

GUJARAT TECHNOLOGICAL UNIVERSITY**B. Pharm. - SEMESTER-5 • EXAMINATION – SUMMER -2018****Subject Code: 250004****Date: 21/05/2018****Subject Name: Pharmaceutical Chemistry - VI (Medicinal)****Time: 02:30 PM TO 05:30 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) How the following physicochemical properties of drug molecules influence the biological activity. (i) Protein binding (ii) Partition coefficient **06**
 (b) Define i) Bioisosterism ii) Geometrical Isomerism iii) Optical isomerism **05**
 (c) Write notes on (i) Hydrogen bonding (ii) Redox potential **05**
- Q.2** (a) Complete the following reactions **06**
 (i) Furan + ammonia $\xrightarrow{\text{Al}_2\text{O}_3}$
 (ii) Pyrrole + chloroform $\xrightarrow{\text{Base}}$
 (iii) Isoquinoline $\xrightarrow[\text{Permanganate}]{[\text{O}]}$
 (b) Write the synthesis with mechanism of the following **05**
 (i) Skraup Quinoline synthesis (ii) Fischer-Indole synthesis
 (c) Give the reactions of thiazole and pyrimidine **05**
- Q.3** (a) Define antiasthmatics. Classify and give structure from each classification. **06**
 (b) Write a note on (i) Antitussive agent (ii) Decongestants **05**
 (c) Discuss SAR of (i) Ranitidine (ii) Omeprazole **05**
- Q.4** (a) Write the uses of the following drugs: (i) Noscapine (ii) Triamcinolone **06**
 (iii) Dimenhydrinate (iv) Methyl cellulose (v) Diphenoxylate (vi) Papaverine
 (b) Write notes on (i) Carminatives (ii) Prokinetics **05**
 (c) Give the synthesis of (i) Ranitidine (ii) Omeprazole **05**
- Q.5** (a) Give the synthesis of the following drugs (i) Diphenhydramine **06**
 (ii) Tripeleminamine (iii) Antazoline
 (b) Write notes on i) Antiemetics ii) Laxatives **05**
 (c) Discuss the SAR of antihistamines **05**
- Q. 6** (a) What are Eicosanoids ? Classify with example. Discuss the biosynthesis and pharmacological activities of prostaglandins **06**
 (b) Give the synthesis and IUPAC name of (i) Cetrizine (ii) Trimeprazine **05**
 (c) Write a note on (i) Local colorectal preparations (ii) Enzymes **05**
- Q. 7** (a) Define and classify diagnostic agents. Write a note on sodiumthalamate and diazotric acid **06**
 (b) Discuss the following (i) Mannich reaction of indole (ii) Sulphonation of pyridine **05**
 (c) Write the reactions of the following (i) Quinoline (ii) Imidazole **05**
