



DGG-003-030401

Seat No. \_\_\_\_\_

**M. Sc. Pharmaceutical Organic Chemistry  
(Sem. - IV) (CBCS) Examination**

May / June - 2015

**POC - 401 : Heterocyclic Chemistry**

**Faculty Code : 003**

**Subject Code : 030401**

Time :  $2\frac{1}{2}$  Hours]

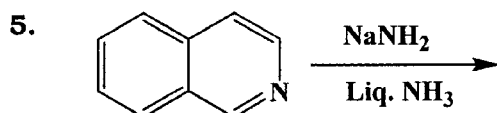
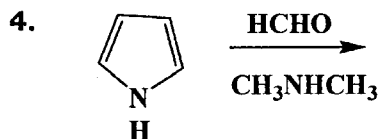
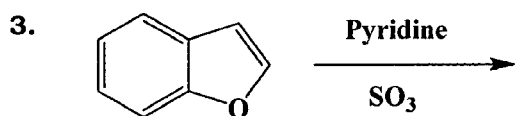
[Total Marks : 70

**Instructions :** (1) All questions are compulsory and carries equal 14 marks.  
(2) Draw suitable diagram/scheme wherever necessary.

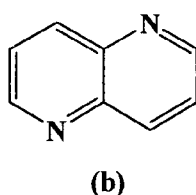
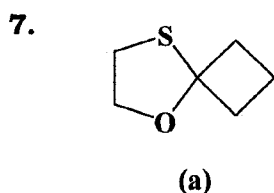
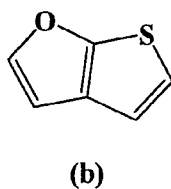
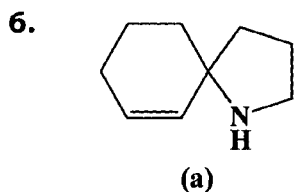
**Q.1** Answer any **SEVEN** of the following questions. [14 Marks]

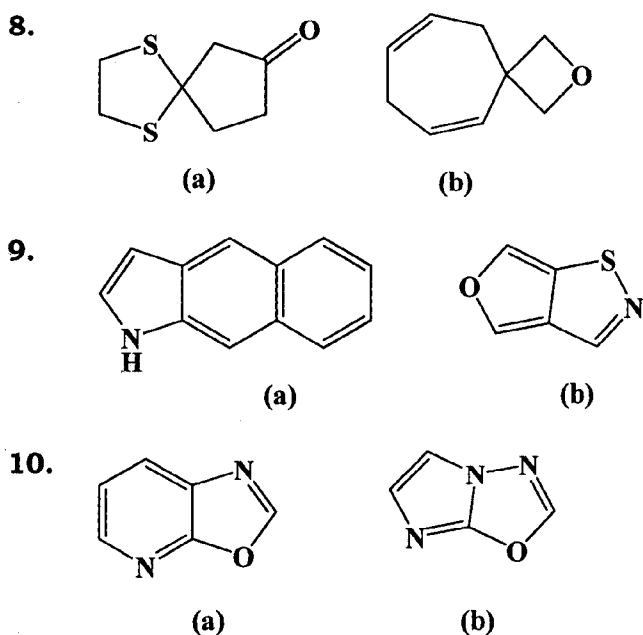
1. Justify: Pyridine is more basic than Pyrrole.
2. Why electrophilic substitution reactions occur at position-3 in Indole?

**Complete** the following chemical reaction.



Give **IUPAC nomenclature** of the following:





**Q.2** Answer any **TWO** of the following questions. [14 Marks]

Describe the Chemical reactivity and three Syntheses of following:

1. Aziridine
2. Quinoline
3. Pyrrole

**Q.3** Answer the following questions. [14 Marks]

1. Describe Physical properties and three Preparations of Benzo[b]furan.
2. Give three Synthesis of (i) Thiadiazole (ii) Pyrazine

**OR**

**Q.3** Answer the following questions. [14 Marks]

1. Describe Nucleophilic reactivity and three Syntheses of Thiazole.
2. Give three synthesis of (a) Quinoxaline (b) Benzopyran-4-one.

**Q.4** Answer any **TWO** of the following questions. [14 Marks]

Describe the Electrophilic and Nucleophilic reactivity of following:

1. Coumarin
2. Indole
3. Pyrazole

**Q.5** Answer any **TWO** of the following questions.

[14 Marks]

Give **THREE** Syntheses of following:

1. (a) Oxadiazole            (b) Pyridazine,
  2. (a) Isoxazole            (b)  $\alpha$ -Pyridone
  3. (a) Morpholine          (b) Pyrimidine
  4. (a) Isatin                (b) 1,2-diazetidene
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