MANIPAL ACADEMY OF HIGHER EDUCATION
MD (PHARMACOLOGY) DEGREE EXAMINATION – MAY 2021
PAPER I

Monday, May 03, 2021

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. Elucidate the various types of ion channels and explain ion channels as targets of drug action with suitable examples.

(15 marks)

2. Describe the various types of drug interactions as a factor modifying drug action. Write a brief note on genetic influences in personalized medicine.

(15 marks)

3. **Write briefly on:**

3A. Membrane transporters as drug targets
3B. Newer drug delivery systems
3C. Counterfeit drugs
3D. Clinical relevance of chronopharmacology
3E. Principles of treatment of drug poisoning
3F. Volume of distribution and its clinical significance
3G. Inverse agonism and its therapeutic implications
3H. Translational medicine
3I. Clinical relevance of variations in pharmacokinetic parameters in geriatric age groups.
3J. Drug induced cardiotoxicity

(7 marks × 10 = 70 marks)

MANIPAL ACADEMY OF HIGHER EDUCATION
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PAPER II

Tuesday, May 04, 2021

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. Enumerate the composition and functioning of an institutional ethics committee for biomedical and health research. What are the types of review performed by such a committee? Add a note on types of risk with description and suitable examples.

(15 marks)

2. Describe the new drug development and approval process.

(15 marks)

3. **Write briefly on:**

3A. Serious Adverse Event and its reporting timelines in a clinical trial
3B. Periodic safety update reports
3C. Sampling time in therapeutic drug monitoring
3D. Definition of a new drug as per the new drugs and clinical trial rules 2019
3E. Materiovigilance program of India
3F. The 13 principles of ICH GCP guidelines
3G. Drug utilization studies
3H. Measures of dispersion
3I. Non-parametric tests
3J. P drug concept and its applications

(7 marks × 10 = 70 marks)

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MANIPAL ACADEMY OF HIGHER EDUCATION

MD (PHARMACOLOGY) DEGREE EXAMINATION – MAY 2021

PAPER III

Wednesday, May 05, 2021

Time: 14:00 – 17:00 Hrs.   Max. Marks: 100

✍ **Answer ALL the questions.**

✍ **Essay Questions:**

1. Discuss drugs modulating GABAergic transmission in CNS.

(15 marks)

2. Discuss hormonal contraceptives.

(15 marks)

3. **Write briefly on:**

3A. Topical antimicrobials
3B. Pharmacotherapy of gestational diabetes
3C. Antipseudomonal antibiotics
3D. Post-exposure prophylaxis in HIV
3E. Biologics used in Rheumatoid arthritis
3F. Drugs for treatment of delayed vomiting following cancer Chemotherapy
3G. Third generation Beta-blockers
3H. Non-endocrine uses of glucocorticoids
3I. Vitamin K antagonists in therapy
3J. Drug combinations used in prophylaxis of angina pectoris

(7 marks × 10 = 70 marks)

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MANIPAL ACADEMY OF HIGHER EDUCATION
MD (PHARMACOLOGY) DEGREE EXAMINATION – MAY 2021
PAPER IV

Thursday, May 06, 2021

Time: 14:00 – 17:00 Hrs.   Max. Marks: 100

✐   **Answer ALL the questions.**

✐   **Essay Questions:**

1.   Discuss the drugs used in the treatment of hyperlipidemia.

(15 marks)

2.   Discuss the recent advances in the drug treatment of HIV infection.

(15 marks)

3.   **Write briefly on:**
3A.   Repurposing of drugs with examples
3B.   Drugs to treat irritable bowel syndrome
3C.   COVID-19 vaccines
3D.   Suvorexant
3E.   Induction and rejection immunosuppressant medications in organ transplantation
3F.   SGLT2 inhibitors
3G.   Serotonin Norepinephrine reuptake inhibitors
3H.   Drug therapy for MDR TB and XDR TB
3I.   Novel medications for migraine therapy
3J.   Materiovigilance

(7 marks × 10 = 70 marks)

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