

B.Sc. Semester - 2 (CBCS) Examination
March/April – 2024 (As Per Syllabus Year-2018)
CHEMISTRY (CORE)

Time: 2:30 Hours**Marks: 70****Instructions:**

1. All questions are compulsory.
 2. Figures to the right indicate marks.
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- Que.1(A) Answer the following question. (04)
(1) Discuss structure and Lewis acidity of Boron halide.
- Que.1(B) Answer any two questions out of three. (10)
(1) Write note on Inter halogen compounds.
(2) Discuss oxo acids of sulphur.
(3) Derive r^+/r^- ratio for trigonal crystal lattice.
- Que.2(A) Answer the following question. (04)
(1) Write only reaction of alkyne
(A) Halogenation
(B) Hydrohalogenation
(C) Hydration
(D) Hydroboration
- Que.2(B) Answer any two questions out of three. (10)
(1) Explain oxymercuration-demercuration reaction with mechanism.
(2) What are the criteria for a compound aromatic, non-aromatic and anti-aromatic?
Discuss application of Huckel's rule for atleast 3 cyclic carbocation & anion.
(3) Write short note on Bayer strain theory and discuss its limitation.
- Que.3(A) Answer the following question. (04)
(1) Explain solubility and solubility product of sparingly soluble salts.
- Que.3(B) Answer any two questions out of three. (10)
(1) Explain Bragg's law for identifying Internal structure of Crystal.
(2) Derive equation of pH of strong acid and weak base.
(3) Explain degree of dissociation and factor affecting on it.
- Que.4(A) Answer the following question. (04)
(1) Give the difference between activating and deactivating group.
- Que.4(B) Answer any two questions out of three. (10)
(1) Discuss Born-Haber cycle with example of NaCl.
(2) Write a note on Diel's Alder reaction.
(3) Discuss the internal structure of KCl by X-ray diffraction data.
- Que.5(A) Answer the following question. (04)
(1) Explain the buffer mechanism of acidic and basic buffer solution.
- Que.5(B) Answer any two questions out of three. (10)
(1) Explain VBT and VSEPR approach of XeF_4
(2) Explain acidity of Alkynes.
(3) Give the difference between Amorphous and crystalline solid
