Rajiv Gandhi University of Health Sciences, Karnataka

II Year B.Sc. (MLT) Degree Examination - 14-Jan-2022

Time: Three Hours **Max. Marks: 80 Marks**

Biochemistry – Paper II (RS-3 Scheme)
Q.P. CODE: 3156

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

LONG ESSAY (Any Two) **2 x 10 = 20 Marks**

1. Explain Tricarboxylic Acid (TCA) cycle and its energetics.
2. Explain the principles and components of spectrophotometry and add a note on applications of spectrophotometry.
3. Explain digestion and absorption of carbohydrates. Add a note on diabetes mellitus.

SHORT ESSAY (Any Six) **6 x 5 = 30 Marks**

4. Glycogen storage diseases
5. Clearance tests and their significance in assessing renal function
6. Chromatography
7. Coenzymes
8. Mucopolysaccharides
9. Secondary Protein structure
10. Calibration curves and their importance in biochemical estimations
11. Biochemical importance of lactose and sucrose

SHORT ANWERS (Any Ten) **10 x 3 = 30 Marks**

12. Iso-electric precipitation of proteins and its importance
13. tRNA
14. Megaloblastic anaemia
15. Transamination reactions
16. Gout
17. Maple syrup urine disease
18. Anticoagulants in blood collection
19. Mutarotation
20. Enzyme specificity
21. Anti vitamins
22. Normal levels of serum creatinine, blood urea and uric acid
23. Benedict’s test

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Rajiv Gandhi University of Health Sciences, Karnataka

II Year B.Sc. (MLT) Degree Examination - 17-Jan-2022

Time: Three Hours **Max. Marks: 80 Marks**

Microbiology – II (RS3)
Q.P. CODE: 3157

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

LONG ESSAY (Any Two) **2 x 10 = 20 Marks**

1. Classify Mycobacteria. Discuss the pathogenicity and laboratory diagnosis of Mycobacterium tuberculosis.
2. Describe the morphology, life cycle and pathogenicity of E. histolytica. Write a note on extra-intestinal amoebiasis.
3. Describe the pathogenesis and lab diagnosis of Corynebacterium diphtheriae.

SHORT ESSAY (Any Six) **6 x 5 = 30 Marks**

4. Life cycle of Echinococcus granulosus.
5. Stool concentration techniques.
6. Virulence factors of S. aureus.
7. Laboratory diagnosis of Brucellosis.
8. Bacillus anthracis.
9. Bacterial food poisoning.
10. Differences between Streptococcus viridians and Pneumococci.
11. Laboratory diagnosis of Filariasis.

SHORT ANWERS (Any Ten) **10 x 3 = 30 Marks**

12. Egg of whipworm.
13. NIH swab.
14. Oxidase test.
15. Cryptosporidium.
16. CAMP test.
17. Name three ureas positive organisms.
18. Halophilic vibrios.
19. Name three enrichment media.
20. Nagler reaction.
21. Lit three differences between RPR and VDRL
22. List three differences between amoebic and bacillary dysentery.
23. ASLO

Rajiv Gandhi University of Health Sciences, Karnataka

II Year B.Sc. (MLT) Degree Examination – 19-Jan-2022

Time: Three Hours **Max. Marks: 80 Marks**

PATHOLOGY – II (RS3)
Q.P. CODE: 3158

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

LONG ESSAYS (Answer any Two) **2 x 10 = 20 Marks**

1. Describe the process of normal hemostasis. Enumerate the various coagulation tests and their normal values.
2. Enumerate the various automated techniques used haematology laboratory. Write in detail the principle of automation in cell counters in haematology.
3. What are the types of microtomes? Enumerate the problems encountered in section cutting.

SHORT ESSAYS (Answer any Six) **6 x 5 = 30 Marks**

4. Steps in tissue processing.
5. Packed cell volume.
6. Frozen section.
7. Morphological classification of anaemia with two causes for each.
8. Museum techniques.
9. Uses of cytochemistry in haematology.
10. Knife sharpeners.
11. Absolute Eosinophil count.

SHORT ANSWERS (Answer any Ten) **10 x 3 = 30 Marks**

12. Write three causes of Eosinophilia.
13. Name three special stains for fat.
14. Method of detection of urine Hemosiderin and its principle.
15 Name the different types of Haematoxylin.
16. What is the normal WBC count and differential count in a healthy adult?
17. Electron microscopy.
18. Fetal Haemoglobin.
19. Name three embedding media.
20. Name three methods of Haemoglobin estimation.
21. ICDS coding.
22. Reticulocyte count.
23. List three uses of PAS sain.

