

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 MICROBIOLOGY) DEGREE EXAMINATION – MARCH 2021

SUBJECT: GENERAL MICROBIOLOGY (MIC 603)

Tuesday, March 23, 2021

Time: 14:00 – 16:30 Hrs.

Maximum Marks: 50

✍ Answer ALL the questions.

1. Give a detailed account of the various methods of gene transfer in bacteria and their importance.

(6+4 = 10 marks)

2. Define and classify disinfection and explain the various methods of disinfection

(2+2+6 = 10 marks)

3. Write short notes on:

3A. Bacterial toxins

3B. Air sampling methods and their use in healthcare setup

3C. Bacterial flagella

3D. Methods of determining MIC (Minimum Inhibitory Concentration) for bacteria.

3E. Enriched and enrichment media-Uses, differences and examples.

3F. Koch's postulates and their importance.

(5 marks × 6 = 30 marks)



MANIPAL ACADEMY OF HIGHER EDUCATION

FIRST SEMESTER M.Sc. (MEDICAL MICROBIOLOGY) DEGREE EXAMINATION – MARCH 2021

SUBJECT: IMMUNOLOGY (MIC 605)

Wednesday, March 24, 2021

Time: 14:00 – 16:30 Hrs.

Maximum Marks: 50

Answer ALL the questions.

1. Define agglutination reaction. Discuss in detail the principle, procedure and application of various Agglutination tests.

(10 marks)

2. Discuss the various mechanisms of Autoimmunity. Describe in detail the laboratory diagnosis of autoimmune diseases.

(10 marks)

3. **Write Short notes on:**

3A. Superantigens

3B. Structure and functions of IgA

3C. Immunodeficiency

3D. Primary lymphoid organs

3E. Properties and functions of Interleukins

3F. Allograft rejection

(5 marks × 6 = 30 marks)

