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Rajiv Gandhi University of Health Sciences

First Year M.Sc. (MLT) Degree Examination - October 2009

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

BIOCHEMISTRY - I

Q.P. CODE : 9671

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 **1 X 20 = 20 Marks**

1. Define GTT. Describe the principle and techniques of GTT

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

2. Discuss different types of DNA
3. Describe the properties of Monosaccharides
4. Enumerate the factors affecting enzyme activity with brief notes
5. Discuss blood gases and its importance
6. Describe one test for detection of acetone in urine

Section B - Biomedical Techniques & Lab. Management [50 marks]

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

7. Define Electrophoresis. Discuss the principle, procedure and application of agarose gel electrophoresis

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

8. Discuss the aspects of quality assurance
9. Describe the techniques for purification of proteins
10. Comment on the safe management of bio-medical waste
11. Describe the principle and applications of flame photometry
12. Elaborate on ultracentrifugation and its applications

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9672

Rajiv Gandhi University of Health Sciences

First Year M.Sc. (MLT) Degree Examination - October 2009

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

MICROBIOLOGY - I

Q.P. CODE : 9672

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]

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

1. Describe the etiology, pathogenesis and laboratory diagnosis of Cholera.

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

2. Bacterial drug resistance
3. Pathogenesis and Immunoprophylaxis of rabies
4. Pathogenesis and lab diagnosis of amoebiasis
5. Laboratory diagnosis of urinary tract infections
6. Candidiasis

Section B – Immunology and Molecular Biology [50 marks]

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

7. What is the complement system? Describe the role of the complement system in Health and Disease.

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

8. Describe the role played by T cells in Immune Response
9. Explain the structure of the DNA molecule
10. Vectors used in recombinant DNA technology
11. Describe cloning techniques
12. DNA Gel Electrophoresis

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Rajiv Gandhi University of Health Sciences

First Year M.Sc. (MLT) Degree Examination - October 2009

[Time: 3 Hours] [Max. Marks: 10

HAEMATOLOGY AND BLOOD TRANSFUSTION - I

Q.P. CODE : 9673

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.**

Sectioin A - Haematology and Clinical Pathology [50 Marks]

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

1. Define Leukemia. List the FAB classification. Discuss the etiology. Discuss the laboratory investigations in a case of acute myeloid leukemia

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

2. Describe preparation of CSF sample and its examination
3. Discuss the pregnancy tests
4. Discuss urine analysis by strip method
5. Coombs test
6. Discuss the Investigations for Hemorrhagic disorders

Section B - Immunology and Medical Genetics [50 Marks]

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

7. Define autoimmunity. List the autoimmune disorders. Discuss the mechanisms of autoimmune diseases. List the tests for establishing the diagnosis

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

8. Molecular cytogenetics
9. Discuss the immune complex reaction
10. X linked inheritance
11. Blood groups, their inheritance and testing
12. List the connective tissue disorders and discuss the mechanism of rheumatic fever

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9671

Rajiv Gandhi University of Health Sciences

First Year M.Sc. (MLT) Degree Examination - May 2009

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

BIOCHEMISTRY - I

Q.P. CODE : 9671

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 **1 X 20 = 20 Marks**

1. Classify lipids with examples. Write a note on functions of lipids

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

2. Explain epimerism and anomerism with examples. Add a note on essential aminoacids
3. What is the principle of van den Bergh test? Write normal values and significance of serum bilirubin
4. What are neclesides? Name the biologically important nucleotides and their importance
5. Write an the physical and clinical examination of urine and the normal value of any three of the constituents of urine
6. Factors affecting enzyme activity

Section B - Biomedical Techniques & Lab. Management [50 marks]

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

7. What is electrophoresis? Add a note on principle and different types of electrophoresis

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

8. Radioisotopes
9. Laboratory design
10. Electron transport chain
11. Laboratory information systems and hospital information systems
12. Quality control in laboratory

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9672

Rajiv Gandhi University of Health Sciences

First Year M.Sc. (MLT) Degree Examination - May 2009

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

MICROBIOLOGY - I

Q.P. CODE : 9672

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]

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

1. Define sterilization. Classify sterilization methods. Explain in detail the moist heat methods of sterilization

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

2. Diagnosis of Enteric Fever
3. Antibiotic susceptibility testing
4. Hepatitis B virus
5. Complications of Falciparum Malaria
6. Dermatophyte infections and their diagnosis

Section B – Immunology and Molecular Biology [50 marks]

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

7. Define Immunity. Classify types of immunity. Describe in detail the various mechanism of innate immunity

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

8. Structure and properties of immunoglobulins
9. The Major Histocompatibility Complex
10. Explain different types of Mutation
11. Southern blotting
12. Applications of Recombinant DNA technology in medicine

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First Year M.Sc. (MLT) Degree Examination - May 2009

e: 3 Hours] [Max. Marks: 10

HAEMATOLOGY AND BLOOD TRANSFUSTION - I

Q.P. CODE : 9673

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**

Sectioin A - Haematology and Clinical Pathology [50 Marks]

G ESSAY **1 X 20 = 20 Marks**

Define and list the haemorrhagic disorders. Describe the laboratory investigations performed for hemorrhagic disorders

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

Discuss stool examination

Describe the specific abnormalities detected on peripheral blood smear examination in anemia

LAP score

Pleural fluid examination

Laboratory Investigations of Myeloma

Section B - Immunology and Medical Genetics [50 Marks]

G ESSAY **1 X 20 = 20 Marks**

Describe the pathogenesis of AIDS. Discuss the laboratory investigations done in a patient suspected with AIDS

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

Discuss the various tumor markers

Delayed hypersensitivity reactions

Methods of chromosome analysis

Discuss transfusion reactions

Compatibility testing

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