

# Heterocyclic Chemistry - Video course

## COURSE OUTLINE

- Nomenclature, classification
- Aromatic heterocycles
- Non-aromatic heterocycles
- Heterocyclic synthesis

## COURSE DETAIL

Lectures	Modules
1 2 3 4&5	<b>1. Introduction</b> Definition of heteroatom and alkaloids and bases Importance of heterocycles and heterocycles in medicine Nomenclature and common names Structure and aromaticity; Structure determination
6 7&8 9&10	<b>2. General characteristics</b> Effect of heteroatoms on organic reactions: comparison with carbogenic compounds Palladium in heterocyclic chemistry Oxidation and reductions in heterocyclic chemistry Tertiary amino effect
11&12 13&14 15&16 17&18 19&20	<b>3. Aromatic heterocyclic chemistry</b> Pyrrole group Pyridine group Indole group Quinoline group Miscellaneous group
21&22 23&24 25&26 27&28	<b>4. Non-aromatic heterocyclic chemistry</b> Oxirane group Oxetane Furan Pyran



NP-TEL

# NPTEL

<http://nptel.iitm.ac.in>

## Chemistry and Biochemistry

### Pre-requisites:

Introductory Organic Chemistry

### Coordinators:

**Prof. D.R. Mal**  
Department of Chemistry IIT Kharagpur

## 5. Miscellaneous group

29&30	Functional molecules and organocatalysts
31&32	Heterocycles in organic synthesis
33-35	Biomolecules
36-38	Industrial molecules
39&40	Problems and exercises

### References:

1. Aromatic Heterocyclic Chemistry (Oxford Chemistry Primers) by David T. Davies
2. Heterocyclic Chemistry (3rd Edition) by Thomas. L. Gilchrist
3. Heterocyclic Chemistry by John A. Joule and K. Mills
4. The Chemistry of Heterocycles: Structure, Reactions, Syntheses, and Applications by Theophil Eicher and Siegfried Hauptmann