

Seat No.: _____

Enrolment No. _____

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 (iii) Dimenhydrinate (iv) Methyl cellulose (v) Diphenoxylate (vi) Papaverine | 06 |
| (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 (ii) Tripeleennamine (iii) Antazoline | 06 |
| (b) | Write notes on i) Antiemetics ii) Laxatives | 05 |
| (c) | Discuss the SAR of antihistamines | 05 |
- Q.6**
- | | | |
|-----|--|----|
| (a) | What are Eicossanoids ? 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 sodiumlothalamate and diatrizoic 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 |