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MANIPAL ACADEMY OF HIGHER EDUCATION
MD (PHARMACOLOGY) DEGREE EXAMINATION – JULY 2023

PAPER I

Monday, July 03, 2023

Time: 14:00 – 17:00 Hrs.

Max. Marks: 100

✍ Essay Questions:

1. Explain the plasma concentration-time curve, with an illustration. Elaborate on the factors affecting bioavailability.

(15 marks)

2. Describe four major protein targets of drug action.

(15 marks)

3. **Write briefly on:**

3A. Drug nomenclature

3B. Sources of Drug information

3C. Clinical significance of microsomal enzyme induction with suitable examples

3D. Fixed dose combinations of drugs

3E. Factors governing choice of route of drug administration

3F. Receptor regulation

3G. Chronopharmacology

3H. Over the counter drugs

3I. General principles of treatment of poisoning.

3J. History of general anaesthesia

(7 marks × 10 = 70 marks)



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MANIPAL ACADEMY OF HIGHER EDUCATION
MD (PHARMACOLOGY) DEGREE EXAMINATION – JULY 2023

PAPER II

Tuesday, July 04, 2023

Time: 14:00 – 17:00 Hrs.

Max. Marks: 100

✍ Essay Questions:

1. Describe various phases of clinical trials. Add a note on vulnerable population in research.
(15 marks)

2. Describe immunoassays.
(15 marks)

3. **Write briefly on:**

3A. Chi-square test

3B. 'New drug' as per NDCT rules 2019

3C. Cost-effective analysis in pharmacoeconomics

3D. Bias in research

3E. Area under the curve

3F. Compensation in clinical trials

3G. Pharmacovigilance program of India

3H. Types of review by Ethics committee

3I. P- drug concept

3J. Schedule H and H1 drugs

(7 marks × 10 = 70 marks)



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MANIPAL ACADEMY OF HIGHER EDUCATION
MD (PHARMACOLOGY) DEGREE EXAMINATION – JULY 2023

PAPER III

Wednesday, July 05, 2023

Time: 14:00 – 17:00 Hrs.

Max. Marks: 100

✍ Essay Questions:

1. Explain the mechanism of action, therapeutic uses and adverse effects of methotrexate. (15 marks)

2. Explain the various pharmacological methods of female contraception. (15 marks)

3. **Write briefly on:**

3A. Dopaminergic agonists

3B. Centrally acting skeletal muscle relaxants

3C. Valproic acid

3D. Drugs used in anxiety disorders

3E. Therapeutic uses of glyceryl trinitrate

3F. Adverse effects of high ceiling diuretic therapy

3G. Management of dehydration

3H. Antimicrobial stewardship

3I. Treatment of multidrug resistant tuberculosis

3J. Guidelines for the use of topical steroids

(7 marks × 10 = 70 marks)



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MANIPAL ACADEMY OF HIGHER EDUCATION
MD (PHARMACOLOGY) DEGREE EXAMINATION – JULY 2023

PAPER IV

Thursday, July 06, 2023

Time: 14:00 – 17:00 Hrs.

Max. Marks: 100

✍ **Essay Questions:**

1. Discuss the recent advances in treatment of HIV infection. (15 marks)

2. Explain the recent advances in the treatment of heart failure. (15 marks)

3. **Write briefly on:**

3A. Treatment of alcohol dependence

3B. NK₁ receptor antagonists

3C. Fifth generation cephalosporins

3D. Darbopoetin alpha

3E. Mechanism of action and uses of desmopressin

3F. Drugs used in the treatment of attention deficit hyperactivity disorder

3G. Current status of omalizumab in bronchial asthma

3H. Topiramate

3I. Abciximab

3J. Bisphosphonates

(7 marks × 10 = 70 marks)

