Rajiv Gandhi University of Health Sciences

Second Year M.Sc. (MLT) Degree Examination - April / May 2016

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

BIOCHEMISTRY-II

Paper - I

Q.P. CODE: 9674

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

Section A – Clinical Biochemistry [50 marks]

LONG ESSAY 1 X 20 = 20 Marks

1. Discuss in detail the structure, biosynthesis, secretion and metabolism of thyroid hormones. What are the common causes for hypo and hyper thyroidism?

SHORT ESSAY 3 X10= 30 Marks

2. Describe the recent developments in indentifying proteomic patterns for cancer detection.
3. Explain how the blood sample is collected, carried and analyzed for blood gases? What are the normal ranges?
4. Define the Handerson-Hasselbach equation. Discuss the physiologic buffer systems and the role of respiratory and renal compensation.

Section B – Pharmacological Biochemistry [50 marks]

LONG ESSAY 1 X 20 = 20 Marks

5. Describe the generic methodology of the routine immunoassays for drugs-of-abuse testing. List the major drugs of abuse and their clinical manifestations.

SHORT ESSAY 3 X 10 = 30 Marks

6. Outline the origin and the consequences of nonlinear or zero-order pharmacokinetics on drug pharmacokinetics.
7. Give the important differences between urine and blood for monitoring the detection of xenobiotics.
8. Discuss the various consequences of competing metabolic pathways to modulate both the efficacy and toxicity of administered medications.

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Rajiv Gandhi University of Health Sciences

Second Year M.Sc. (MLT) Degree Examination - April/May 2016

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

BIOCHEMISTRY-II

Paper-II

Q.P. CODE : 9675

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

LONG ESSAY 2 X 20 = 40 Marks

1. Explain how glucose is converted to lactate and add a note on its energetics
2. Describe the procedure & Principle of serum protein electrophoresis

SHORT ESSAY 6X10= 60 Marks

3. Describe the reactions of Ketogenesis
4. Describe the disorders of Purine metabolism
5. Enumerate the sources, RDA & functions of Vitamin C.
6. Free radicals
7. Describe the chemiosmotic theory of oxidative phosphorylation
8. Explain the role of Radioactive isotopes in diagnosis

Rajiv Gandhi University of Health Sciences

II Year M.Sc. (MLT) Degree Examination - April / May 2016 [Time: 3 Hours] [Max. Marks: 100]

BIOCHEMISTRY – II

Paper - I (Revised Scheme – 2)

Q.P. CODE: 9814

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. Liver function tests. Add a note on congenital disorders of bilirubin metabolism.

SHORT ESSAY 3 X 10 = 30 Marks

2. Tumor markers
3. Malabsoption
4. Explain types of Porphyrias and their laboratory diagnosis.

Section B – Laboratory Management [50 marks]

LONG ESSAY 1 X 20 = 20 Marks

5. Discuss the various aspects of quality assurance program in a laboratory.

SHORT ESSAY 3 X 10 = 30 Marks

6. Ion selective electrode
7. Biological Reference intervals
8. Point of care testing (POCT)

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Rajiv Gandhi University of Health Sciences

II Year M.Sc. (MLT) Degree Examination - April/May 2016 [Time: 3 Hours] [Max. Marks: 100]

BIOCHEMISTRY–II

Paper – II (Revised Scheme – 2)

Q.P. CODE: 9815

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

LONG ESSAY 2 X 20 = 40 Marks

1. Discuss enzyme kinetics. Add a note on the various factors affecting enzyme activity.
2. Write notes on the biosynthesis and regulation of purine nucleotides. Explain Gout.

SHORT ESSAY 6 X 10 = 60 Marks

3. Clinical implications of Aminoacidurias
4. Sources, RDA, functions and disease states of copper
5. Diabetes mellitus
6. Luminometry
7. Vitamin B_3
8. Association of lipids and lipoproteins with coronary heart diseases

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Rajiv Gandhi University of Health Sciences

II Year M.Sc. (MLT) Degree Examination – APRIL/MAY 2016 [Time: 3 Hours] [Max. Marks: 100]

Microbiology–II

Paper – I (Systematic Bacteriology, Applied Microbiology and Immunology)

(Revised Scheme – 2)

Q.P. CODE: 9816

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

LONG ESSAY 2 X 20 = 40 Marks

1. Classify mycobacteria. Describe the pathogenesis, laboratory diagnosis and prophylaxis of Mycobacterium tuberculosis.
2. Enumerate antigen-antibody reactions. Describe the principle, methodology and chemical applications of agglutination reactions with suitable examples.

