PHARMACOLOGY
PAPER-I

PHARMA/D/17/34/I

Time: 3 hours
Max. Marks: 100

- *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 question to a question on a fresh page or leave adequate space between two answers.*
- *Draw table/diagrams/flowcharts wherever appropriate.*

Write short notes on:

1.	a)	Write the in-vitro and animal toxicity tests required for new drug development.	5+5
	b)	What are preclinical evaluation methods for potential antiepileptic new chemical entity?	
2.	a)	What are the ethical and regulatory issues in use of animals in biomedical research?	5+5
	b)	Composition and functions of Institutional Ethics Committee for research in human subjects.	
3.	a)	Methods of Pharmacovigilance with their advantages and limitations	5+5
	b)	Pharmacogenomics interlink with pharmacovigilance, giving examples.	
4.	a)	What are the inclusion and exclusion criteria of papers in meta analysis. What is the advantage of meta analysis?	5+5
	b)	What are the methods and implications of drug utilization studies?	
5.	a)	Difference between partial agonist and inverse agonist giving suitable examples.	4+6
	b)	Define median lethal dose and median effective dose and their importance in Therapeutics.	
6.	a)	Define bioavailability and how it is determined. Give suitable examples.	5+5
	b)	What is the difference between pharmaceutical equivalent and therapeutic equivalent? Give suitable equivalence.	
7.	a)	Role of Placebo in clinical trials.	5+5
	b)	Mention advantages and disadvantages of fixed dose combination.	

8. a) Principles and steps in preparing National List of Essential Medicine (NLEM) 5+5
   b) Potential uses of NLEM in rational therapeutics.

9. a) Define plasma half life of a drug and its clinical significance with suitable examples. 5+5
   b) Nanotechnology in drug delivery system.

10. a) Define drug dependence and its mechanisms. 5+5
    b) Principles of treatment of drug dependence with suitable examples.