Internal assessment, B. Sc. Chemistry (GE) Sem I, II, III and IV

Candidates are required to give their answer in their own words as far as practicable.

Answer any three questions from each semester.

SEM I, GE

Q 1. What are radial and angular nodes ?explain with suitable examples. Find out radial nodes, angular nodes and total nodes in the following orbitals
(i) 3p (ii) 2s (iii) 3d (iv) 4p

Q 2. What are the quantum numbers ? Explain different quantum numbers giving their significance.

Q 3. What is Fajan's'srule ? Why LiI is predominantly covalent while CsI is ionic ?

Q 4. What is difference between diastereomers? Give suitable examples.

Q 5. Write short notes on hydroboration- oxidation or Oxymorteration-demercuration.

SEM II, GE

Q 1. Establish relationship between Kp and K_C. What are the conditions when Kp becomes equal to Kc ?

Q 2. What is solubility and solubility product ? What are its applications ?

Q 3. What is S_N1 and $S_N2$reactions ? Explain with suitable examples.

Q 4. Write short notes on Pinacol-Pinacolone rearrangement or Gattermann reactions.

SEM III, GE

Q 1. What is ideal and non idealsolution ? Why non ideal solution exhibits deviation from Raoult'slaw ?

Q 2. How is conductivity, equivalent conductivity and molar conductivity vary with dilution for weak electrolyte ?

Q 3. Write short notes on Perkin condensation or Reformatsky reaction.

Q 4. What are carbohydrates ? How are the classified ? What is difference between reducing and non reducingsugar ?

SEM IV, GE

Q 1. What is inert pair effect ?

Q 2. What are hydrides ? How are the classified ? What are the properties of different hydrides ?

Q 3. What are differences between ideal and non idealgases ? Why real gases show deviation from ideal gases ?

Q 4. What is activation energy ? How is activation energy calculated from Arrhenius equation ?