

Seat No.: _____

Enrolment No. _____

GUJARAT TECHNOLOGICAL UNIVERSITY
B. Pharm. – SEMESTER – V • EXAMINATION – SUMMER • 2014

Subject Code: 250004

Date: 11-06-2014

Subject Name: Pharmaceutical Chemistry-VI (Medicinal Chemistry)

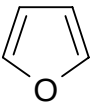
Time: 10:30 am - 01:30 pm

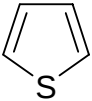
Total Marks: 80

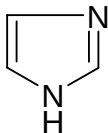
Instructions:

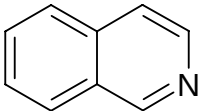
1. Attempt any five questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.

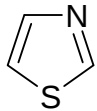
- Q.1** (a) What is Medicinal Chemistry? Give importance of Medicinal chemist in drug development. **06**
- (b) Explain the effect of following parameter on biological activity. **05**
1. Complexation
 2. Hydrogen bonding
- (c) Give preparation of Quinoline. **05**
- Q.2** (a) Comment on following statements **06**
1. Imidazole is less basic than pyrazole.
 2. Indole is aromatic
 3. Thiophene is more reactive for electrophilic substitution than furan.
- (b) Give SAR of antihistaminic agents. **05**
- (c) Give structure, chemical name and synthesis of following compounds. **05**
1. Cetirizine
 2. Chlorpheniramine
- Q.3** (a) What are proton pumps Inhibitors? Explain its mechanism of action. Give Synthesis of Omeprazole. **06**
- (b) Discuss reactivity of pyridine towards electrophiles and nucleophiles **05**
- (c) What are antiemetic agents? Classify them with examples **05**
- Q.4** (a) Give name, structure and uses of any two compounds of following **06**
1. Expectorants
 2. Antiasthmatic agents
- (b) What is eudismic ratio? Give importance of Chirality in drug action. **05**
- (c) Give preparations of Furan. **05**
- Q.5** (a) Explain the following terms with examples **06**
1. Prokinetics
 2. Laxatives
 3. Irritable bowel syndrome
- (b) Write a note on Antitussive agents. **05**
- (c) Give the importance of protein binding in drug action. **05**
- Q. 6** (a) Explain the physicochemical parameters affecting drug absorption. **06**
- (b) What is peptic ulcer? Give brief note on H₂-antagonists. **05**
- (c) Give a note on radiological contrast media. Give synthesis of diatriazoic acid. **05**

- Q.7** What are Eicosanoids? Give name of major biosynthesis pathways and drug actions **06**
- (a) mediated by Eicosanoids. **05**
- (b) Give reactions of Pyrrole. **05**
- Complete the following reactions.
- (c)
- (1)  + HCN + HCl $\xrightarrow{\text{ZnCl}_2}$?

05
- (2)  $\xrightarrow{\text{Conc. H}_2\text{SO}_4}$?

05
- (3)  $\xrightarrow{\text{H}_2\text{O}_2}$?

05
- (4)  $\xrightarrow{\text{Alkaline KMnO}_4}$?

05
- (5)  $\xrightarrow[\text{liq. NH}_3]{\text{KNH}_2}$?

05
