

Reg. No.

MANIPAL ACADEMY OF HIGHER EDUCATION

MD (PHARMACOLOGY) DEGREE EXAMINATION – APRIL 2019

SUBJECT: PAPER I: GENERAL PHARMACOLOGICAL PRINCIPLES AND APPLIED SCIENCES

Tuesday, April 02, 2019

Time: 14:00 – 17:00 Hrs.

Max. Marks: 100

✍ Answer ALL the questions.

✍ Essay Questions:

1. Discuss enzymes as targets of drug action.

(15 marks)

2. Discuss various adverse drug effects.

(15 marks)

3. Write briefly on:

3A. Stereoisomers

3B. Sources of drug information

3C. Nuclear receptors

3D. Enzyme linked immunoassay

3E. Loading dose

3F. Clinical relevance of redistribution

3G. Orphan drugs

3H. Kinetics of drug elimination

3I. Oral drug dosage forms

3J. Receptor down regulation

(7 marks × 10 = 70 marks)



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**SUBJECT: PAPER II: SYSTEMIC PHARMACOLOGY, CHEMOTHERAPY AND
THERAPEUTICS**

Wednesday, April 03, 2019

Time: 14:00 – 17:00 Hrs.

Max. Marks: 100

- ✍ **Answer ALL the questions.**
- ✍ **Write your answers that are brief, clear, relevant and legible.**
- ✍ **Illustrate your answers with neatly drawn and correctly labeled diagrams wherever appropriate.**

✍ **Essay Questions:**

1. Describe the advantages and disadvantages of various techniques of local anesthesia.
(15 marks)

2. Discuss the pharmacotherapy of tuberculosis.
(15 marks)

3. **Write briefly on:**

3A. Drugs acting at the neuromuscular junction

3B. Parenteral NSAIDs

3C. GnRH analogs

3D. Renin inhibitors

3E. Pharmacotherapy of hypertriglyceridemia

3F. 5 – aminosalicylic acid

3G. Treatment of hypertensive emergencies

3H. Colony stimulating factors

3I. Aprepitant

3J. Incretin based therapies

(7 marks × 10 = 70 marks)



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MD (PHARMACOLOGY) DEGREE EXAMINATION – APRIL 2019

SUBJECT: PAPER III: EXPERIMENTAL PHARMACOLOGY, BIOASSAY AND STATISTICS

Thursday, April 04, 2019

Time: 14:00 – 17:00 Hrs.

Max. Marks: 100

✍ **Answer ALL the questions.**

✍ **Essay questions:**

1. Discuss the screening methods to evaluate analgesics. (15 marks)

2. Explain the screening methods for antiulcer activity of drugs. (15 marks)

3. **Write briefly on:**

3A. Descriptive statistics

3B. Hebb William maze

3C. Maximum electroshock

3D. Acute toxicity studies

3E. Screening methods for anthelmintic activity

3F. Spontaneous diabetes

3G. Digital plethysmometer

3H. Tests for motor coordination

3I. Student t test

3J. Odds ratio

(7 marks × 10 = 70 marks)



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MD (PHARMACOLOGY) DEGREE EXAMINATION – APRIL 2019
SUBJECT: PAPER IV: CLINICAL PHARMACOLOGY AND RECENT ADVANCES

Friday, April 05, 2019

Time: 14:00 – 17:00 Hrs.

Max. Marks: 100

- ✍ **Answer ALL the questions.**
- ✍ **Write your answers that are brief, clear, relevant and legible.**
- ✍ **Illustrate your answers with neatly drawn and correctly labeled diagrams wherever appropriate.**

✍ **Essay Questions:**

1. Describe the scientific basis for bioequivalence studies and explain the study design for the same.

(15 marks)

2. Describe the general principles governing biomedical research in humans. Add a note on institutional ethics committee.

(15 marks)

3. **Write briefly on:**

3A. Testing for microsomal enzyme inhibition in drug development.

3B. Cost effective analysis.

3C. Drugs and magic remedies act.

3D. Drug utilization studies.

3E. Counterfeit drugs

3F. Recent understanding of mechanism of action of paracetamol.

3G. Bcr-Abl tyrosine kinase inhibitors.

3H. Microdosing

3I. Pharmacovigilance program of India.

3J. Drug information services.

(7 marks × 10 = 70 marks)

