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Model Question Paper: Final Semester Examination

M.Sc. Semester-IV, Core Course – 9 (CC-9) (Synthetic Organic Chemistry)

Section- V Reagent in Reduction Reaction

MCQ (2- Marks)

1. Braking one of these: C-O, C-N, C-X and increasing electron density on carbon atom is called an/a:
a) Oxidation reaction b) Reduction reaction c) Both a and b d) None
2. Steam reforming (STM) produces:
a) Mustard gas b) Water gas c) Syngas d) all
3. $\text{CO}_2 + \text{H}_2$ is called:
a) Syngas b) Water gas c) Both d) None
4. $\text{CO} + 3\text{H}_2$ is called
a) Water gas b) Dry ice c) Syngas d) All
5. Non-precious metal catalysts are represented by:
a) Raney nickel b) Urushibara nickel c) Ni-metals d) all

Short Answer type Questions (5- Marks)

Q-1. Write short notes on:

- a) Reduction of Alkenes: By hydrogenation
- b) Hydrogen sources and its production

Q-2. Define catalyst. Discuss Homogeneous and Heterogenous catalysts.

Q-3. Illustrate with suitable example the “Role of homogeneous catalysts in asymmetric synthesis on prochiral substrates.

Q-4. Give following information about Raney Ni-Catalyst:

- a. Preparation of Raney Ni-Catalyst
- b. Activation
- c. Application

Long answer type questions (12.5)

Q-1. Give following information about Raney Ni-Catalyst:

- a.** Preparation of Raney Ni-Catalyst
- b.** Activation
- c.** Application

Q-2. Write short notes on:

- 1.** Adams Catalyst
- 2.** Lindlar catalyst
- 3.** Wilkinson catalyst.

Q-3. Disclose following information about “Wolff-Kishner Reduction process of carbonyl to methylene.”

- a.** Reaction Scheme and principle
- b.** Preparation of phenyl hydrazine
- c.** Preparation of hydrazone
- d.** Mechanism of induction of methylene group.