

Total No. of Questions : 6]

SEAT No. :

P1446

[5049]-403

[Total No. of Pages : 3

S.Y.B. Pharmacy

PHARMACEUTICAL ORGANIC CHEMISTRY - IV
(2013 Pattern) (Semester-IV)

Time : 3 Hours]

[Max. Marks : 70

Instructions to candidates:

- 1) *All questions are compulsory.*
- 2) *Answer to the two sections should be written in separate books.*
- 3) *Figurer to the right indicate full marks.*

SECTION - I

Q1) Give a detail account of methods of synthesis and reactions of furan. [10]

OR

Draw the structure and give numbering of following heterocycles with one example of drug belonging to each: [10]

- a) Thiophene
- b) Pyrrole
- c) Cinnoline
- d) Coumarin
- e) Pteridine

Q2) Answer in short (Any five) [15]

- a) Draw the following structures with numbering:
 - i) 5-acetoxypyridazine
 - ii) 2-mercaptoquinazoline
 - iii) 4-furfuryl-cinnoline
- b) Give any three reactions of indole

P.T.O.

- c) Draw the resonance structures of:
- pyridine
 - pyrrole
- d) Write any two reactions for synthesis of quinoline
- e) Give reason: Nucleophilic substitution in pyridine takes place preferably at 2 position than 4 position.
- f) Write the following reactions of pyridine:
- Nitration
 - Sulfonation
- g) Give any two methods of synthesis of pyridine.

Q3) Write a short note on (any two): **[10]**

- Methods of preparation of Quinoline
- Reactions of pyridine
- Explain the following:
 - Properties of Imidazole
 - Reactions of Imidazole
- Retrosynthetic scheme of Ibuprofen.

SECTION - II

Q4) Define combinatorial Chemistry? Explain Mix and split synthesis in Combinatorial chemistry. Enlist applications of combinatorial chemistry. **[10]**

OR

Establish the cyclic structures of Glucose and give the detailed account on the reaction involved. **[10]**

Q5) Solve any five of the following:

[15]

- a) Explain any two reactions of Arabinoses.
- b) What is the reaction of glucose with
 - i) Nitric acid?
 - ii) Bromine water?
 - iii) Sodium borohydrate?
- c) Explain the use of Nanochemistry
- d) Write a note on Mutarotation
- e) Explain any two methods of preparation of Fructose.
- f) How will you distinguish between glucose and sucrose?
- g) Explain significance and medicinal importance of Carbohydrates.

Q6) Write short notes on any two of the following:

[10]

- a) Microwave assisted synthesis.
- b) Reducing sugars
- c) Ruff degradation
- d) Maryfield peptide synthesis.

