Rajiv Gandhi University of Health Sciences, Karnataka

III Year B.Sc. (MLT) Degree Examination - APRIL-2019

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

Biochemistry – Paper III (RS-3 Scheme)

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. What is replication? Give a brief description of the process and mention the salient features of replication.
2. Explain the various mechanisms in the human system that help in regulating PH.
3. Discuss in detail the various biochemical tests performed in the assessment of Liver function.

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

4. Principle and used of Ion Selective Electrode (ISE).
5. Write briefly on the internal and External quality control program in laboratory.
6. Hexose monophosphate shunt pathway and its significance.
7. Post transcriptional modification.
8. Functions and deficiency features of Vitamin D.
9. Absorption of Iron.
10. Draw the normal electrophoretic pattern obtained in serum protein electrophoresis. Explain the pattern obtained in Multiple myeloma and liver disease.
11. Oral glucose tolerance test and its interpretations.

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

12. Arterial Blood gas analysis.
13. Transport and storage forms of iron.
14. Functions of thyroid hormones.
15. Write the normal serum level of a) Potassium b) Total Bilirubin c) Chloride.
16. prostate specific antigen.
17. Rotheras test.
18. Galactosemia.
19. Vitamin E.
20. Point mutation.
21. Enzyme markers in acute pancreatitis.
22. Functions of phosphorous.
23. Biologically important compounds synthesized from cholesterol.

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III Year B.Sc. (MLT) Degree Examination - APRIL-2019

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

Microbiology
Paper III (Revised Scheme-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 the complement pathways and describe the classical complement pathway and its biological effects. (3+4+4)
2. List the fungi causing opportunistic infections. Describe in detail lab diagnosis of cryptococcosis. (4+6)
3. List viruses transmitted by insect Vectors. Describe the laboratory diagnosis of dengue infection. (4+6)

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

4. Immunoprophlaxis of Rabies virus infections.
5. Determinants of antigenicity.
6. IgM.
7. Mucormycosis.
8. Immunoflouresence test.
9. Antigenic variation in Influenza virus.
10. Laboratory diagnosis of candid infections.
11. Mycetoma.

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

12. Name THREEE viruses causing infections of skin.
13. Name THREE fungal infections causing systemic infections.
14. THREE Phagocytic cells.
15. Name THREE viral infections transmitted through food and water.
16. Graft V/s host reaction.
17. List THREE differences between active and passive immunity.
18. Name THREE dermatophytes,
19. Name THREE commonly used media in Mycology.
20. Name THREE live attenuated viral vaccines.
21. List THREE methods of virus culture.
22. Infections caused by Cytomegalovirus.
23. KOH mount.

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III Year B.Sc. (MLT) Degree Examination - APRIL-2019

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

Pathology – Paper III (RS-3 Scheme)

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 the techniques of collection of specimen for cervical cytology.
2. Write in detail ABO grouping and Rh typing.
3. Mention the different blood components prepared in the blood bank with shelf life and storage conditions.

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

4. Quality control in blood banking
5. HLA antigens and their significance
6. Cytological fixatives
7. Preparation of cell block
8. Cytologic criteria of malignancy
9. May Grunwald stain
10. Transfusion reaction
11. Methods of bleeding donors

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

12. Cytospin preparation
13. Mention three diseases transmitted by blood transfusion
14. Mention methods of identification of sex chromatin
15. Apheresis
16. List two applications of immunohistochemistry
17. What is flow cytometry
18. List two automated equipments in cytology
19. Mention stains used in FNAC of breast.
20. Significance of Bombay Blood group
21. Two anticoagulants used in blood bank
22. Significance of Direct Coomb’s test
23. Mention criteria for blood donor selection

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Rajiv Gandhi University of Health Sciences, Karnataka

III Year B.Sc. (MLT) Degree Examination - OCT-2019

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

Biochemistry – Paper III (RS-3 Scheme)

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. Define electrophoresis. Explain the separation of serum or plasma proteins by agarose gel electrophoresis. Add a note on the reference intervals of protein fractions.
2. Explain the steps β-oxidation of palmitic acid. Discuss the energetics.
3. What are tumour markers? Classify them with suitable examples. Explain the principle of any one tumour marker and give its clinical significance.

