



‘সমানো মন্ত্র: সমিতি: সমানী’

**UNIVERSITY OF NORTH BENGAL**

B.Sc. Honours 3rd Semester Examination, 2022

**SEC1-P1-CHEMISTRY**

**PHARMACEUTICAL CHEMISTRY**

Time Allotted: 2 Hours

Full Marks: 40

*The figures in the margin indicate full marks.*

1. Answer any **five** questions from the following: 1×5 = 5
- (a) What are antiseptics?
  - (b) Give two examples of central nervous system agents.
  - (c) Define opioid analgesics.
  - (d) Name one ligand present in vitamin B<sub>12</sub>.
  - (e) Give two therapeutic benefits of curcumin.
  - (f) What are chemotherapeutic agents?
  - (g) What is synergistic effect of drugs?
2. Answer any **three** questions: 5×3 = 15
- (a) (i) Name and explain three design tools which computational techniques provide to assist a chemist to synthesize a drug molecule. 3
  - (ii) What are antifungal agents? Explain with examples. 2
  - (b) (i) Give two applications of citric acid in the industry. 2
  - (ii) What is riboflavin? Give its structure and the deficiency disease. 1+1+1
  - (c) What are antibiotics? Discuss the classification of antibiotics with one example in each category. 1+4
  - (d) (i) Distinguish between a drug and a pro-drug. 2
  - (ii) Discuss the structural similarities of cephalosporin with penicillin. 3
3. Answer any **two** questions from the following: 10×2 = 20
- (a) (i) What are therapeutic agents? 2
  - (ii) Classify sulphonamides with examples. 2
  - (iii) Outline the synthesis of Trimethoprim and Sulphamethoxazole. 3+3

- (b) Write short notes on:  $2\frac{1}{2} \times 4 = 10$
- (i) Medicinal use of azadirachtin
  - (ii) Ranitidine
  - (iii) Antibacterial agents
  - (iv) Semi-synthetic penicillins.
- (c) (i) Outline the therapeutic uses of glyceryl trinitrate. 2
- (ii) Give two uses of streptomycin. 2
- (iii) What is Dapsone? Outline its synthesis starting from *p*-nitrochlorobenzene. 2+3
- (iv) Define antipyretics. 1

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