

**MANIPAL ACADEMY OF HIGHER EDUCATION**

FIRST SEMESTER M.Sc. MEDICAL (ANATOMY, PHYSIOLOGY, BIOCHEMISTRY,  
PHARMACOLOGY, MICROBIOLOGY) DEGREE EXAMINATION – FEBRUARY 2022

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

Monday, February 21, 2022

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 neatly drawn and correctly labeled diagrams wherever necessary.

**SECTION “A” (ANATOMY) : 20 MARKS**

1. Name the parts of the gastro intestinal tract. Describe the stomach in detail.  
(4+6 = 10 marks)
2. Write briefly on:  
2A. Types of epithelium  
2B. Spinal cord  
(5 marks × 2 = 10 marks)

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

- 1A. With the help of diagram enumerate the stages of erythropoiesis.  
1B. Give the cause and any two features of cretinism.  
1C. Name the different types of neuroglia.  
(2+(1+1)+1 = 5 marks)
- 2A. List any four functions of saliva.  
2B. What is Myopia? How it can be corrected?  
2C. Give the cause and any two symptoms of Parkinsonism.  
(1+2+2 = 5 marks)
- 3A. Name any four properties of cardiac muscle.  
3B. List any two factors needed for spermatogenesis.  
3C. Define Glomerular Filtration Rate (GFR). Give its normal value.  
(2+1+(1+1) = 5 marks)

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

1. Explain competitive and non-competitive types of enzyme inhibitions with examples.  
(5 marks)
2. Classify lipoproteins and write their functions. Name any two special products formed from cholesterol.  
(4+1 = 5 marks)
3. Describe the structure of starch and glycogen. Write two functions of mucopolysaccharides.  
(4+1 = 5 marks)



**MANIPAL ACADEMY OF HIGHER EDUCATION**

FIRST SEMESTER M.Sc. (MEDICAL MICROBIOLOGY) DEGREE EXAMINATION – FEBRUARY 2022

**SUBJECT: GENERAL MICROBIOLOGY (MIC 603)**

Tuesday, February 22, 2022

Time: 14:00 – 16:30 Hrs.

Maximum Marks: 50

1. Discuss various types of Microscopic methods and their uses in the field of Microbiology.  
(10 marks)
2. Define Disinfection. Describe briefly different chemical agents used in health care settings and add a note on testing of disinfectants.  
(10 marks)
3. **Write Short notes on:**
  - 3A. Bacterial Cell wall
  - 3B. Bacterial transduction
  - 3C. MALDI-TOF
  - 3D. Methods of isolating pure culture of Bacteria
  - 3E. Cold Sterilisation
  - 3F. Bacterial Growth Curve

(5 marks × 6 = 30 marks)



**MANIPAL ACADEMY OF HIGHER EDUCATION**

FIRST SEMESTER M.Sc. (MEDICAL MICROBIOLOGY) DEGREE EXAMINATION – FEBRUARY 2022

**SUBJECT: IMMUNOLOGY (MIC 605)**

Wednesday, February 23, 2022

Time: 14:00 – 16:30 Hrs.

Maximum Marks: 50

1. Describe the general features of Antigen-Antibody reactions. Explain in detail the principle, types and utility of ELISA.  
(10 marks)
2. Describe in detail the innate immunity. Add a note on Herd immunity.  
(10 marks)
3. **Write short notes on:**
  - 3A. Bacterial superantigens
  - 3B. Biological effects of complement
  - 3C. Immunoglobulin class switching
  - 3D. MHC restriction
  - 3E. Humoral immune response
  - 3F. Mechanisms of autoimmunity

(5 marks × 6 = 30 marks)

