B.Sc., CHEMISTRY **SEMESTER I**

U15MCH101 – GENERAL CHEMISTRY - I

Time: Three Hours Maximum: 75 Marks

SECTION - A (10 X 2 = 20 Marks)

Answer **ALL** Questions.

1. State Pauli's exclusion principle.
2. Define ionic radii.
3. Give an example for ring opening reaction.
4. What is hybridisation?
5. State Heisenberg uncertainity principle.
6. Give the mathematical form of Virial equation of state.
7. Distinguish ionic bond from covalent bond.
8. Define bond order.
9. Give example for primary and secondary standard substance.
10. Mention any two adsorption indicators.

SECTION - B (5 X 5 = 25 Marks)

Answer **ALL** Questions.

11. a) Discuss the periodicity of atomic radius.

(Or)

b) Explain various quantum numbers.

12. a) Explain the structure of acetylene.

(Or)

b) Discuss the mechanism of free radical substitution in alkanes.

13. a) With necessary graph explain Maxwell's distribution of molecular velocities.

(Or)

b) Explain the different types of velocities.

14. a) State and explain Fajans rules.

(Or)

b) Compare VB theory and MO theory.

15. a) Explain the calculation of the equivalent weight of acids and oxidizing agent.

(Or)

b) Discuss the principle of volumetric analysis.

SECTION - C (3 X10 = 30 Marks)

Answer **ANY THREE** Questions.

16. Discuss the general characteristics of 'p' block elements.
17. Discuss the general methods of preparation of alkanes.
18. Derive gas laws from kinetic gas equation.
19. Discuss the shapes of PCl_5 and IF_7 on the basis of VSEPR theory.
20. Explain the theories of indicators.

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