Rajiv Gandhi University of Health Sciences, Karnataka

III Year B.Sc. (MLT) Degree Examination - 24-Aug-2020

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

BIOCHEMISTRY – PAPER III (RS-3)

Q.P. CODE: 3159

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 the HMP shunt in detail and write its significance.
2. Explain the sources, RDA, functions and deficiency features of Vitamin A.
3. What is electrophoresis? Explain the method of separation of plasma proteins by this method. Draw the normal pattern obtained in alkaline pH.

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

4. Explain types of Jaundice.
5. Principle types and uses of ELISA technique.
6. Iron metabolism.
7. Dietary fibers.
8. Thyroid function tests.
9. Renal regulation of acid base balance.
10. Ketogenesis and conditions causing ketosis.
11. Name the key enzymes of Beta-oxidation of fatty acids and write the reactions catalysed by them.

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

12. Alpha feto protein.
13. Write the normal serum level of :
    a) Sodium b) Total Cholesterol c) Potassium
14. Composition of renal calculi
15. Give two examples for detoxification by conjugation.
16. Galactosemia.
17. Give an example each of preanalytical, analytical and postanalytical error in clinical laboratory.
18. Okazaki fragment.
19. Functions of calcium.
20. Vitamin K.
21. Enzyme markers in acute pancreatitis.
22. Define balanced diet.
23. What is meant by point of care testing? Give one example.

Rajiv Gandhi University of Health Sciences, Karnataka

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III Year B.Sc. (MLT) Degree Examination - 26-Aug-2020

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

MICROBIOLOGY - PAPER III (RS-3)

Q.P. CODE: 3160

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. Enumerate antigen and antibody reaction. Describe the principle about agglutination reaction with examples.
2. Describe and classify immunity write in detail about innate immunity.
3. Classify Herpes Virus. Write in detail the laboratory diagnosis of Herpes Simplex virus.

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

4. Classify non-neural rabies vaccine with examples.
5. Slide culture technique.
6. Dimorphic fungi.
7. Allograft rejection.
8. Anaphylaxis.
9. Prophylaxis of Polio.
10. Antigenic variations seen in influenza virus.
11. Laboratory diagnosis of Hepatitis B virus.

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

12. Name three differences between Rhizopus and Mucor.
13. Name three arboviral diseases seen in India.
14. Name THREE Antiviral agents.
15. Draw a neat labelled diagram of HIV.
16. Graft vs host reaction.
17. Nipah Virus.
18. Draw a neat labeled diagram of Immunoglobulin M.
19. Define Autoimmunity give two examples of Autoimmune disease.
20. Name three staining techniques used in Mycology.
21. Name three differences between primary immune response and secondary immune response.
22. Chemiluminescence Assay.
23. Define Hapten and give examples.

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Rajiv Gandhi University of Health Sciences, Karnataka

III Year B.Sc. (MLT) Degree Examination - 28-Aug-2020

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

PATHOLOGY – PAPER III (RS-3)

Q.P. CODE: 3161

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. Write a note on different blood grouping systems. Discuss the different methods to perform blood grouping and typing.
2. Discuss culture of peripheral blood lymphocytes. Add a note on the different banding techniques.
3. Discuss methods of collection, fixation, processing and staining of cytological specimens.

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

4. What is Du? How it is detected?
5. List the subgroups of Blood group A. How are they detected and confirmed?
6. What are the different blood collection systems available?
7. Uses and advantages of FNAC
8. Haemolytic disease of newborn
9. Nomenclature of chromosomes
10. Crossmatching of blood
11. List any three donor adverse reactions and their preventive measures.

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

12. Sex chromatin identification
13. Name five normal components of cervical smear.
14. Autologous blood transfusion
15. Name any three minor blood group systems.
16. Cryoprecipitate
17. MGG stain
18. Bombay blood group
19. Direct Coomb's test
20. List three reasons for donor deferral.
21. Chromosomes in cancer
22. Karyopynotic index
23. List three fixatives used in cytology.

