# **Quadrant IV– Assessment (Module – wise)**

Programme	:Bachelor of Science (Third Year)
Subject	:Chemistry
Paper Code	:CHC-107
Paper Title	:Organic Chemistry – Section B
Unit 4	: Chemistry of Heterocyclic Compounds
Module Name	Structure, Resonance, Stability & Industrial Source of Quinoline and Isoquinoline
Module No	:28
Name of the Presenter	:Dr K. L. Dhumaskar

## MCQ

- 1. Quinoline is ?
  - A) aromaticB) antiaromaticC) non aromatic
  - D) None of the above
- 2. Isoquinoline is?
  - A) BasicB) AcidicC) neutral
  - D) None of the above

### Short Answer – I (short notes - say 20 to 50 words)

- 1. Why is the lone pair on the nitrogen atom in quinoline not involved in the resonance?
- 2. Why is the lone pair on the nitrogen atom in isoquinoline not involved in the resonance?
- 3. Comment on the basicity of quinoline.
- 4. Comment on the basicity of isoquinoline.
- 5. What are the physical properties shown by quinoline and isoquinoline?
- 6. What is conjugation?

#### Short Answer – II (extended – say 50 to 100 words)

- 1. Distinguish between quinoline and isoquinoline.
- 2. Write all the possible resonating structures of isoquinoline.
- 3. Write all the possible resonating structures of quinoline.
- 4. Will quinoline undergo electrophilic substitution reactions. If yes then under what conditions? Which positions will be substituted?
- 5. Will isoquinoline undergo electrophilic substitution reactions. If yes then under what conditions? Which positions will be substituted?
- 6. Will quinoline undergo nucleophilic substitution reactions. If yes then under what conditions? Which positions will be substituted?
- 7. Will isoquinoline undergo nucleophilic substitution reactions. If yes then under what conditions? Which positions will be substituted?

#### **Create something new (higher order cognition)**

- 1. If the nitrogen containing ring of quinoline is reduced what will be the effect on the stability and basicity of the molecule?
- 2. If the nitrogen containing ring of isoquinoline is reduced what will be the effect on the stability and basicity of the molecule?