

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

Enrolment No. \_\_\_\_\_

**GUJARAT TECHNOLOGICAL UNIVERSITY**

**B. Pharm-Semester-V May-2012 Examination**

**Subject code:250004**

**Subject Name: Pharmaceutical Chemistry-VI (Medicinal)**

**Time: 02:30pm to 5:30pm**

**Date: 19-05-2012**

**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) Explain the following **06**  
1 Pyridine is more basic than pyrrole.  
2 Impurity of thiophene in benzene can be removed by cold sulphuric acid.  
3 Electrophilic substitution reaction in furan occurs at 2<sup>nd</sup> and 5<sup>th</sup> position.  
(b) Write short note on complex formation or chelation. **05**  
(c) Give TWO reactions of the following: **05**  
(1)Thiophene (2)Quinoline (3)Imidazole (4)Pyridine
- Q.2** (a) Explain the following with reaction mechanism: **06**  
1 Skraup synthesis  
2 Paal-Knorr synthesis  
(b) Explain proton pump inhibitors with its mechanism of action. **05**  
(c) Give the structure of: **05**  
(1) Pyran (2) Triazole (3) Isoquinoline (4) Pyrazine (5) Piperidine
- Q.3** (a) Give and account of SAR of first generation H<sub>1</sub> receptor antagonist. **06**  
(b) Write short on antiemetic agents. **05**  
(c) Give the synthesis and use of the following: **05**  
1 Chlorpheniramine  
2 Piperazine citrate
- Q.4** (a) Answer the following: **06**  
1 Explain Fischer's Indole synthesis with reaction mechanism.  
2 Explain Proton Transfer (Hantzsch) synthesis for Pyridine with reaction mechanism.  
(b) What are anthelmintic agents? Classify them with suitable examples. **05**  
(c) Classify H<sub>1</sub> receptor antagonist with suitable examples. **05**
- Q.5** (a) Answer the following: **06**  
1 Explain Bischler-Napieralski reaction for Isoquinoline with reaction mechanism.  
2 Discuss chemical properties of pyridine.  
(b) Define and classify antiasthmatic agents **05**  
(c) Define the following terms: **05**  
(1) Emetic (2) Expectorant (3) Decongestant (4) Demulcent (5) Antacid

- Q. 6** (a) Give any TWO methods of preparation of the following: **06**  
(1) Indole (2) Pyrazole (3) Furan (4) Oxazole
- (b) Antispasmodic agents **05**
- (c) Write details on Bioisosterism **05**
- Q.7** (a) Discuss the relationship between biological action and physicochemical properties for ANY TWO of the following with suitable example **06**
- 1 Partition Coefficient
- 2 Hydrogen bonding
- 3 Protein binding
- (b) Write a short note on Eicosanoids **05**
- (c) Write a short note on Diagnostic agents **05**

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