1608_2011_1_S221

# Rajiv Gandhi University of Health Sciences, Karnataka

Second year B.Sc. (M.L.T) Degree Examination – Feb/March 2011

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

## BIOCHEMISTRY – II (Revised Scheme)

## Q.P. CODE: 1608

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. What is Glycolysis? Explain Aerobic Glycolysis, and add a note on its energetics
2. Give an account of chemistry sources, daily requirements, functions and deficiency disorders of vitamin D
3. Explain the principle and applications of spectrophotometry

**SHORT ESSAYS (Answer any Eight)** **8 x 5 = 40 Marks**

4. Beri Beri
5. Vit. K
6. Write the reactions of TCA cycle
7. Isoenzymes and their clinical importance
8. Functions of vitamin A
9. Ketogenesis
10. Biological compounds derived from cholesterol
11. Glycogen storage diseases
12. Deficiency disorders of vitamin C
13. Dietary fibre

**SHORT ANSWERS** **10 x 2 = 20 Marks**

14. Essential aminoacids
15. Hetropolysaccharides
16. Provitamins
17. Km value
18. Write the CO-enzymes of Niacin and Riboflavin
19. Pellagra
20. Normal blood urea level and its importance
21. Kwashiorkor
22. Competitive enzyme inhibition
23. Benedict test

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# Rajiv Gandhi University of Health Sciences, Karnataka

Second year B.Sc. (M.L.T) Degree Examination – Feb/March 2011

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

## PATHOLOGY – II (Revised Scheme)

## Q.P. CODE: 1606

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. Write an essay on automation in histopathology with a note on automatic slide stainer
2. Describe the various types of microscopes and their specific uses
3. Describe the mechanisms of coagulation

**SHORT ESSAYS (Answer any Eight)** **8 x 5 = 40 Marks**

4. Embedding media
5. Write briefly on museum technology
6. Schilling test
7. What are the sites of aspiration of bone marrow? Describe preparation and staining methods
8. Quality control in a hematology
9. Cryostat
10. Anti coagulants used in hematology
11. Reticulocyte count
12. ICDs classification
13. Peroxidase stain

**SHORT ANSWERS** **10 x 2 = 20 Marks**

14. Steps in cleaning glassware in laboratory
15. Selection criteria for paraffin
16. Name platelet function tests
17. Dehydrating agents in tissue processing
18. Define prothrombin time. What is normal value?
19. Morphology of Eosinophil
20. List different types of microtomes
21. What is frozen section?
22. Name the tests used for detection of Fibrinogen Degrading Products (FDP)
23. How do you remove formalin pigments from tissue sections?

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# Rajiv Gandhi University of Health Sciences, Karnataka

Second year B.Sc. (M.L.T) Degree Examination – Feb/March 2011

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

## PATHOLOGY – II (RS - 2)

## Q.P. CODE: 1233

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. Discuss the role of Automated tissue processor in a Histopathology laboratory.
2. Classify bleeding disorders. Describe various tests to investigate bleeding disorder.
3. What is frozen section? Describe the freezing microtome. What are the applications of frozen section?

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

4. Microtomes.
5. Fluorescent microscopy on pathology.
6. Special stains for carbohydrate.
7. Red cell indices.
8. Hemoglobin electrophoresis.
9. Bleeding time.
10. Myelopoiesis.
11. Mounting techniques.

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

12. Mention three uses of electron microscopy.
13. Name three anticoagulants used in haematology and the test where it is used.
14. List three laboratory evidences of haemolysis.
15. Name three cytochemical stains used in the diagnosis of leukaemias.
16. Write the principle of Hb estimation by cyanmeth hemoglobin method. Name two other methods of Hb estimation.
17. Write three causes of eosinophilia.
18. Name two tests to detect G6PD deficiency. Write the principle of any one test.
19. Define haematocrit. What are the methods of measuring it?
20. Peripheral blood picture in megaloblastic anemia.
21. Buffy coat
22. Name two causes of Haemoglobinuria. How is it detected?
23. Write the stages of normal erythropoiesis?

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1232_2011_1_S153

# Rajiv Gandhi University of Health Sciences, Karnataka

Second year B.Sc. (M.L.T) Degree Examination - Feb/March 2011

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

## MICROBIOLOGY – II (RS - 2)

## Q.P. CODE: 1232

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. Enumerate fungi causing systematic mycoses, add a note on Histoplasmosis.
2. Describe the pathogenicity, lab diagnosis and prophylaxis of poliovirus.
3. Enumerate malarial parasites, describe the life cycle of Plasmodium falciparum and add a note on laboratory diagnosis of Malaria.

