Rajiv Gandhi University of Health Sciences

First Year M.Sc. (MLT) Degree Examination - Oct/Nov 2014

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

BIOCHEMISTRY – I

(Revised Scheme – 2)

Q.P. CODE: 9811

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

Section A and section B are to be written in same Answer Book

Section A - Clinical Biochemistry [50 marks]

LONG ESSAY **2 X 10 = 20 Marks**

1. What is metabolic acidosis? Enumerate its causes. What are the compensatory mechanisms?
2. Patient management during specimen collection, preservation, transport and storage

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

3. Clinical significance of CSF analysis
4. Structural and Nutritional classifications of amino acids
5. Glucose Tolerance Test
6. Write in short about the different biological effects of radiation on normal living tissue.
7. Diagnostic enzymology

Section B – Laboratory Principles & Techniques [50 marks]

LONG ESSAY **2 X 10 = 20 Marks**

8. Briefly explain High Performance Liquid Chromatography (HPLC). Mention their applications.
9. Use, care and maintenance of pH meter

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

10. Uses of computers at various levels in Clinical Laboratories
11. Analytical centrifugation in clinical and research laboratory
12. Principle, instrumentation and applications of Atomic absorption spectrophotometer
13. Note on Chemical safety, Radiation safety and Fire safety measures
14. Basic concepts of Potentiometer, note on reference electrode

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Rajiv Gandhi University of Health Sciences

First Year M.Sc. (MLT) Degree Examination - Oct/Nov 2014

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

MICROBIOLOGY – I

(Revised Scheme – 2)

Q.P. CODE: 9812

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

Section A and section B are to be written in same Answer Book

Section A - Clinical Microbiology [50 marks]

1 X 20 = 20 Marks

LONG ESSAY

1. Enumerate the parasites causing malaria in humans. Describe the lifecycle, pathogenicity and laboratory diagnosis of Plasmodium falciparum.

6 X 5 = 30 Marks

SHORT ESSAY (Attempt any six)

2. Sterilization using radiation
3. Describe the principle, functioning and uses of fluorescent microscope.
4. Standard tests for Syphilis
5. Antimicrobial susceptibility testing and its Quality control
6. Life cycle of Ascaris Lumbricoides and its laboratory diagnosis
7. Differences between the live and killed polio vaccine and immunization schedule for the oral polio vaccine
8. List infections caused by Cryptococcosis and its laboratory diagnosis.
9. Antigenic variation in influenza viruses

Section B – Immunology and Molecular Biology [50 marks]

1 X 20 = 20 Marks

LONG ESSAY

10. Define and classify immunity. Describe innate mechanisms of immunity in detail.

6 X 5 = 30 Marks

SHORT ESSAY (Attempt any six)

11. Monoclonal antibodies
12. Mechanisms of autoimmunity
13. IgA antibody – structure, properties and function
14. Precipitation tests – principle and enumerate its uses.
15. Biological effects of complement
16. Types and function of T-cells
17. Structure of DNA
18. Gene therapy



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

HAEMATOLOGY AND BLOOD TRANSFUSION – I

(Revised Scheme – 2)

Q.P. CODE: 9813

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

Section A and section B are to be written in same Answer Book

Section A – Haematology and Clinical Pathology [50 marks]

2 X 10 = 20 Marks

LONG ESSAY

1. Define and classify haemolytic anaemias. Describe different special lab investigations in diagnosis of haemolytic anaemias.
2. Describe organization and quality control of hematology lab.

5 X 6 = 30 Marks

SHORT ESSAY

3. Structure and synthesis of Hb
4. Coomb's test
5. Hemolytic disease of newborn
6. Aplastic anemia
7. Immune Thrombocytopenic Purpura

Section B – Immunopathology and Medical Genetics [50 marks]

2 X 10 = 20 Marks

LONG ESSAY

8. Write about pathogenesis of autoimmunity and describe two disorders.
9. Describe immunology of AIDS.

5 X 6 = 30 Marks

SHORT ESSAY

10. Hemophilia
11. Describe pathogenesis of transplantation rejection.
12. Gregory Mendel's law of inheritance
13. Chromosomal analysis
14. Classify genetic diseases.

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