647510 **BSCfsMN202x-2C** **Seat No :_____**

B.Sc. (FS) Semester - 2 (NEP-2020) Examination

MARCH/APRIL-2026

Chemistry: Foundation in Chemistry (Minor-2)

Time: 2:00 Hours **Marks: 50**

Instructions:

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

Que.1 Answer the following questions. (10)

1. Explain the diagonal relationship between lithium (Li) and magnesium (Mg).
2. Explain the cobalt nitrate test and the Flame test with suitable chemical reactions.

OR

Que.1 Answer the following questions.

1. Write any three methods of preparation and any two chemical properties of B_2H_6.
2. Give the preparation, properties, and uses of washing soda and baking soda.

Que.2 Answer the following questions. (10)

1. Give difference between E^1 and E^2 reactions.
2. Discuss any three methods of preparation of small ring cycloalkanes.

OR

Que.2 Answer the following questions.

1. Explain Saytzeff and Hoffmann elimination reactions with suitable examples.
2. Discuss ArSE of benzene with general mechanism.

Que.3 Answer the following questions. (10)

1. Explain Applications of Solubility product in Ionic Equilibrium.
2. Write a note on (i) Molecular solids (ii) Metallic solids.

OR

Que.3 Answer the following questions.

1. Describe dissociation constant for weak acid and weak base.
2. Calculate the number of atoms per unit cell for simple cubic, body centered cubic and face centered cubic.

Que.4 Answer the following questions. (10)

1. What is inert pair effect? Explain its relationship with stability of oxidation state.
2. Write a short note on Baeyer's strain theory.

OR

Que.4 Answer the following questions.

1. Explain criteria for compound to be aromatic, antiaromatic and non-aromatic with one example of each.
2. Write any two methods of preparation of Borax and Boric Acid.

Que.5 Answer the following questions. (10)

1. Explain degree of dissociation & factors affecting on it.
2. Describe the common ion effect based on ionic equilibrium.

OR

Que.5 Answer the following questions.

1. Differentiate Schottky and Frenkel effects in Solid State.
2. Discuss the formation of alkene by elimination reaction and dehydration of alcohols.

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