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Roll No.

CHE-554

Drugs and Pharmaceuticals

M.Sc. CHEMISTRY (MSCCH-12/13/16/17)

2nd Year Examination, 2021 (Winter)

Time : 2 Hours]

Max. Marks : 80

Note : This paper is of Eighty (80) marks divided into two (02) Sections A and B. Attempt the questions contained in these sections according to the detailed instructions given therein.

SECTION-A

(Long Answer Type Questions)

Note : Section 'A' contains Five (05) long answer type questions of Twenty (20) marks each. Learners are required to answer any Two (02) questions only.

(2×20=40)

1. (a) Write notes on followings :
 - (i) Receptors role in physiological functions of living system.
 - (ii) Isosteres and Bioisosteres.

(b) Write names and structures of at least two compounds obtained from following sources : 10

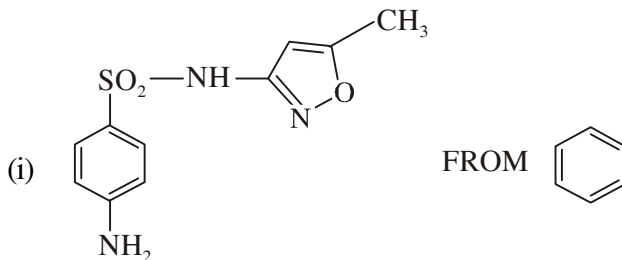
- (i) Plant.
- (ii) Animals.
- (iii) Microbes.
- (iv) Medical folklore.
- (v) Toxins.

2. (a) Discuss QSAR on following terms. 15

- (i) Reliable QSAR model developing conditions.
- (ii) Hydrophobicity constant TT.
- (iii) Electronic parameter.

(b) Write synthesis of Dopamine. 05

3. (a) Derive method of synthesis of followings :



- (ii) Salphaguanidine FROM Aniline
- (iii) Trimethoprim FROM 3,4,5 Trimethoxy benzaldehyde

(b) Write note on mechanism of action of Sulphonilamide.

4. (a) Write note on antibiotics inhibiting the synthesis of bacterial cell wall and membranes. 15
(b) Derive synthesis of Penicillin V 05
5. Formulate synthesis of followings : 20
(a) Ciprofloxacin/ Norfloxacin.
(b) Chloramphenicol/Chloramphenicol.
(c) Quinacrine/ Chloroquine.
(d) Metoprolol.

SECTION-B

(Short Answer Type Questions)

Note : Section 'B' contains Eight (08) short answer type questions of Ten (10) marks each. Learners are required to answer any Four (04) questions only. (4×10=40)

1. Discuss development of drug Captopril.
2. Write role of resins and linkers in solid phase technique used in combinatorial synthesis.
3. Give an account of Cephalosporine as β lactamase inhibitor.
4. (a) Give synthesis of H₂ - Histamine antagonist drug Ranitidine.
(b) Write note on Calcium channel blockers.

5. Write note on followings :
 - (a) Carbonic Anhydrase enzyme inhibitors.
 - (b) Immune system of body and immune enhancers.
 6. Explain binding role of hydroxyl and amino groups in drug receptor interactions.
 7. Give detailed account of Hansch analysis method used in studying drug activity.
 8. Write a detailed note on importance of prodrug in drug design.
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