

SRI DEVARAJ URS ACADEMY OF HIGHER EDUCATION & RESEARCH
(A DEEMED TO BE UNIVERSITY)

M.Sc. Medical Laboratory Technology

First Year Semester – I, February-2020 Examinations

Time: 3 Hrs.

[Max. Marks: 100]

Paper – I

**Clinical Biochemistry, Biomedical Techniques
& Laboratory Management-I**

Your answer should be specific to the questions asked.

Draw neat labelled diagrams wherever necessary.

(Use separate answer booklet for section A & B)

Section – A

Clinical Biochemistry

(50 Marks)

Q.P. Code: M1015

LONG ESSAY

1 X 20 = 20 Marks

1. Define enzymes. Write the factors affecting enzyme activity with suitable graphs. Add a note on V_{max} and K_m . (2+10+4+4)

SHORT ESSAY

5X 6= 30 Marks

2. Describe Henderson Hasselbach equation and its significance. (4+2)
3. What is stereoisomerism? Explain the various forms of stereoisomerism. (2+4)
4. Name the different techniques for separation of lipoproteins. Explain any one in detail. (2+4)
5. Primary structure affects biological activity of the protein, explain taking haemoglobin as an example.
6. Write any six characteristic features of the active site of an enzyme.

Section – B

(50 Marks)

Biomedical Techniques & Laboratory Management

Q.P. Code: M1016

LONG ESSAY

1 X 20 = 20 Marks

1. Define electrophoresis. Name different types of electrophoresis. Write the principle of electrophoresis. Explain in detail about Polyacrylamide gel electrophoresis. (2+5+5+8)

SHORT ESSAY

5X 6= 30 Marks

2. Ion selective electrode principle biomedical application and its limitations. (2+2+2)
3. Measurement of radioactive isotopes and their application in research and clinical bio-chemistry. (3+3)
4. Atomic absorption spectrometry, principle, procedure, application and limitations. (2+2+1+1)
5. HPLC in clinical laboratory.
6. Ultracentrifugation principle, procedure and applications. (2+2+2)

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Clinical Microbiology & Immunology

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Draw neat labelled diagrams wherever necessary.

(Use separate answer booklet for section A & B)

Section – A

Clinical Microbiology

(50 Marks)

Q.P. Code: M1025

Long Essay 1x20=20 Marks

1. Describe the pathogenesis and laboratory diagnosis of pulmonary tuberculosis (5+5)

Short Essay

5x6=30 Marks

2. Cell mediated immunity
3. Describe the Anaerobic culture methods
4. Laboratory diagnosis of urinary tract infections
5. Bacterial capsule
6. Polymerase chain reaction

Section – B

Immunology (50 Marks)

(Use separate answer booklet for section B)

Q.P. Code: M1026

Long Essay

1X20=20 Marks

1. What is acquired immunity? Describe its mechanism, types of acquired immunity with examples(2+4+4).

Short essay

5x6=30 Marks

2. Biological functions of Complement.
3. Modes of transmission of Infection.
4. Describe mechanisms of Autoimmunity with examples.
5. Immunofluorescent test : principle, types and application.
6. Structure and Biological functions of Ig A.

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Paper – III

Haematology & Blood Transfusion

Your answer should be specific to the questions asked.

Draw neat labelled diagrams wherever necessary.

(Use separate answer booklet for section A & B)

Section – A

Haematology

(50 Marks)

Q.P. Code: M1035

LONG ESSAY

1 X 20 = 20 Marks

1. Define leukemia. Discuss the blood and bone marrow findings in Acute Myeloid leukemia. Enumerate the differences between myeloblast and lymphoblast

SHORT ESSAY

5X 6= 30 Marks

2. Morphological Classification of anemia
3. Differences between Leukemoid reaction and leukemia
4. Laboratory diagnosis of Iron Deficiency anemia
5. Sickling test – procedure and interpretation
6. Laboratory investigations for haemolytic anemia

Section – B

Clinical Pathology & Immunopathology

(50 Marks)

Q.P. Code: M1036

LONG ESSAY

1 X 20 = 20 Marks

1. Define and classify hypersensitivity reactions. Describe type 3 hypersensitivity reaction with an example

SHORT ESSAY

5X 6= 30 Marks

2. Erythroblastosis fetalis
3. Bence Jones proteins
4. Cross matching
5. Idiopathic thrombocytopenic purpura
6. Transfusion reaction

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