

PHARMACOLOGY**PAPER-III**Time: 3 hours
Max. Marks:100

PHARM/D/20/34/III

Important Instructions:

- **You are provided with 5 answer sheet booklets. Each individual answer sheet booklet consists of 10 pages excluding the covering jackets.**
- **Answers to all the questions must be attempted within these 5 answer sheet booklets which must be later tagged together at the end of the exam.**
- **No additional supplementary answer sheet booklet will be provided.**
- 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.

Write short notes on:

1. a) pA₂. 5+5
b) Nocebo response.
2. Briefly discuss analysis of variance (ANOVA) with an example. List three post hoc tests commonly used after results are significant for ANOVA. 7+3
3. Describe various preclinical screening methods for evaluation of a new antihypertensive drug. 10
4. Elucidate the three Rs for animal experiments. Explain in brief any four alternatives to animal experiments. 6+4
5. Define meta-analysis. Explain in brief the steps involved in carrying out a meta-analysis. 2+8
6. How should preclinical evaluation of antidiabetic drugs be carried out? 10
7. What is null and alternate hypothesis in superiority and non-inferiority clinical trials? Explain type I and type II errors with examples. 5+5
8. Purpose and principles of "Good Clinical Practices". 10
9. Enumerate pre-clinical systemic toxicity studies for evaluation of a drug candidate. Briefly write the procedure to carry out acute toxicity studies. 3+7
10. Principle of high-performance liquid chromatography (HPLC) and its application in research. 7+3
