

BSC2CheC201x
B.Sc. Semester - 2 (CBCS) Examination
March/April – 2025 (New Course)
CHEMISTRY (CORE)

Seat No : _____

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) Write the oxidation state of nitrogen in N_2O , NO , N_2O_3 & NO_2 (04)
- Que.1(B) Answer the following (Any Two) (10)
- (1) Draw the structure of any five oxoacids of Sulphur.
 - (2) Discuss Born – Haber cycle.
 - (3) Give the characteristics of ionic solids.
- Que.2 (A) Write the criteria for aromaticity. (04)
- Que.2(B) Answer the following (Any Two) (10)
- (1) Explain the Baeyer strain theory in detail.
 - (2) Explain Huckel's rule with examples.
 - (3) Explain: Oxymercuration - demercuration reactions.
- Que.3(A) Give the difference between crystalline and amorphous solids. (04)
- Que.3(B) Answer the following (Any Two) (10)
- (1) Derive the equation to determine the pH of aqueous solution of weak acid.
 - (2) Explain crystal structure of NaCl in detail.
 - (3) Explain the hydrolysis of salt of weak acid and strong base in detail.
- Que.4(A) Give any two preparation of small ring cycloalkane. (04)
- Que.4(B) Answer the following (Any Two) (10)
- (1) Explain: VSEPR theory of XeO_4 .
 - (2) Explain: N & P type semiconductors.
 - (3) Explain: aromatic electrophilic substitution reaction in benzene with mechanism.
- Que.5(A) Explain: Solubility and solubility products of sparingly soluble salts. (04)
- Que.5(B) Answer the following (Any Two) (10)
- (1) Explain: Conformation of ethane.
 - (2) What is Buffer? Explain the mechanism of working of buffer.
 - (3) Explain in detail: Bragg's law.
