

MANIPAL ACADEMY OF HIGHER EDUCATION**FIRST SEMESTER M.Sc. MEDICAL (ANATOMY, PHYSIOLOGY, BIOCHEMISTRY,
PHARMACOLOGY, MICROBIOLOGY) DEGREE EXAMINATION – MAY 2022****SUBJECT: BASIC SCIENCES – COMMON CORE 1 (MCC 601)**

Monday, May 09, 2022

Time: 14:00 – 16:30 Hrs.

Maximum Marks: 50

- ✍ Answer Section “A”, Section “B” and Section “C” in THREE separate answer books.
- ✍ Answer ALL questions.
- ✍ Illustrate your answers with neatly drawn and correctly labeled diagrams wherever necessary.

SECTION “A” (ANATOMY) : 20 MARKS

1. Name the parts of the respiratory system. Describe the lungs in detail. (4+6 = 10 marks)
2. Write briefly on:
 - 2A. Classification of bones
 - 2B. Urinary bladder(5 marks × 2 = 10 marks)

SECTION “B” (PHYSIOLOGY) : 15 MARKS

- 1A. Name the plasma proteins. List any two functions. (2 marks)
- 1B. Define cardiac output. Give the normal value. (1+1 = 2 marks)
- 1C. Define hypoxia. (1 mark)
- 2A. What is deglutition? Name the different stages of deglutition.
- 2B. What is myopia? How it can be corrected?
- 2C. List any four functions of hypothalamus. (1+2+2 = 5 marks)
- 3A. Give two causes for Dwarfism.
- 3B. Name the permanent methods of contraception in males and females.
- 3C. Draw a neat diagram of neuron and label its parts. (1+2+2 = 5 marks)

SECTION “C” (BIOCHEMISTRY) : 15 MARKS

- 1A. Explain denaturation.
- 1B. What is the effect of temperature and pH on enzyme activity? (3+2 = 5 marks)

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FIRST SEMESTER M.Sc. (MEDICAL BIOCHEMISTRY) DEGREE EXAMINATION – MAY 2022

SUBJECT: CARBOHYDRATES AND PROTEIN – CHEMISTRY AND METABOLISM (MBC 603)

Tuesday, May 10, 2022

Time: 14:00 – 16:30 Hrs.

Maximum Marks: 50

✍ Answer ALL the questions.

✍ Long Answer Questions:

1. Discuss the metabolism of tyrosine. (10 marks)

2. Explain how glucose is synthesized from alanine. (10 marks)

3. Write briefly on:

3A. Structure of collagen

3B. Acute phase proteins

3C. Glycosaminoglycans

3D. Uronic acid pathway

3E. Digestion and absorption of proteins

3F. Significance of HMP shunt pathway

(5 marks × 6 = 30 marks)



MANIPAL ACADEMY OF HIGHER EDUCATION

FIRST SEMESTER M.Sc. (MEDICAL BIOCHEMISTRY) DEGREE EXAMINATION – MAY 2022

SUBJECT: GENERAL TECHNIQUES AND ENZYMES (MBC 605)

Wednesday, May 11, 2022

Time: 14:00 – 16:30 Hrs.

Maximum Marks: 50

✍ **Answer ALL the questions.**

✍ **Long answer questions:**

1. What is chromatography? Classify the different types of chromatography techniques. Explain any two of them.

(1+3+6 = 10 marks)

2. Giving suitable examples discuss the various types of regulation of enzyme activity.

(10 marks)

3. **Write briefly on:**

3A. What is suicidal inhibition? Explain it with suitable example.

3B. List any two different types of centrifugation techniques with application.

3C. Principles and applications of spectrophotometry.

3D. Draw a neat labelled diagram of a cell. Describe the biochemical activities of endoplasmic reticulum.

3E. Explain how ELISA technique was used to detect the antibody in detail.

3F. List any three coenzymes, their sources and one complete reaction each in which they participate

(5 marks × 6 = 30 marks)