SHORT ESSAY 6 X 10 = 60 Marks

3. Laboratory diagnosis of bacillary dysentry
4. Gas gangrene
5. Standard tests for syphilis
6. Passive immunity
7. Normal microbial flora of human body
8. Biomedical waste management

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Rajiv Gandhi University of Health Sciences

II Year M.Sc. (MLT) Degree Examination - May 2016

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

Microbiology–II

Paper – II (Virology, Mycology and Parasitology)

(Revised Scheme – 2)

Q.P. CODE: 9817

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

LONG ESSAY 2 X 20 = 40 Marks

1. Classify Picorna virus. Describe the pathogenesis and laboratory of poliomyelitis. Add a note on its prophylaxis.
2. List the parasites causing malaria. Describe the life cycle, pathogenesis and laboratory of Plasmodium vivax.

SHORT ESSAY 6 X 10 = 60 Marks

3. Explain the life cycle and pathogenesis of Entamoeba histolytica.
4. Life cycle, pathogenesis and laboratory diagnosis of Trichuris trichiura
5. Prophylaxis of Rabies virus
6. MMR vaccine
7. Describe the laboratory techniques used for the diagnosis of fungal infection.
8. Dermatophytes

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Rajiv Gandhi University of Health Sciences

II Year M.Sc. (MLT) Degree Examination - May 2016

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

Haematology and Blood Transfusion – II

Paper – I

(Revised Scheme – 2)

Q.P. CODE: 9818

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

LONG ESSAY 2 X 20 = 40 Marks

1. Classify thrombotic disorders. Discuss in detail pathophysiology, clinical features and lab diagnosis of Antithrombosin III deficiency.
2. Discuss in detail functional disorders of platelets.

SHORT ESSAY 6 X 10 = 60 Marks

3. Automation in haematology
4. Coagulation factor assays
5. Primary haemostasis
6. Haemophilia B
7. Thrombotic thrombocytopenic purpura
8. Congenital haemorrhagic vascular disorders.

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Rajiv Gandhi University of Health Sciences

II Year M.Sc. (MLT) Degree Examination - May 2016

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

Haematology and Blood Transfusion – II

Paper – II

(Revised Scheme – 2)

Q.P. CODE: 9819

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

LONG ESSAY 2 X 20 = 40 Marks

1. Discuss in detail about wastes and biologically hazardons substance in the blood bank.
2. Discuss transfusion reactions in detail.

SHORT ESSAY 6 X 10 = 60 Marks

3. Immunomodulation
4. Paternity testing
5. Orientation of a routine blood bank
6. Indication of blood transfusion
7. Compatibility testing
8. Exchange transfusion

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II Year M.Sc. (MLT) Degree Examination - OCTOBER 2016

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

BIOCHEMISTRY – II

Paper - I (Revised Scheme – 2)

Q.P. CODE: 9814

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. Write an essay on tumour markers.

SHORT ESSAY 3 X 10 = 30 Marks

2. Pancreatic function tests
3. Describe the role of GIT hormones and enzymes in digestion.
4. Composition, collection of CSF and its biochemical analysis

Section B – Laboratory Management [50 marks]

LONG ESSAY 1 X 20 = 20 Marks

5. Describe the various standardization and calibration processes employed in a clinical laboratory.

SHORT ESSAY 3 X 10 = 30 Marks

6. Laboratory information system
7. Working of a clinical biochemistry laboratory
8. Clinical utility of therapeutic drug monitoring

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II Year M.Sc. (MLT) Degree Examination - OCTOBER 2016

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

BIOCHEMISTRY – II

Paper – II (Revised Scheme – 2)

Q.P. CODE: 9815

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

LONG ESSAY 2 X 20 = 40 Marks

1. Give an account of Iron metabolism under the following headings. a) Functions b) RDA c) Absorption and Transport d) Disorders.
2. Explain the metabolism of Phenylalanine and Tyrosine. Add a note on its specialized products.

