Rajiv Gandhi University of Health Sciences, Karnataka

II Year B.Sc. (M.L.T) Degree Examination – MARCH 2018

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

BIOCHEMISTRY – II

Q.P. CODE: 3156

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 IUBMB system of Enzyme classification with suitable examples. Describe any three factors affecting velocity of enzyme catalysed reaction.
2. Give a detailed account of the operation of TCA cycle. Discuss its regulation and energetics. Add a note on its amphibolic role?
3. Outline the pathway of catabolism of phenyl alanine. Discuss the biochemical abnormality, clinical features and laboratory diagnosis of Phenylketonuria.

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

4. Explain the principle and procedure of Ammonium chloride loading test. Discuss the urinary PH measurement and the interpretation.
5. Paper chromatography-Principle and procedure for separation of amino acids.
6. How is Oral GTT carried out? Explain the different types of curves obtained.
7. Define "primary structure" of proteins. Explain the primary structure of insulin.
8. Coenzyme form of Thiamin and its biochemical functions.
9. Principle and uses of reflectance photometry.
10. List out various preservatives used during urine collection. Mention three tests for abnormal constituents of urine.
11. Give the detailed procedure for carrying out Endogenous Creatinine Clearance test. Discuss the clinical significance.

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

12. How is deproteinisation carried out for blood Uric acid by Phosphotungstic acid method and Glucose by Folin Wu method?
13. Define Osmolality. Give the principle of Freezing point depression Osmometry.
14. Describe the functions of DNA and RNA.
15. What is a Glucometer? Discuss its use, advantages and disadvantages.
16. Discuss different types of water grades used in the laboratory. Add a note on the NCCLS specifications for laboratory water.
17. What is Glycated HbA1c? Give its clinical significance.
18. List out the physical characteristics of Normal urine. How is specific gravity of the urine measured?
19. Explain salting out of proteins with suitable example.
20. Name three CSF components for biochemical examination. Give the principle of quantitative estimation of any two analytes.
21. Urea cycle
22. Give the functions of Vitamin B12 and Folic acid.
23. Define microalbuminuria. Give the biological reference intervals and the clinical significance.

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II Year B.Sc. (MLT) Degree Examination - MARCH 2018

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

Microbiology – Paper II (RS-3 Scheme)

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. Name the etiological agents of Typhoid fever. Describe the pathogenicity and laboratory diagnosis of Typhoid fever.
2. Name the etiological agent of Diphtheria. Explain the pathogenicity and laboratory diagnosis of Diphtheria.
3. Enumerate the malarial parasites. Describe the life cycle of malarial parasite in mosquito. Add a note on the laboratory diagnosis of malarial parasites.

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

4. Virulence factors of Staphylococcus aureus
5. Standard Tests for Syphilis (STS)
6. Laboratory diagnosis of cholera
7. Laboratory diagnosis of pulmonary tuberculosis
8. Life cycle and laboratory diagnosis of pinworm
9. Lepromin test
10. Name the etiological agent of Kala-Azar. Add a note on its laboratory diagnosis.
11. Life cycle of Hookworm

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

12. Name the pigments produced by Pseudomonas.
13. Stormy fermentation
14. Morphology of Leptospira
15. Name the spore forming bacteria.
16. Catalase test
17. Larval forms of Fish tapeworm
18. Bile solubility test
19. Casoni’s test
20. Morphology of Gonococcus
21. Egg of Whipworm
22. Name three species of Schistosoma.
23. Name three Exotoxins.

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Rajiv Gandhi University of Health Sciences, Karnataka

II Year B.Sc. (MLT) Degree Examination - MARCH 2018

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

Pathology – Paper II (RS-3 Scheme)

Q.P. CODE: 3158

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

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

1. What is normal haemostatic mechanism? Discuss the tests for investigation of haemostasis.
2. Describe the various tests for diagnosis of megaloblastic anaemia and iron deficiency anaemia.
3. Briefly describe instruments used in histopathology.

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

4. Describe routine paraffin section cutting.
5. What are the applications of computers in pathology?
6. What are the anticoagulants used in haematology?
7. Enumerate methods of platelet count.
8. Describe preparation of blood smear and staining for differential count.
9. What is microphotography and its applications?
10. Describe investigations of G6PD deficiency.
11. Describe quality control and its significance in haematology.

