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BSCchMJ206x-3C Seat No :_____

B.Sc. Semester - 3 (NEP-2020) Examination

OCT/NOV-2025

CHE: Intermediate Chemistry-206 (Major-6)

Time: 2:00 Hours Marks:50

Instructions:

1. All questions are compulsory.
2. Figures to the right indicate marks.

Que.1 Answer any two out of three questions given. (10)

1) Derive Schrodinger wave equation.
2) Write postulates of wave mechanics.
3) What are the nitrogenous fertilizers? Explain production of ammonium nitrate using prilling method.

Que.2 Answer any two out of three questions given (10)

1) Explain $LiAlH_4$ reduction of aldehyde and ketone with mechanism.
2) Write any five reactions of monocarboxylic acid.
3) Explain structure and write two synthetic applications of Ethylacetoacetate.

Que.3 Answer any two out of three questions given. (10)

1) Explain Joule-Thompson effect.
2) Explain additive and constitutive properties with an example. Explain drop method used to measure surface tension.
3) Derive integrated Kirchoff's equation.

Que.4 Answer any two out of three questions given. (10)

1) What is two component system? Give classification of two component system.
2) Briefly explain points for the manufacture of Portland cement.
3) Discuss Beckmann rearrangement in detail.

Que.5 Answer any two out of four questions given. (10)

1) Derive coefficients of sp hybridization.
2) Describe two component partially miscible liquid pair.
3) Write three addition reactions of carbonyl compound.
4) Find work done when one mole of an ideal gas at 25^{O} is allowed to expand reversibly and isothermally from 5 atm. to 1 atm. ($R=8.314$ Joule $mole^{-1}$ K^{-1})

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