

PSG COLLEGE OF ARTS & SCIENCE
(AUTONOMOUS) _____
BSc DEGREE EXAMINATION DECEMBER 2019 "
(First Semester)

Branch - CHEMISTRY

GENERAL CHEMISTRY -1

Time : three Hours

Maximum : 75 Marks

SECTION-A <20 Marks!

Answer ALL questions

ALL questions carry EQUAL marks (10 x 2 ~;20)

- i Define Aufbau principle.
What is meant by principle quantum number?
Define electro negativity,
- 4 Define the term unizatein energy
- 5 What is meant by radius ratio?
- 6 Define lattice energy.
Define bond enthalpy,
- 8 How σ bond will form?
- 9 Explain the relative strength of 1° and V carbon mm c in.
- i 0 What is meant by resonance?

SECTION - B (25 Marks)

Answer ALL Questions

ALL Questions Carry EQUAL Marks (5 x 5 = 25)

- II a Mention the postulates of Bohr atomic model.
OR
b Derive de-broglie's equation for wave nature of particles.
- i 2 a Explain the chemical behaviour of modern periodic table.
OR
b Explain atomic and ionic radii. •
- 13 a Discuss Faian's rule.
OR
b Explain hydrogen bonding.
- 14 a Discuss Mo theory of Co molecule.
OR
b Correlate bond energy and bond enthalpy.
- 15 a Discuss the terms (i) resonance (ii) hyper conjugation
OR
b Discuss hybridization and geometry of ethylene.

SECTION - C (30 Marks)

Answer any THREE Questions

ALL Questions Carry EQUAL Marks (3 x 10 ~ 30)

- 16 Mention Schrodinger wave equation and physical significance of ψ and ψ^2
- 17 Define electro negativity explain Pauling and Maliken electro negativity scales.
- 18 Discuss Born-Haber cycle calculation.
- 19 (i) Differentiate VB and Mo theories.
(ii). Write note on bonding, anti bonding and non bonding orbitals.
- 20 Explain addition, substitution and elimination reactions.