

## MANIPAL ACADEMY OF HIGHER EDUCATION

FIRST SEMESTER M.Sc. MEDICAL (ANATOMY, PHYSIOLOGY, BIOCHEMISTRY,  
PHARMACOLOGY, MICROBIOLOGY) DEGREE EXAMINATION – MARCH 2021

SUBJECT: BASIC SCIENCES – COMMON CORE 1 (MCC 601)

Monday, March 22, 2021

Time: 14:00 – 16:30 Hrs.

Maximum Marks: 50

- ✗ Answer Section “A”, Section “B” and Section “C” in THREE separate answer books.
- ✗ All questions are compulsory.
- ✗ Illustrate your answers with diagrams wherever appropriate.

### SECTION “A” (ANATOMY) : 20 MARKS

1. Enumerate the parts of urinary system. Describe the kidney in detail. (10 marks)
2. Write short notes on:
  - 2A. Collateral circulation
  - 2B. Cartilaginous joints(5 marks × 2 = 10 marks)

### SECTION “B” (PHYSIOLOGY) : 15 MARKS

- 1A. Draw a labelled diagram of reflex arc. Classify reflexes.
- 1B. Name the refractory errors of eye. (3+2 = 5 marks)
- 2A. Draw a labelled diagram of limb lead II ECG recording. Give the cause for each wave.
- 2B. Give the normal WBC count. Name different types of WBCs. (3+2 = 5 marks)
- 3A. Give the normal value of total plasma calcium level in blood. Name the hormones involved in calcium homeostasis.
- 3B. Name the primary and accessory muscles of inspiration. (3+2 = 5 marks)

### SECTION “C” (BIOCHEMISTRY) : 15 MARKS

1. Describe the structure of immunoglobulins. Name the different classes of immunoglobulins and their functions.
2. What are enzymes? Describe the factors affecting the velocity of an enzyme catalyzed reaction.
3. Describe the functions and deficiency symptoms of vitamin D. (5 marks × 3 = 15 marks)



Reg. No.

MANIPAL ACADEMY OF HIGHER EDUCATION  
FIRST SEMESTER M.Sc. (MEDICAL PHARMACOLOGY)  
DEGREE EXAMINATION – MARCH 2021

SUBJECT: GENERAL PHARMACOLOGY (MPH 603)

Tuesday, March 23, 2021

Time: 14:00 – 16:30 Hrs.

Maximum Marks: 50

✍ **Answer ALL the questions.**

✍ **Long Essays:**

1. Explain any five factors modifying drug action with examples.  
(10 marks)
2. Explain the transducer mechanisms of any two types of drug receptor families with examples.  
(10 marks)

3. **Write short notes on:**

- 3A. Plasma protein binding
- 3B. Intravenous route of drug administration
- 3C. Competitive drug antagonism
- 3D. Phase II biotransformation reactions
- 3E. Therapeutic index
- 3F. Teratogenicity

(5 marks × 6 = 30 marks)



MANIPAL ACADEMY OF HIGHER EDUCATION  
FIRST SEMESTER M.Sc. (MEDICAL PHARMACOLOGY)  
DEGREE EXAMINATION – MARCH 2021  
SUBJECT: ENDOCRINES+BLOOD (MPH 605)

Wednesday, March 24, 2021

Time: 14:00 – 16:30 Hrs.

Maximum Marks: 50

✍ Answer ALL the questions.

✍ Long Essays:

1. List four systemic glucocorticoids. Explain the therapeutics uses and adverse effects of glucocorticoids.

(2+5+3 = 10 marks)

2. Give two examples for low molecular weight (LMW) heparin and explain its mechanism of action. Mention the advantages of LMW heparin over unfractionated heparin. Explain three important therapeutic uses of LMW heparin.

(3+4+3 = 10 marks)

3. Write short notes on:

3A. Tranexamic acid

3B. Explain the mechanism of action and therapeutic uses of bisphosphonates.

3C. Postcoital contraceptives

3D. Metformin

3E. Clopidogrel

3F. Radioactive iodine

(5 marks × 6 = 30 marks)

