



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

**M.Sc. Medical Laboratory Technology First Year (Semester-I)**

**April 2025 Examination**

**[Max. Marks: 100]**

**Time: 3 Hrs.**

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

**Q.P Code: MA1231**

*Your answers should be specific to the questions asked.*

*Draw neat labelled diagrams wherever necessary.*

**LONG ESSAY**

**2 X 20 = 40 Marks**

1. Define Enzymes and give the characteristics of active site. What are the various factors affecting enzyme activity. Illustrate with suitable graphs. Name 5 diagnostic enzymes with their normal range.(5+10+5)
2. Define Electrophoresis and give its principle. List the different types. Explain in detail about PAGE electrophoresis.(5+5+10)

**SHORT ESSAY**

**6X 10 = 60 Marks**

3. Describe briefly the role of Hormones in maintaining blood glucose homeostasis.
4. Give the principle, biomedical applications of Ion selective electrode and Flame photometry.
5. Define Lipoproteins. Give their site of synthesis and functions. Briefly explain 2 methods for separation of Lipoproteins.
6. Define Chromatography. Give the principle and procedure of Paper chromatography
7. Give the principle, procedure and applications of Atomic absorption spectrometry
8. List 5 biomedical functions of Plasma proteins. Taking Haemoglobin as an example briefly explain how primary structure affects biological activity of Protein.

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**Time : 3 Hrs.**

**[Max. Marks :100]**

**Clinical Microbiology and Immunology**

**Q.P Code: MA1241**

*Your answers should be specific to the questions asked.*

*Draw neat labelled diagrams wherever necessary.*

**LONG ESSAY**

**2 X 20 = 40 Marks**

- 1) Describe the pathogenesis, clinical features, and laboratory diagnosis of Diphtheria.
- 2) Classify antibodies. Name the cells involved in Humoral Immunity. Explain the process of primary and secondary immune response in Humoral Immunity. With neat labelled diagram, explain the salient features of IgM antibody.

**SHORT ESSAY**

**6 X 10 = 60 Marks**

- 3) Describe the laboratory diagnosis of Pulmonary Tuberculosis
- 4) Describe the laboratory diagnosis of dysentery caused by Shigella.
- 5) Define Immunity. Explain the various mechanisms of Innate Immunity with examples.
- 6) Major Histocompatibility complex.
- 7) Describe the mechanism of action, advantages and drawbacks of Chlorine based disinfectants.
- 8) Describe the laboratory diagnosis of meningitis due to Pneumococci.



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**M.Sc. Medical Laboratory Technology (Semester-I) April 2025 Examination**

**Time: 3 Hrs.**

**[Max. Marks: 100]**

Subject: Pathology

**Q.P Code: MA1251**

*Your answers should be specific to the questions asked.*

*Draw neat labelled diagrams wherever necessary.*

**Haematology, Clinical Pathology & Immunopathology**

**LONG ESSAY**

**2 X 20 = 40 Marks**

1. Classify hemolytic anemias. Describe the pathogenesis and morphology of sickle cell anemia
2. Describe physical and chemical examination of urine with interpretation of abnormal values

**SHORT ESSAY**

**6X 10= 60 Marks**

3. Laboratory diagnosis of iron deficiency anemia.
4. Classify of Acute Myeloid Leukemia. Describe in detail Morphology and Lab diagnosis
5. Osmotic Fragility Test – Procedure and Interpretation
6. Discuss Etiopathogenesis and morphology of Chronic Myeloid Leukemia. Add note on Philadelphia Chromosome
7. Classify Hypersensitivity reactions. Discuss in detail about Type 4 Hypersensitivity reaction
8. Describe Antigen –Antibody reaction. Note on Autoimmune thyroiditis