SRI DEVARAJ URS ACADEMY OF HIGHER EDUCATION & RESEARCH

(A DEEMED TO BE UNIVERSITY)

M.Sc. Medical Laboratory Technology (M.Sc. MLT) (Semester - II)

November 2022 Examination

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

Paper – I

Clinical Biochemistry, Biomedical Techniques & laboratory Management-II

Your answers should be specific to the questions asked.
Draw neat labelled diagrams wherever necessary.

Section – A

Clinical Biochemistry (50 Marks)

Q.P. Code: M2045

(Use separate answer booklet for section A & B)

LONG ESSAY **1 X 20 = 20 Marks**

1	Define ABG. Explain the principle, Instrumentation for ABG analysis. Describe in detail the procedure, precautions to be taken while drawing the blood, as well as transporting the sample to the lab. Add a note on clinical application of this test. (2+2+2+4+4+2+4)

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

2	Explain the biomedical importance and regulation of calcium levels in the blood.
3	Describe the types, segregation, disposal & potential hazards of Biomedical waste management
4	What are abnormal Hemoglobins? Describe any two in detail.
5	Explain in detail the Xylose absorption test.
6	Briefly describe the Automation in urine chemistry.

Section – B

Biomedical Techniques & Laboratory Management (50 Marks)

Q.P. Code: M2046

(Use separate answer booklet for Section-B)

LONG ESSAY **1 X 20 = 20 Marks**

1	Describe cell fractionation in detail. Add a note on marker enzymes.

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

2	Explain in detail uncouplers of biological oxidation. Mention any two inhibitors of ETC along with the site of inhibition.
3	Mention the different techniques for purification of proteins and describe anyone technique for purification of proteins
4	Describe in detail the Hospital information system.
5	Describe the principle, instrumentation and application of atomic absorption spectrophotometer
6	Describe the Electronic data handling in diagnostic laboratory.

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Paper – II

Clinical Microbiology and Molecular Biology - II

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Draw neat labelled diagrams wherever necessary.

Section – A

Clinical Microbiology (50 Marks)

Q.P. Code: M2055

(Use separate answer booklet for section A & B)

LONG ESSAY **1 X 20 = 20 Marks**

1. Classify Herpes viruses. Describe in detail the pathogenesis, clinical features and lab diagnosis of Herpes simplex viruses.

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

2. Lab diagnosis of Malaria.
3. Bio medical waste management.
4. Describe the life cycle of Ascaris Lumbricoides.
5. Seromarkers of Hepatitis B infection.
6. Cryptococcosis.

Section – B

Molecular Biology (50 Marks)

Q.P. Code: M2056

(Use separate answer booklet for Section-B)

Long Essay 1X20= 20 marks

1. Define Translation. Explain Initiation, Elongation and Termination of Transcription and add a note on Inhibitors of Transcription

Short Essay 5x6=30 marks

1. Autosomal dominant disorder
2. Turner's syndrome
3. Gene therapy
4. Banding techniques of chromosomes
5. Vectors used in Recombinant DNA technology

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Paper – III

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Draw neat labelled diagrams wherever necessary.

Section – A
Heamatology **(50 Marks)**
Q.P. Code: M2065
(Use separate answer booklet for section A & B)

LONG ESSAY 1 X 20 = 20 Marks

1. Describe etiopathogenesis, clinical features and laboratory investigations in Von Willebrand disease? Write a note on Coagulation factor assay and its utility

SHORT ESSAY 5X 6= 30 Marks

2. Describe the clinical features and laboratory findings in a case of antiphospholipid syndrome
3. Describe the role of automation in hematology
4. Describe procedure of cleaning of glassware
5. Describe normal hemostasis
6. Describe indications, principle, procedure and interpretation of platelet aggregation studies.

Section – B
Clinical Pathology & Medical Genetics **(50 Marks)**
Q.P. Code: M2066
(Use separate answer booklet for Section-B)

LONG ESSAY 1 X 20 = 20 Marks

1. Describe the inborn errors of metabolism highlighting disorders of carbohydrate metabolism Write a note on types of Mendelian Inheritance.

SHORT ESSAY 5X 6= 30 Marks

2. Describe the indications, contraindications and tests for synovial fluid analysis.
3. Describe the human Genome project and its utility
4. Describe the methods and procedure of karyotyping.
5. Describe the etiopathogenesis and clinical features of Turner Syndrome
6. Describe indications, tests and interpretation of gastric fluid analysis