# MANIPAL UNIVERSITY

## MD (PHARMACOLOGY) DEGREE EXAMINATION – APRIL 2017

**SUBJECT: PAPER I: GENERAL PHARMACOLOGICAL PRINCIPLES AND APPLIED SCIENCES**

Monday, April 03, 2017

Time: 14:00 – 17:00 Hrs.

Max. Marks: 100

✎ **Answer ALL the questions.**

✎ **Essay Questions:**

1. Explain briefly the second messengers.

(15 marks)

2. Explain various factors that affect bioavailability of drugs.

(15 marks)

3. **Write briefly on:**

3A. Toxicokinetics
3B. Radioimmunoassay
3C. Sir Henry Dale
3D. Nanomedicine
3E. Over the counter drugs
3F. Biopharmaceutics
3G. Structure activity relationships
3H. Drug clearance
3I. Non-microsomal enzymes
3J. Enzyme inducers

(7 marks × 10 = 70 marks)

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## MD (PHARMACOLOGY) DEGREE EXAMINATION – APRIL 2017

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

Tuesday, April 04, 2017

Time: 14:00 – 17:00 Hrs.

Max. Marks: 100

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✍ **Answer ALL the questions.**

✍ **Essay Questions:**

1. Discuss briefly class 1 antiarrhythmic drugs.

(15 marks)

2. Explain the current status of newer antiepileptic drugs.

(15 marks)

3. **Write briefly on:**

3A. NMDA receptors

3B. Pioglitazone- current status

3C. Linezolid

3D. Liposomal amphotericin-B

3E. $\beta_3$ receptors

3F. Thrombolytic agents

3G. Injectable contraceptives

3H. Inhibitors of $Na^+$-$Cl^-$ symport

3I. Lugol's iodine

3J. Travoprost

(7 marks × 10 = 70 marks)

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## MD (PHARMACOLOGY) DEGREE EXAMINATION – APRIL 2017

### SUBJECT: PAPER III: EXPERIMENTAL PHARMACOLOGY, BIOASSAY AND STATISTICS

Wednesday, April 05, 2017

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

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✍  **Answer ALL the questions.**


✍  **Essay questions:**

1A.  Discuss the screening methods to evaluate antianxiety drugs.

(15 marks)


1B.  Explain the methods involved in testing teratogenicity in animals.

(15 marks)


3.   **Write briefly on:**

3A.  Physiological salt solutions

3B.  Kindling

3C.  Pole climbing test

3D.  Infiltration anesthesia

3E.  Gene knockout

3F.  Catalepsy

3G.  Bacterial sensitivity testing

3H.  Paired 't' test

3I.  Confidence interval

3J.  Tail flick model

(7 marks × 10= 70 marks)

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## MD (PHARMACOLOGY) DEGREE EXAMINATION – APRIL 2017
### SUBJECT: PAPER IV: CLINICAL PHARMACOLOGY AND RECENT ADVANCES

Thursday, April 06, 2017

Time: 14:00 – 17:00 Hrs.

Max. Marks: 100

✍ **Answer ALL the questions.**

✍ **Essay Questions:**

1.  Discuss the status and role of beta blockers in heart failure.

(15 marks)

2.  What is pharmacoeconomics? Explain the various pharmacoeconomic evaluations and its role in drug discovery.

(15 marks)

3.  **Write briefly on:**

3A. Drug therapy of migraine
3B. Newer uses of metformin
3C. Drugs modulating endothelins
3D. Toxins in therapy
3E. Melatonin
3F. Drug treatment of ADHD
3G. Drugs for psoriasis
3H. Fibrinolytics
3I. MDR Tuberculosis
3J. Imatinib

(7 marks × 10 = 70 marks)