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Rajiv Gandhi University of Health Sciences, Karnataka

Second Year B.Sc. (M.L.T) Degree Examination – 14-Jan-2022

Time: Three Hours **Max. Marks: 100 Marks**

BIOCHEMISTRY – II (RS-4)

Q.P. CODE: 3279

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

LONG ESSAYS (Second Question Choice) **2 x 10 = 20 Marks**

1. Describe the principle, components and application of Colorimeter with the help of a diagram
2. Explain in detail about Diabetes Mellitus. Add a note on Glucose tolerance test.
   OR
   Describe urea cycle. What is its importance? Add a note on its energetics

SHORT ESSAYS (Question No 5 & 10 choice) **10 x 5 = 50 Marks**

3. Explain the different types of tubes used in Laboratory
4. Principle and applications of Nephalometry and Turbidimetry
5. Anticoagulant and preservatives used in blood and urine collection
   OR
   Biosynthesis of creatinine and its clinical significance
6. Define with example valency molecular weight and equipment weight.
7. Working and instruments of Incubator.
8. Explain the preparation of standard solutions and storage with example
9. Briefly explain Secondary structure of protein
10. Briefly explain the factors affecting enzyme activity and add a note on Analytical role of Enzymes
    OR
    Enumerate the properties of amino acids
11. Principle and components of p^H meter
12. Ketogenesis.

SHORT ANSWER **10 x 3 = 30 Marks**

13. Microalbuminuria
14. Glucometer
15. Mention the normal value of creatinine, urea and Glucose in serum
16. What are mucopolysaccharides and mention their functions
17. Immobilized Enzymes
18. Renal Glucosuria
19. Serial Dilution
20. Invert sugar
21. Dessicator
22. Benedict's Test

Rajiv Gandhi University of Health Sciences, Karnataka

Second Year B.Sc. (M.L.T) Degree Examination – 14-Jan-2022

BIOCHEMISTRY – II (RS-4)

Q.P. CODE: 3279
CORRECTIONS

Read question no 2, 6 and 7 as follows:

2. Explain in detail about Diabetes Mellitus. Add a note on Glucose tolerance test.
   OR
   Describe urea cycle. What is its importance? Add a note on its energetics.

6. Define with example valency molecular weight and **equivalent** weight.
7. Working and **Instrumentation** of Incubator.

Second Year B.Sc. (M.L.T) Degree Examination – 17-Jan-2022

Time: Three Hours **Max. Marks: 100 Marks**

MICROBIOLOGY – II (RS-4)

Q.P. CODE: 3280

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

LONG ESSAYS (Second Question Choice) **2 x 10 = 20 Marks**

1. List the organisms causing sexually transmitted diseases. Discuss the cultural characters, pathogenesis and laboratory diagnosis of gonorrhoea.
2. List the pathogenic Cestodes. Write the life cycle, pathogenesis and laboratory diagnosis of Echinococcus granulosus.
   OR
   Classify Clostridia. Write the cultural characters, pathogenesis, laboratory diagnosis and prophylaxis of Clostridium tetani.

SHORT ESSAYS (Question No 5 & 10 choice) **10 x 5 = 50 Marks**

3. B.C.G vaccination.
4. Larva migrans.
5. Malignant pustule.
   OR
   Trichinella spiralis.
6. Diseases caused by Staphylococcus aureus.
7. Cysticercus cellulosae.
8. A.S. O Test.
9. Black water fever.
10. Laboratory diagnosis of Syphilis.
    OR
    Laboratory diagnosis of Wuchereria bancrofti.
11. Laboratory diagnosis of Pneumococcus.
12. Life cycle and pathogenesis of Hymenolepis nana.

SHORT ANSWER **10 x 3 = 30 Marks**

13. Draw a neat labelled diagram of the eggs of roundworm.
14. Liver fluke.
15. Schick test.
16. Trichomonas.
17. Method of sputum collection for the diagnosis of tuberculosis.
18. NIH Swab.
19. Post streptococcal complications.
20. Balantidium coli.
21. Catalase test.
22. Unsheathed Microfilaria.

