



**PHARMACOLOGY**  
PAPER – I

PHARM/D/14/34/I

Time : 3 hours  
Max. Marks : 100

**Important instructions:**

- Attempt all questions in order.
- Each question carries 10 marks.
- Read the question carefully and answer to the point neatly and legibly.
- Do not leave any blank pages between two answers.
- Indicate the question number correctly for the answer in the margin space.
- Answer all the parts of a single question together.
- Start the answer to a question on a fresh page or leave adequate space between two answers.
- Draw table/diagrams/flowcharts wherever appropriate.

1. Describe the various ways by which drugs are transported across cellular membranes. Discuss the implications and clinical usefulness of the influence of pH in this transport. 4+(3+3)
2. Enumerate the various pharmacokinetic parameters. Mention their clinical implications giving suitable examples. What are the factors that influence and determine frequency of drug administration? 2+4+4
3. What do you understand by the terms 'tolerance' and 'drug resistance'? Discuss briefly the different types of tolerance and their clinical implications in therapeutics. Give suitable examples to illustrate your answer. 2+6+2
4. Describe "Drug Safety Index". How will you determine the "Therapeutic Window" for a new experimental drug? 5+5
5. What are the principles that govern biological standardization of a new drug? Discuss the methodology, advantages and disadvantages of a "four point drug assay" using a guinea pig ileum. Illustrate your answer with suitable diagrams. 2+8
6. Describe the screening methods for a drug thought to be useful for treatment of peptic ulcer. Discuss the parameters used for grading the severity of peptic ulcer in the experimental set up. 6+4
7. Enumerate tachykinins. Discuss their pathophysiological role and pharmacological implications. 3+7
8. What do you understand by 'validation' of a questionnaire used for research? Briefly describe the process of validating a "quality of life" questionnaire for a research project. 2+8

P.T.O.