

**FIRST YEAR B.Sc. (MEDICAL MICROBIOLOGY/MEDICAL BIOCHEMISTRY)
DEGREE EXAMINATION, APRIL 2021**

Medical Biochemistry

Paper IV—GENERAL METHODOLOGY

Time : Three Hours

Maximum : 100 Marks

Section A (Basic Laboratory Knowledge)

1. Discuss the various methods of collection of urine. (10 marks)
2. Describe the immediate first aid management of minor accidents in the laboratory. (10 marks)

Write short notes on the following :

3. Common anticoagulants used in collection of blood for laboratory tests (any *four*).
4. Various body buffers.
5. Properties of Hydrochloric acid.
6. Preparation of cleaning solution for glasswares.
7. Calculate milligram percent of Calcium when its concentration is 5 m Eq/L.
8. Collection of CSF.

(6 × 5 = 30 marks)

Section B (Microbiology)

1. Write briefly about bacterial growth curve. Draw a diagram. (10 marks)
2. What is Sterilization ? Write a note on disposal of infected material (any *four* materials) by the method of Sterilization.

(10 marks)

Write short notes on the following :

3. Preparation of lawn culture and its uses.
4. Four characteristics of an ideal culture medium.
5. Classify the bacteria on the basis of shape.
6. Phase-contrast microscopy.
7. The gram negative cell wall.
8. Methods for demonstrating bacterial flagellum.

(6 × 5 = 30 marks)

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Paper III—GENERAL BIOCHEMISTRY

Time : Three Hours

Maximum : 50 Marks

1. Describe the Chemistry of reduction of Benedict's qualitative reagent by glucose and fructose. (10 marks)
2. State the characteristic features of Cholesterol structure. (10 marks)

Write short notes on the following :

3. Quarternary structure of protein molecule.
 4. Pyrimidine bases and their chemical names.
 5. Gibbs–Donnan membrane equilibrium.
- (3 × 5 = 15 marks)

Briefly explain the following :

6. Biomedical importance of Keratan sulphate.
 7. Diffusion.
 8. Sources of Vitamin C.
 9. Clinical use of protein precipitation.
 10. Essential fatty acids.
- (5 × 3 = 15 marks)

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Medical Microbiology/Medical Biochemistry

Paper II—PHYSIOLOGY AND CLINICAL HAEMATOLOGY

Time : Three Hours

Maximum : 50 Marks

Draw neat labelled diagrams wherever necessary.

Section A

1. Define Blood pressure give its normal value. Explain long term control mechanism of Blood pressure.

(7 marks)

Short notes :

2. Intrinsic mechanism of blood coagulation.
3. Functions of CSF.
4. Functions of growth hormone.
5. Describe the mechanism of gastric acid secretion.
6. Chemical regulation of respiration.
7. Sarcomere.

(6 × 3 = 18 marks)

Section B

1. Variation in erythrocyte inclusions.

(7 marks)

Short notes :

2. Leukemia.
3. Differences between Venous blood and Capillary blood.
4. Cyanmethemoglobin method.
5. Hemophilia.
6. Functions of plasma.
7. Fixing of Blood Films.

(6 × 3 = 18 marks)

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Medical Microbiology/Medical Biochemistry

Paper I—ANATOMY

Time : Three Hours

Maximum : 50 Marks

*Answer all questions.
Draw labeled diagram wherever necessary.*

Long Essays :

1. Explain the joints under the following headings in detail :
 - a) Classification. (5 marks)
 - b) Typical synovial joint. (4 marks)
 - c) Ligaments of shoulder joint. (5 marks)

Short Essays :

2. Describe the stomach under the following headings.
 - a) Parts. (2 marks)
 - b) Relations. (2 marks)
 - c) Microscopic structure. (2 marks)
3. Discuss the tongue under the following headings.
 - a) Parts. (2 marks)
 - b) Muscles. (2 marks)
 - c) Papillae. (2 marks)

Short Answers :

4. Brain stem.
5. Pleura.
6. Prostate.
7. Structure of cardiac muscle.
8. Coronary arteries.
9. Adrenal gland.
10. Oogenesis.
11. Mitosis.