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

12. Describe Vitamin B_{12} and folate assay.
13. What are platelet function test?
14. Name the cytochemical test and their indications.
15. How do you demonstrate LE cell?
16. How do you demonstrate haemosiderin in urine?
17. Describe application of fluorescent microscope.
18. What are methods of haemoglobin estimation?
19. Describe determination of HbF.
20. Normal values of RBC count.
21. What is ICDS classification?
22. Describe special stains for carbohydrates in tissue section.
23. What is MCV, MCH and MCHC?

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Rajiv Gandhi University of Health Sciences, Karnataka

II Year B.Sc. (M.L.T) Degree Examination – SEP-2018

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

BIOCHEMISTRY – II

Q.P. CODE: 3156

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 glycogen metabolised in the body? Mention disorders associated with glycogen metabolism.
2. How are enzymes classified? Write a short note on therapeutic role of enzymes.
3. Mention the normal and abnormal constituents of urine. Mention the conditions where the abnormal constituents are found in the urine.

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

4. Give the source, requirements, functions and deficiency of vitamin C.
5. How is creatinine produced in the body? Give its clinical significance.
6. Phenylalanine is both glucogenic and ketogenic.Justify.
7. Give the principle and applications of Partition Chromatography.
8. Classify proteins based on structure?
9. Define coenzymes and immobilized enzymes with examples.
10. Sources, RDA and biochemical functions of folic acid.
11. Watson – Crick model of DNA.

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

12. Mention any three indicators.
13. Name three anticoagulants and their use.
14. Give the clinical importance of urea. Write the reference range of blood urea.
15. Write the principle of spectrophotometry and uses.
16. Km value and its significances.
17. Maple Syrup Urine Disease.
18. Define accuracy and precision.
19. Write a note on Gout.
20. Significances of HMP shunt pathway.
21. Mention the principle of Glucometer.
22. Write a note on Isoelectric precipitation.
23. Differentiate starch and glycogen.

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Rajiv Gandhi University of Health Sciences, Karnataka

II Year B.Sc. (M.L.T) Degree Examination – SEP-2018

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

1. Describe the life cycle and pathogenicity of Entamoeba histolytica and the laboratory diagnosis of ameobic dysentery.
2. Describe the morphology, culture characteristics of Corynebacterium diphtheriae and laboratory diagnosis of diphtheria.
3. Describe the morphology, culture characteristics of Mycobacterium tuberculosis and laboratory diagnosis of pulmonary tuberculosis.

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

4. Laboratory diagnosis of Staphylococcal wound infection.
5. Laboratory diagnosis of Falciparum malaria.
6. Life cycle of Ancylostoma duodenale.
7. Prophylaxis of tetanus.
8. Lab diagnosis of UTI.
9. Malignant pustule.
10. Atypical Mycobacteria.
11. Life cycle of Ascaris lumbricoides.

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

12. Streptococcus pneumoniae- morphology and diseases caused.
13. Name Salmonella species that cause enteric fever.
14. Draw neat labelled diagram of Egg of Enterobius vermicularis.
15. Name 3 transport media.
16. Name 3 intestinal protozoa commonly seen in HIV.
17. Name 3 bacterial causing Meningitis.
18. Name 3 anerobic culture methods.
19. Saline mount preparation.
20. Hanging drop preparation.
21. Gram stain.
22. Giardia lamblia - Trophozoite.
23. LD body.

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II Year B.Sc. (MLT) Degree Examination - SEP-2018

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

Pathology – Paper II (RS-3 Scheme)

Q.P. CODE: 3158

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

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

1. What are the different methods of estimation of Hemoglobin? Discuss in detail about the Sahli's method of hemoglobin estimation.
2. What are Romanowsky's stains? What is its principle? Discuss in detail the staining method of any one of them.
3. Automated tissue processor

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

4. Cryostat
5. Mounting techniques
6. ESR
7. Hematoxylin
8. Preparation of specimens for museum
9. Prothrombin Time
10. Osmotic fragility test
11. Fibrin degradation products

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

12. Write the normal WBC total count and differential count.
13. Name three anticoagulants used in the hematology laboratory.
14. Name any test used in the diagnosis of iron deficiency anemia.
15. What is the normal HbF level? Mention one hemoglobinopathy with increased HbF levels.
16. How will you demonstrate hemosiderin in urine?
17. What are the uses of Buffy coat?
18. What is regressive staining?
19. What are the uses of Periodic Acid Schiff stain?
20. What is stropping angle?
21. Name any three eosins.
22. What is ICDS coding?
23. What are the parts of a metal knife in microtome?

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