9671_2008_1_531

Rajiv Gandhi University of Health Sciences

First Year M.Sc. (MLT) Degree Examination - April 2008

[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. Define and classify proteins. Add a note on its properties — 1 X 20 = 20 Marks

SHORT ESSAY

2. Discuss xylose absorption test with its clinical significance — 5 X 6 = 30 Marks
3. Describe how calculi can be analyzed
4. Enumerate the different types of RNA with brief notes
5. Discuss bilirubin estimation by Malloy and Evelyn method
6. Describe the electrolytes in blood

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

LONG ESSAY

7. Define chromatography. Discuss the principle and procedure of ion exchange chromatography — 1 X 20 = 20 Marks

SHORT ESSAY

8. Discuss the financial management of laboratories — 5 X 6 = 30 Marks
9. Describe high energy compounds
10. Comment on infection control
11. Describe laboratory data processing
12. Elaborate on the principle and applications of spectrophotometry

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Rajiv Gandhi University of Health Sciences

First Year M.Sc. (MLT) Degree Examination - April 2008

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

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. Enumerate the bacteria causing diarrhea. Discuss the pathogenesis, laboratory diagnosis and prophylaxis of cholera

SHORT ESSAY

5 X 6 = 30 Marks

2. Bacterial cell wall
3. Laboratory diagnosis of diphtheria
4. Candidiasis
5. Concentration techniques of stool examination
6. Hepatitis A virus

Section B – Immunology and Molecular Biology [50 marks]

LONG ESSAY

1 X 20 = 20 Marks

7. Describe the DNA repair mechanisms. Explain the base excision and Nucleotide excision mechanisms in detail. What is the role of DNA polymerase and ligase in repair mechanisms?

SHORT ESSAY

5 X 6 = 30 Marks

8. Genetics of cancer
9. Lac operon
10. Neutrophil function tests
11. Western blot
12. Shuttle vectors

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Rajiv Gandhi University of Health Sciences

First Year M.Sc. (MLT) Degree Examination - April 2008

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

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 Anaemia and classify Haemolytic anaemias. Add a note on osmotic fragility test

SHORT ESSAY 5 X 6 = 30 Marks

2. Discuss microscopic examination of pleural fluid
3. Describe Leukaemoid reaction
4. Enumerate Haemoparasites with a note on their laboratory diagnosis
5. Discuss the physical examination of urine sample
6. Describe electrophoresis for haemoglobin-F

Section B - Immunology and Medical Genetics [50 Marks]

LONG ESSAY 1 X 20 = 20 Marks

7. Explain the clinical and immunological features of SLE

SHORT ESSAY 5 X 6 = 30 Marks

8. Discuss gene therapy
9. Describe the different types of Immunomodulators
10. Comment on kidney transplantation
11. Describe disorders of steroid metabolism
12. Elaborate on chromosome abnormalities

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Rajiv Gandhi University of Health Sciences

First Year M.Sc. (MLT) Degree Examination - October 2008

Time: 3 Hours] [Max. Marks:

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 Ma**

1. Classify carbohydrates with one example for each class. Add a note on the function carbohydrates

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

2. Classify enzymes with examples
3. Explain the structure of DNA
4. Enumerate the biochemical tests performed to detect the abnormal constituents in urine. Wr the principle of any 2 of the above tests
5. Define essential fatty acids. What is their significance?
6. Give the reference range for the following constituents
   a) Blood glucose b) Serum alkaline phosphatase e) Serum creatinine d) Serum sodiu
   f) SGPT / ALT

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

LONG ESSAY **1 X 20 = 20 Mark**

7. Discuss Ion exchange chromatography under the following heads:
   a) Principles b) Materials used c) Procedure d) Applications

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

8. Discuss the principle and applications of photometry
9. What are the precautions to be taken during handling and disposal of hazardous chemicals?
10. What are the responsibilities of the technician under the following heads: Renal maintenance training, ethics
11. Explain the use of computers in clinical laboratory
12. Write a note on quality control in clinical laboratory

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2. DNA

Rajiv Gandhi University of Health Sciences

First Year M.Sc. (MLT) Degree Examination - October 2008

me: 3 Hours] [Max. Marks:

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]

NG ESSAY **1 X 20 = 20 Ma**

Classify haemoflagellates. Discuss the morphology, lifecycle and laboratory diagnosis Leishmania donovani

ORT ESSAY **5 X 6 = 30 Mar**

- Anaerobic methods of bacterial culture
- Laboratory diagnosis of enteric fever
- Leptospirosis
- Lifecycle and diagnosis of Echinococcus granulosus
- Clinical manifestations and laboratory diagnosis of Aspergillus fumigatus

Section B – Immunology and Molecular Biology [50 marks]

NG ESSAY **1 X 20 = 20 Mark**

- Method of production and application of monoclonal antibodies

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

- Types of vaccines
- Cytokines
- P.C.R and its applications
- Compare and contrast T cell receptor to B.cell receptor
- Biological effects mediated by complement

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Rajiv Gandhi University of Health Sciences

First Year M.Sc. (MLT) Degree Examination - October 2008

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

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]

IG ESSAY

1 X 20 = 20 Marks

1. Define anemia. List the morphological and etiological classification. Discuss the laboratory investigations and peripheral smear specific abnormalities in a case of anemia

RT ESSAY

5 X 6 = 30 Marks

2. Describe preparation of sputum sample and its examination
3. The tests for G6PD deficiency
4. Discuss hemoparasites
5. Automation in hematology
6. Describe CSF examination

Section B - Immunology and Medical Genetics [50 Marks]

G 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

RT ESSAY

5 X 6 = 30 Marks

8. Describe methods of chromosome analysis
9. Molecular cytogenetics
10. Types and mechanism of hypersensitivity reactions
11. Anaphylaxis
12. Discuss the immunology of AIDS

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