

B

156

**M.Sc. (Applied Chemistry) (Semester-IV)
EXAMINATION, -2016**

Sixteenth Paper

PHARMACEUTICAL CHEMISTRY

Time allowed : Three hours

Maximum marks : 40

Part-A (Compulsory)

{Marks : 8}

Answer all eight questions (20 words each). Each question carries equal marks.

Part-B (Compulsory)

{Marks : 8}

Answer all four questions (50 words each). Each question carries equal marks.

Part-C

{Marks : 24}

Answer any three questions (400 words each), selecting one from each unit. Each question carries equal marks.

- | | |
|--|---|
| 1. What is a drug molecule ? | 1 |
| 2. What do you mean by lead compound ? | 1 |
| 3. What do you mean by ED ₅₀ ? | 1 |
| 4. What do you mean by the term "pharmacokinetics" ? | 1 |
| 5. What do you mean by enzyme stimulation ? | 1 |
| 6. Write the names of two membrane active drugs. | 1 |
| 7. What are sulphonamides ? | 1 |
| 8. Write the structures of any two antibiotics. | 1 |
| Part-B (Compulsory) | |
| 9. What are the properties that enable a molecule to become a drug-like molecule ? | 2 |
| 10. How Hansch analysis revolutionized drug molecule optimization ? | 2 |

- 11. Discuss the significance of drug metabolism in medicinal chemistry. 2
- 12. Discuss the general mode of action of drugs against infection. 2

Part-C

Unit-I

- 13. Discuss the theories of drug activity. 8
- 14. Write short notes on the following :
 - (i) Factors affecting bioactivity
 - (ii) Concept of drug receptors
 - (iii) Relationships between Free-Wilson and Hansch analysis 2+3+3

Unit-II

- 15. Write notes on the following :
 - (i) Biotransformation
 - (ii) Uses of pharmacokinetics in drug development process. 4+4

16. Write notes on the following :

- (i) Elementary treatment of enzyme inhibition
- (ii) Pharmacokinetic parameters 4+4

Unit-III

17. Give synthesis of the following (any two) :

- (i) Ciprofloxacin
- (ii) Fluconazole
- (iii) Primaquin
- (iv) Dapsone. 4x2

18. Discuss the following (any two) :

- (i) Synthesis of Amoxicillin
- (ii) Synthesis of Tetracycline
- (iii) Cell wall biosynthesis ✓
- (iv) β -lactum rings ✓ 4x2