

**MANIPAL ACADEMY OF HIGHER EDUCATION****FIRST SEMESTER M.Sc. MEDICAL (ANATOMY, PHYSIOLOGY, BIOCHEMISTRY,  
PHARMACOLOGY, MICROBIOLOGY) DEGREE EXAMINATION – JANUARY 2020****SUBJECT: BASIC SCIENCES – COMMON CORE 1 (MCC 601)**

Monday, January 13, 2020

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. Enumerate the parts of gastrointestinal tract. Describe the stomach in detail.  
(4+6 = 10 marks)
2. Write briefly on:
  - 2A. Name the arteries of upper and lower limb.
  - 2B. Name the parts of long bone. Describe its blood supply.(5 marks × 2 = 10 marks)

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

- 1A. Name the hormones produced from posterior pituitary. List the actions of each
- 1B. Explain how oxygen is transported from lungs to tissues? List the factors which shift the oxygen haemoglobin dissociation curve to right. Add a note on hypoxic hypoxia.  
(5+5 = 10 marks)
2. With a diagram explain the changes occurring in the endometrium during menstrual cycle.  
(5 marks)

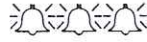
**SECTION “C” (BIOCHEMISTRY) : 15 MARKS**

- ✍ Answer the following:

1. Explain competitive inhibition of enzymes giving suitable examples  
(5 marks)
- 2A. Describe structure and function of tRNA.
- 2B. Classify proteins based on their functions  
(2½ marks × 2 = 5 marks)

- 3A. Define essential fatty acids and give two examples.
- 3B. Name the deficiency diseases of vitamin C and niacin
- 3C. Explain the cause for oedema in kwashiorkor
- 3D. Write the normal serum calcium level. Name 2 hormones that regulate calcium level
- 3E. Write an example of mucopolysaccharide and mention its function

(1 mark × 5 = 5 marks)



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# MANIPAL ACADEMY OF HIGHER EDUCATION

FIRST SEMESTER M.Sc. (MEDICAL MICROBIOLOGY) DEGREE EXAMINATION – JANUARY 2020

SUBJECT: GENERAL MICROBIOLOGY (MIC 603)

Tuesday, January 14, 2020

Time: 14:00 – 16:30 Hrs.

Maximum Marks: 50

✍ **Answer ALL the questions.**

1. Describe various types of culture methods used in cultivation of Anaerobic Bacteria.  
(10 marks)

2. Describe different methods used for Antibiotic Susceptibility testing for Bacteria.  
(10 marks)

3. **Write Short notes on:**

3A. Bacteriological Examination of water

3B. Bacterial filters

3C. Dark Ground Microscopy

3D. Bacterial Spores

3E. IMViC tests

3F. Transposons

(5 marks × 6 = 30 marks)



**MANIPAL ACADEMY OF HIGHER EDUCATION**

FIRST SEMESTER M.Sc. (MEDICAL MICROBIOLOGY) DEGREE EXAMINATION – JANUARY 2020

**SUBJECT: IMMUNOLOGY (MIC 605)**

Wednesday, January 15, 2020

Time: 14:00 – 16:30 Hrs.

Maximum Marks: 50

- ✍ Answer ALL the questions.  
✍ Illustrate your answers with neat labeled diagram wherever necessary.

1. Describe in detail the activation of complement system and the consequences of complement activation.

(10 marks)

2. Define Immunity. Classify types of Immunity. Describe the features of Acquired immunity.

(1+2+7 = 10 marks)

3. Write short notes on:

3A. Modes of transmission of infections

3B. Antigen presenting cells

3C. Monoclonal Antibodies

3D. Immunofluorescence

3E. Interleukins

3F. Graft versus Host reaction

(5 marks × 6 = 30 marks)