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

4. Subcutaneous mycoses.
5. Laboratory diagnosis of HIV.
6. Cysticercosis.
7. Kyasanur Forest Disease.
8. Guinea worm.
9. Slide culture
10. Measles
11. Kala azar

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

12. Mention three viruses causing diarrhea.
13. "ID" reactions.
14. Black water fever.
15 Enterobius vermicularis.
16. Draw a labeled diagram showing the structure of HIV virus.
17. Interferone
18. Mention three bile stained eggs.
19. Mention three RNA viruses.
20. Mention three media used to grow fungi.
21. Balantidium coli.
22. Mention three fungi causing deep mycosis.
23. Laboratory diagnosis of rabies.

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# Rajiv Gandhi University of Health Sciences, Karnataka

Second year B. Sc. (M.L.T) Degree Examination – Feb/March 2011

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

## BIOCHEMISTRY – II (RS-2)

## Q.P. CODE: 1231

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. How is cholesterol metabolized in the body? Write the disorders associated with cholestero metabolism
2. Mention the normal and abnormal constituents of urine. Mention the conditions where the abnormal constituents are found in the urine.
3. What is BMR? Mention the factors affecting BMR

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

4. Give the source, requirements, functions and deficiency of vitamin A
5. How is creatinine produced in the body? Give its clinical significance
6. How is glycogen synthesized in our body?
7. How are enzymes classified?
8. How is energy utilized in the body?
9. Give the principle of electrophoresis
10. Which are the plasma proteins present in blood? List the functions of albumin
11. Classification of lipids

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

12. Write a note on vitamin C
13. How is galactose metabolized in the body?
14. Mention the applications of surface tension.
15. Give the clinical importance of urea
16. Write a note on spectrometry
17. Write Michaelis Menton equation
18. How are triglycerides synthesized in the body?
19. Give a note on drug estimation.
20. Write a short note on respiratory quotient.
21. Write a note on diabetes mellitus
22. Write a note on flame photometry
23. Write the normal serum levels of : 1) Urea 2) Uric Acid 3) Creatinine

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1608_2011_1_S47

# Rajiv Gandhi University of Health Sciences, Karnataka

II Year B.Sc. (M.L.T) Degree Examination – Aug / Sep 2011

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

## BIOCHEMISTRY – II (Revised Scheme)

## Q.P. CODE: 1608

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 source, daily requirements, deficiency disorders and biochemical role of Vitamin D
2. Classify enzymes with an example for each class
3. Describe the steps of Glycolysis and add a note on its energetics

**SHORT ESSAYS (Answer any Eight)** **8 x 5 = 40 Marks**

4. Enumerate the functions and deficiency manifestations of vitamin A
5. Electrophoresis of serum protein
6. Sources and function of Vit. K
7. Flame photometer
8. GTT
9. Functions of TCA cycle
10. Factors affecting enzyme activity
11. Enzyme inhibition
12. Chromatography
13. Functions of HMP shunt pathway

**SHORT ANSWERS** **10 x 2 = 20 Marks**

14. Renal glycosuria
15. Rhodopsin cycle
16. Km value
17. Biochemical functions of Vitamin "D"
18. Detection of reducing sugar in urine
19. Vitamin E
20. Name any four polysaccharides
21. What is the normal level of creatinine in serum? Write the test for creatinine
22. Essential amino acids
23. Describe the biochemical role of vitamin K

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1607_2011_1_S183

# Rajiv Gandhi University of Health Sciences, Karnataka

II Year B.Sc. (M.L.T) Degree Examination – Aug / Sep 2011

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

## MICROBIOLOGY – II (Revised Scheme)

## Q.P. CODE: 1607

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. Classify Spirochetes. Discuss the morphology and laboratory diagnosis of Treponema pallidum
2. Describe the cultural characteristics, pathogenesis and laboratory diagnosis of Shigellosis
3. Enumerate the intestinal Nematodes. Discuss the life cycle and laboratory diagnosis of Ascaris lumbricoides

**SHORT ESSAYS (Answer any Eight)** **8 x 5 = 40 Marks**

4. Classification of Streptococcus
5. Nagler's reaction
6. Pseudomonas aeruginosa
7. Laboratory diagnosis of tuberculosis
8. Laboratory diagnosis of bacterial meningitis
9. Balantidium coli
10. Life cycle of Toxoplasma gondii
11. Describe the morphology and life cycle of Diphyllobothrium latum
12. Hydatid cyst
13. Fasciola hepatica

**SHORT ANSWERS** **10 x 2 = 20 Marks**

14. Mention any four bacteria causing diarrhea
15. Mention any four Gram positive bacteria
16. Mention any four selective media used in bacteriology
17. Tetanus toxoid
18. Classification of Mycobacteria
19. Morphology of Hook worm egg
20. Name the intestinal flagellates of medical importance
21. Mention for biological vectors transmitting parasitic infections
22. Scolex of Taenia solium
23. Bubonic plague

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# Rajiv Gandhi University of Health Sciences, Karnataka

