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

M.Sc. Medical Laboratory Technology (MLT) (Semester - I)
February – 2019 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 diabetes mellitus. Explain how insulin deficiency results in diabetes mellitus. Add a note on the basic laboratory investigations for diagnosis of diabetes mellitus with common pre-analytical errors during sample collection. (2+8+10)

SHORT ESSAY **5X 6= 30 Marks**

2. Describe briefly the digestion and absorption of lipids. (3+3)
3. What is microalbuminuria? Write its biochemical basis and clinical significance. (1+3+2)
4. List the factors affecting enzyme activity. Explain any two with suitable graph. (2+4)
5. Define ampholytes. Explain the term isoelectric point and its significance. (2+4)
6. What are lipoproteins? Give examples. Name any two techniques for separation of lipoproteins in blood sample. (2+2+2)

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. List any four applications and limitations of each type of electrophoresis. (2+5+5+8)

SHORT ESSAY **5X 6= 30 Marks**

2. What is HPLC? Explain the importance of HPLC in clinical laboratory. (2+4)
3. What is centrifugation technique? Briefly explain density gradient centrifugation and its applications. (2+4)
4. Explain the principle and applications of atomic absorption spectrometry. (4+2)
5. What is chromatography? Write the principle of Ion-exchange chromatography. Add a note on its biomedical applications. (1+3+2)
6. Explain measurement of radioactivity of radioactive isotopes.

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Paper – I

Clinical Microbiology, Immunology & Molecular Biology

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(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 Typhoid fever. (5+5)

Short Essay **5x6=30 Marks**

2. Autoclave :principle,materials sterilized,control.
3. Laboratory diagnosis of Diarrhaea.
4. Bacterial toxins :properties and biological effects.
5. Anaerobic culture methods.
6. Lab diagnosis of pulmonary tuberculosis.

Section – B

Immunology & Molecular Biology **(50 Marks)**

Q.P. Code: M1026

Long Essay **1X20=20 Marks**

1. Explain the principles of Immunofluorescence test .Enumerate the different types and its clinical applications. (4+4+2)

Short Essay **5x6=30 Marks**

2. Classical pathway of Complement.
3. Major Histocompatibility Complex.
4. List the difference between primary and secondary Immune response .
5. Structure and Biological functions of IgG.
6. Acquired Immunity: Types with examples.

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Time: 3 Hrs. **[**Max. Marks: 100]

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. Classify hemolytic anemias. Describe the pathogenesis and morphology of thallesemia

SHORT ESSAY 5X 6= 30 Marks

2. FAB Classifiaction of acute myeloid leukemia
3. Procedure and indications of Bone marrow aspiration
4. ESR – Procedure and interpretation
5. RBC indices and interpretation
6. Laboratory diagnosis in megaloblastic anemia

Section – B
Clinical Pathology & Immunopathology (50 Marks)
Q.P. Code: M1036

LONG ESSAY 1 X 20 = 20 Marks

1. Describe ABO blood grouping system and procedure of forward and reverse grouping with a note on the other blood grouping systems.

SHORT ESSAY 5X 6= 30 Marks

2. Erythroblastosis fetalis
3. Transfusion reactions
4. Idiopathic thrombocytopenic purpura
5. Urine microscopy
6. Type 2 hypersensitivity reaction

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