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

4. Discuss the biochemical functions of vitamin D.
5. Discuss the pre-analytical variables in a clinical laboratory giving suitable examples.
6. Describe the translation process in eukaryotes.
7. Name the thyroid hormones. Give the clinical significance. Add a note on their laboratory evaluation.
8. Give the principle and procedure of flame photometry.
9. What is a quality control material? Write the procedure for in-house preparation of quality control material.
10. What are isoenzymes? Give one example and mention its application in clinical diagnosis.
11. Explain the transport of ABG sample. Name the equipment and important parameters analysed. Explain the precautionary measures before analyzing the sample.

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

12. Atherosclerosis
13. How are the gall stones formed? Mention the qualitative tests and their analysis.
14. Clinical utility of pancreatic amylase and lipase
15. Levey-Jenning's control chart
16. Hemochromatosis
17. Nutritional importance of carbohydrates and lipids
18. Biochemical defect in Galactosemia. Laboratory evaluation of Galactosemia.
19. Troponin I and CK as cardiac markers
20. Anticoagulant role of Vitamin K
21. Purpose of POCT in a Hospital setting. Give one example of POCT and mention its use.
22. What is BMR? Explain the factors affecting the same.
23. Significance of HMP pathway

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Rajiv Gandhi University of Health Sciences, Karnataka

III Year B.Sc. (MLT) Degree Examination - OCT-2019

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

Microbiology – Paper III (RS-3 Scheme)

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. Define and classify hypersensitivity. Describe type I hypersensitivity.
2. Describe the morphology, pathogenesis and laboratory diagnosis of Human Immunodeficiency Virus.
3. List the opportunistic fungal infections. Describe the pathogenesis and laboratory diagnosis of cryptococcosis.

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

4. Discuss the pathogenesis and laboratory diagnosis of Varicella Zoster virus.
5. Immunoprophylaxis against poliomyelitis
6. Serological markers of Hepatitis B virus
7. Discuss the pathogenesis and laboratory diagnosis of Candidiasis.
8. Biological functions of complements
9. Discuss the pathogenesis and laboratory diagnosis of Measles.
10. Laboratory diagnosis of Dermatophytes
11. ELISA

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

12. Cell culture
13. Negri body
14. Complications of Dengue virus
15. Haptens
16. Draw a labeled diagram of IgG
17. Describe three properties of T lymphocytes
18. Heterophile antigens
19. Name three autoimmune diseases.
20. Name three systemic fungal infections.
21. Name three mycotoxins.
22. Name three antifungal agents.
23. Name three dimorphic fungi.

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III Year B.Sc. (MLT) Degree Examination - OCT-2019

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

Pathology – Paper III (RS-3 Scheme)

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. Enumerate blood transfusion reactions. Write on investigations of transfusion reactions.
2. Define Karyotype. Describe the procedure of karyotyping of malignant tumor.
3. Describe the various methods of sample collection and processing of cervical smears.

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

4. ABO blood group
5. Inverted microscope
6. Autologous transfusion
7. PAPanicoloau stain
8. Sex chromatin identification
9. Flow cytometry
10. Cell block preparation
11. Detection of biochemical markers in cell

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

12. Name 2 applications of Immunohistochemistry
13. Du testing and its significance
14. Enumerate blood components
15. Normal cytology of urine sediment
16. Cryoprecipitate
17. Triploidy
18. Name 4 anticoagulants used in blood bank
19. Oncogenes
20. Colchicines
21. Cytological fixatives
22. Down’s Syndrome
23. Principle of Shorr stain

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