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Rajiv Gandhi University of Health Sciences, Karnataka

III Year B.Sc. (MLT) Degree Examination - 10-Dec-2020

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

BIOCHEMISTRY – PAPER III (RS-3)

Q.P. CODE: 3159

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. Sources, RDA, biochemical functions of calcium. Add a note on its regulation in plasma and deficiency disorders.
2. Explain in detail the mechanisms involved in regulation of plasma pH.
3. Give a detailed account of replication in prokaryotes.

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

4. Enumerate the functions of plasma proteins.
5. Give any four examples for Post Translational modifications.
6. What is detoxification? Give three examples for phase one reactions.
7. Principle and applications of Chemiluminiscence.
8. Explain the formation of bilirubin and add a note on Jaundice.
9. Internal quality control program
10. Nutritional importance of carbohydrates and proteins
11. Digestion of lipids

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

12. What are isoenzymes? Give two examples.
13. Define accuracy, precision and mean.
14. Composition of pancreatic juice
15. Name three constituents of renal calculi and write the qualitative test for them.
16. List any three pre-analytical variables.
17. What are tumour markers? Give two examples.
18. Chemistry and functions of Vitamin K
19. Deficiency manifestations of Vitamin A.
20. List any three functions of cholesterol.
21. Functions of Iron
22. Mention the defective enzyme in a) Essential pentosuria b) Galactosemia c) Hereditary fructose intolerance.
23. What is point of care testing? Give one example.

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Rajiv Gandhi University of Health Sciences, Karnataka

III Year B.Sc. (MLT) Degree Examination - 14-Dec-2020

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

MICROBIOLOGY - PAPER III (RS-3)

Q.P. CODE: 3160

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. Write the morphology pathogenesis and Laboratory diagnosis of Hepatitis B virus.
2. Describe the structure and functions of each Immunoglobulin.
3. Enumerate the superficial mycosis. Explain the pathogenicity and laboratory diagnosis of Dermatophytes.

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

4. Opportunistic fungal infections.
5. Universal Precautions.
6. Co agglutination test.
7. Inclusion bodies.
8. Kyasanur Forest disease.
9. Rhinosporidiosis.
10. Epstein Barr virus.
11. Type IV Hypersensitivity.

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

12. List the steps of viral replication.
13. Bacteriophage.
14. Prion.
15. List three oncogenic viruses.
16. Antigens of HIV.
17. Difference between T cells and B cells.
18. Name the routes of inoculation of chick embryo.
19. Uses of monoclonal antibodies.
20. Biological effects of complement.
21. Name three Mycotoxins.
22. Molluscum contagiosum.
23. Define adjuvant give example.

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Rajiv Gandhi University of Health Sciences, Karnataka

III Year B.Sc. (MLT) Degree Examination - 16-Dec-2020

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

PATHOLOGY – PAPER III (RS-3)

Q.P. CODE: 3161

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. Describe in detail the procedure of FNAC. List the advantages, disadvantages and limitations of FNAC.
2. Classify adverse transfusion reactions. Write in detail sample collection and work up of transfusion reactions.
3. Describe the Sample collection of CSF for lab investigation. Describe cell counting of CSF Samples. List the Variations of CSF findings in Tuberculous and Pyogenic.

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

4. Liquid based cytology
5. Describe quality control parameters of packed Red Blood Cells.
6. Applications of Immunohistochemistry
7. Describe the cytological findings in malignant thyroid lesions.
8. Detection of subgroups of A and B blood grouping systems
9. Structural chromosomal aberrations
10. Describe progressive and regressive stains.
11. Procedure for Cell block preparation and advantages

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

12. List the government authorities of blood bank administration.
13. List 3 advantages of computer software in blood bank.
14. Mention 2 indications of exchange transfusion.
15. What are the pre-requisites of autologous transfusion?
16. Mention 4 Thyroid neoplasms.
17. Down’s Syndrome
18. Mention 2 normal Maturation indices.
19. Mention 4 special types of microscopes.
20. List 2 advantages of Leuco depleted blood products.
21. Mention 4 equipments used in blood component separation Laboratory.
22. Mention 4 indications of flow cytometry.
23. What the advantages of karyotyping?

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