II Year B.Sc. (M.L.T) Degree Examination – Aug / Sep 2011

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

## PATHOLOGY – II (Revised Scheme)

## Q.P. CODE: 1606

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. Explain the technique and principles of section cutting and routine H and E staining
2. Write briefly about cleaning and preparation of glassware for hematological use. How do you check the accuracy and precision of pipettes
3. List the different methods of estimating hemoglobin. Describe principles and procedures of estimating Hemoglobin by Cyanmethemoglobin method

**SHORT ESSAYS (Answer any Eight)** **8 x 5 = 40 Marks**

4. Red cell indices
5. Instrumentation for grossing specimens
6. Periodic acid Schiff stain
7. Coomb's test
8. Preparation and mounting of gross specimen
9. How do you do reticulocyte count? List the causes for increased and decreased count
10. Technique and application of packed cell volume
11. Schilling test
12. Write briefly about automatic tissue processor
13. Absolute Eosinophil count and its significance

**SHORT ANSWERS** **10 x 2 = 20 Marks**

14. Haemo parasites
15 Polarizing microscope
16. Name two fat stains
17. Name anticoagulants used routinely in laboratory
18. Sledge microtome
19. Name metachromatic stains
20. Clotting time
21. Resolution of microscope
22. Morphology of monocyte
23. Preparation of blood films

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# Rajiv Gandhi University of Health Sciences, Karnataka

II Year B.Sc. (M.L.T) Degree Examination – Aug / Sep 2011

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

## PATHOLOGY – II (RS - 2)

## Q.P. CODE: 1233

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 steps of Tissue Processing.
2. Describe the procedure of Bonemarrow Aspiration and its processing.
3. Describe a Freezing Microtome and the procedure of cutting Frozen Section.

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

4. Honing.
5. Decalcification.
6. FDP.
7. Schilling's Test.
8. Platelet count.
9. Activated Partial Thromboplastin Time.
10. Buffy Coat.
11. P A S Stain

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

12. Florescent Microscope.
13. Mounting of Museum Specimens in Perspex Boxes.
14. Morphology of Basophil.
15 Celloidin Embedding.
16. Absolute Eosinophil Count.
17. Name the Screening Tests available for the diagnosis of G6PD Deficiency.
18. P A S Stain.
19. Principle of Reticulocyte Count.
20. Write the procedure used to remove Formalin Pigment from the sections.
21. D.P.X.
22. Name the different types of Haematoxylins.
23. Name the various methods of E S R estimation.

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# Rajiv Gandhi University of Health Sciences, Karnataka

II Year B.Sc. (M.L.T) Degree Examination – Aug / Sep 2011

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

## MICROBIOLOGY – II (RS - 2)

## Q.P. CODE: 1232

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 life cycle and pathogenesis of Plasmodium vivax. Give a detailed account of the lab diagnosis of malaria
2. Enumerate the tissue nematodes. Describe the life cycle, pathogenicity and lab diagnosis of Wuchereria bancrofti
3. Classify Myxoviruses. Describe the antigenic variations, epidemiological importance, lab diagnosis and prophylaxis of influenza virus

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

4. Mycetoma
5. Opportunistic mycoses
6. Laboratory diagnosis of amoebic dysentery
7. Kala azar
8. Differences between Taenia sagniata and Taenia solium
9. Prophylaxis for polio virus infections
10. Kyasanur forest disease
11. Antigenic markers of hepatitis B virus

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

12. Malassezia furfur
13. Germ tube test
14. Name any three biological vectors
15. Hydatid cyst
16. Balantidium coli
17. Enumerate the morphological forms of Fasciola hepatica
18. Larva migrans
19. Life cycle of Dracunculus medinensis
20. Loa loa
21. Enumerate any three single stranded RNA viruses
22. Inclusion bodies
23. Lab diagnosis of Adenovirus infections

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# Rajiv Gandhi University of Health Sciences, Karnataka

II Year B.Sc. (M.L.T) Degree Examination – Aug / Sep 2011

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

## BIOCHEMISTRY – II (RS - 2)

## Q.P. CODE: 1231

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. How are enzymes classified? Enumerate the factors affecting enzyme activity and the role of enzymes in diagnosis of cardiac disease?
2. Describe Wald's visual cycle? Explain the source, deficiency manifestations and RDA of vitamin A?
3. Explain B oxidation of fatty acids and energetic of palmetic acid?

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

4. Lipid profile.
5. Creatinine clearance test.
6. Abnormal constituents of urine.
7. Difference between photometer and spectrophotometer.
8. Factors affecting nitrogen balance.
9. Diabetis melliton.
10. Factors affecting BMR.
11. Applications of electrophoresis.

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

12. Galactosemia.
13. Pellagra
14. Dietary fibers.
15 Application of flame Photometry.
16. Osmolarity
17. Protein energy malnutrition
18. Urea cycle.
19. Hypervitaminoisis
20. Lipoprotein(a)
21. Atherosclerosis
22. Anticoagulants
23. Scurvy

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