SHORT ESSAY 6 X 10 = 60 Marks

3. Mention the enzymes in the diagnosis of Liver and Cardiac diseases in detail.
4. Discuss the RDA, Sources, Function and Deficiencies of Vitamin C.
5. Mention Laboratory diagnosis and criteria for the diagnosis of Diabetes Mellitus.
6. Explain in detail about serum protein electrophoresis by Agarose Gel Electrophoresis.
7. Write a short note on significance of antioxidants.
8. Write the factors affecting Enzyme activity.

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II Year M.Sc. (MLT) Degree Examination - OCTOBER 2016

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

Microbiology – II

Paper – I (Systematic Bacteriology, Applied Microbiology and Immunology)

(Revised Scheme – 2)

Q.P. CODE: 9816

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

LONG ESSAY 2 X 20 = 40 Marks

1. Discuss the pathogenesis and laboratory diagnosis of Diarrhogenic E. coli.
2. Define antigen- antibody reaction. Discuss in detail the mechanism, types and applications of Agglutination reactions.

SHORT ESSAY 6 X 10 = 60 Marks

3. Laboratory diagnosis of anthrax
4. Lepromin test
5. Prophylaxis of tetanus
6. Classical complement pathway
7. Laboratory diagnosis of aseptic meningitis
8. Normal microbial flora of human body

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II Year M.Sc. (MLT) Degree Examination - OCTOBER 2016

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

Microbiology – II

Paper – II (Virology, Mycology and Parasitology)

(Revised Scheme – 2)

Q.P. CODE: 9817

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

LONG ESSAY 2 X 20 = 40 Marks

1. Classify Herpes Viruses. Describe the pathogenesis and laboratory diagnosis of Herpes Simplex Virus.
2. Discuss the life cycle, pathogenesis and laboratory diagnosis of Toxoplasma gondii.

SHORT ESSAY 6 X 10 = 60 Marks

3. Laboratory diagnosis of Kala azar
4. Extra intestinal amoebiasis
5. Pathogenicity and laboratory diagnosis of Dengue Virus
6. Immunoprophylaxis of Polio
7. Pathogencity and laboratory diagnosis Cryptococcus neoformans.
8. mycotoxicosis

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II Year M.Sc. (MLT) Degree Examination – OCTOBER 2016

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

Haematology and Blood Transfusion – II

Paper – I

(Revised Scheme – 2)

Corrections in Q.P. CODE: 9818

Replaced SHORT ESSAY Questions : 6 X 10 = 60 Marks

4. Disseminated Intravascular Coagulation

5. Normal Hemostasis

7. Thrombocytopenia

8. Flow cytometry

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Allot 20 minutes extra time for the students after receiving this corrections paper.

II Year M.Sc. (MLT) Degree Examination – OCTOBER 2016

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

Haematology and Blood Transfusion – II

Paper – I

(Revised Scheme – 2)

Q.P. CODE: 9818

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

LONG ESSAY 2 X 20 = 40 Marks

1. Classify thrombotic disorders. Discuss in detail pathophysiology, clinical features and laboratory diagnosis of antiphospholipid antibody syndrome.
2. Classify platelet disorders. Discuss in detail functional disorders of platelets.

SHORT ESSAY 6 X 10 = 60 Marks

3. Automation in haematology
4. Coomb's test
5. Transfusion transmitted diseases
6. Haemophilia B
7. Anticoagulants used in the blood bank
8. Describe haemolytic disease of newborn with a note on exchange transfusion.

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II Year M.Sc. (MLT) Degree Examination – OCTOBER 2016

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

Haematology and Blood Transfusion – II

Paper – II

(Revised Scheme – 2)

Q.P. CODE: 9819

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

LONG ESSAY 2 X 20 = 40 Marks

1. Discuss in detail Transfusion transmitted diseases.
2. Discuss in detail indication and preparation of blood components.

SHORT ESSAY 6 X 10 = 60 Marks

3. Anticoagulants in blood bank
4. Direct Coomb's test
5. Autologous transfusion
6. Medicolegal aspects of blood transfusion
7. Cord blood banking
8. Graft versus host disease

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