Rajiv Gandhi University of Health Sciences, Karnataka

Second Year B.Sc. (M.L.T) Degree Examination – 19-Jan-2022

Time: Three Hours **Max. Marks: 100 Marks**

PATHOLOGY – II (RS-4)

Q.P. CODE: 3281

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

LONG ESSAYS (Second Question Choice) **2 x 10 = 20 Marks**

1. What is Hematocrit? Describe the various methods of measuring it.
2. Name the different microtomes. Describe in detail ultramicrotome.
   OR
   Explain in detail about the tests for Vitamin B12 deficiency.

SHORT ESSAYS (Question No 5 & 10 choice) **10 x 5 = 50 Marks**

3. Cytochemistry of leukocytes.
4. Describe Dark Ground illumination microscope.
5. Discus hemoglobin estimation by Sahli's method.
   OR
   Explain osmotic fragility test.
6. Discuss prothrombin Time.
7. Mountants.
8. Estimation of RBC count.
9. Discuss automatic slide stainer.
10. Discuss Reticulocyte count.
    OR
    Discuss absolute Eosinophil Count.
11. Haematoxyline stain.
12. Test for autoimmune hemolytic anemia.

SHORT ANSWER **10 x 3 = 30 Marks**

13. Fluorescent microscope.
14. Name platelet function tests.
15. Honing and stropping.
16. Name any two stains for fat.
17. Draw neat labeled diagram of eosinophil.
18. List four types of Hemolytic anemia.
19. Leukchart's 'L' blocks.
20. List the indications for bone marrow aspiration.
21. Mention six poikilocytes.
22. List any two stains for carbodydrates.

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Rajiv Gandhi University of Health Sciences, Karnataka

II Year B.Sc. (MLT) Degree Examination – 22-Jul-2022

Time: Three Hours **Max. Marks: 80 Marks**

PATHOLOGY – II (RS3)
Q.P. CODE: 3158

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

LONG ESSAYS (Answer any Two) **2 x 10 = 20 Marks**

1. Describe the preparation and staining of peripheral blood smear.
2. Classify Anemia. Discuss various tests for iron deficiency anemia.
3. Describe cryostat and enumerate various uses of frozen sections.

SHORT ESSAYS (Answer any Six) **6 x 5 = 30 Marks**

4. Describe the techniques of mounting histopathology slide.
5. Describe an electron microscope.
6. Sickling test.
7. Demonstration of LE cells.
8. Briefly describe assay of coagulation factors.
9. Describe museum technology.
10. Describe stem cells and applications of stem cell therapy.
11. Enumerate methods of platelet count.

SHORT ANSWERS (Answer any Ten) **10 x 3 = 30 Marks**

12. List various instruments used in histopathology.
13. Name the supravital stains.
14. Enumerate the uses of fluorescent microscope.
15 Name the special stains used for carbohydrates.
16. Describe the method of determining HbF.
17. Name RBC indices and give their normal value.
18. Morphology of Neutrophil.
19. What are the methods of bone marrow study?
20. What is ICDS classification?
21. What are the methods of Hb estimation?
22. Name the cytochemical tests and their uses.
23. List the applications of microphotography.

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Rajiv Gandhi University of Health Sciences, Karnataka

Second Year B.Sc. (M.L.T) Degree Examination – 22-Jul-2022

Time: Three Hours **Max. Marks: 100 Marks**

PATHOLOGY – II (RS-4)

Q.P. CODE: 3281

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

LONG ESSAYS (Second Question Choice) **2 x 10 = 20 Marks**

1. Describe the technique of section cutting. Write the procedure of tissue staining by Haematoxyline and Eosin method.

2. Describe tests for the laboratory diagnosis of Megaloblastic anemia.
   OR
   Describe normal haemostasis and the tests used in the diagnosis of bleeding disorders.

SHORT ESSAYS (Question No 5 & 10 choice) **10 x 5 = 50 Marks**

3. Anticoagulants used in hematology lab.
4. Electron microscope.
5. Platelet count.
   OR
   Red blood cell count.
6. PAS stain.
7. Preparation and mounting of specimens.
8. Myelopoiesis.
9. Absolute eosinophil count.
10. Romanowsky stains.
    OR
    Write in detail about grossing technique.
11. Automated tissue processor.
12. LE cell.

SHORT ANSWER **10 x 3 = 30 Marks**

13. Mordant.
14. Test for FDP
15. What is Microphotography?
16. Morphology of Basophil.
17. Special stain for Lipids.
18. ICDS classification and coding.
19. Name three stains used for cytochemistry.
20. Name three different methods of hemoglobin estimation.
21. Turks fluid.
22. Leukhart's ''L'' block.

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