Rajiv Gandhi University of Health Sciences, Karnataka

III Year B.Sc. (MLT) Degree Examination - 16-May-2023

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. Name any two sources for Vitamin A. Describe its biochemical functions and deficiency manifestations.
2. What is the biological reference range for Calcium? Explain the mechanism of its absorption and the disorders associated with its metabolism.
3. What are liver function tests? Explain any two in detail.

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

4. Oral glucose tolerance test.
5. Balanced diet.
6. Define Isoenzymes. Write two examples.
7. Types of Jaundice.
8. RDA, sources and function of Vitamin K.
9. Ion Selective Electrodes (ISE).
10. Absorption of Iron.
11. Define Tumor markers. Explain about PSA, AFP and CEA.

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

12. Define antivitamins with examples.
13. Metabolic acidosis.
14. Explain Galactosemia and essential fruectosuria.
15. Ketonuria.
16. Significance of HMP shunt.
17. Define accuracy, precision and Mean.
18. Define Transcription.
19. Define SDA and write the SDA for proteins and carbohydrates.
20. Define detoxification and write two reactions.
21. Composition of pancreatic juice.
22. Cardiac Troponins.
23. Internal Quality Control (IQC).

Rajiv Gandhi University of Health Sciences, Karnataka

III Year B.Sc. (MLT) Degree Examination - 18-May-2023

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. Define and classify hypersensitivity. Explain type I in detail.
2. Enumerate superficial mycosis. Explain the etiological agents, pathogenicity and laboratory diagnosis of Dermatophytosis.
3. Name the Hepatitis viruses. Explain the morphology, pathogenicity, laboratory diagnosis and prophylaxis of Hepatitis B virus.

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

4. Passive immunity
5. Precipitation reactions
6. Mechanism of Auto-immunity
7. Candidiasis
8. Laboratory diagnosis of HIV-AIDS
9. Prophylaxis of Rabies
10. Epstein-Barr virus
11. Interferons

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

12. Mycetoma
13. Slide culture
14. Oncogenic viruses
15. Antigenic variation in Influenza virus
16. Name three arbo-viruses prevalent in India
17. Mention three differences between viruses and bacteria.
18. **CORONA VIRUS**
19. Allograft
20. Ig A
21. Heterophile antigen
22. Co-agglutination
23. What are zoonotic infections? Give two examples.

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Rajiv Gandhi University of Health Sciences, Karnataka

III Year B.Sc. (MLT) Degree Examination - 20-May-2023

Time: Three Hours | Max. Marks: 80 Marks

PATHOLOGY – PAPER - III (RS3)

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 procedure of selecting a donor for blood donation. Add a note on screening tests done on collected blood.
2. What is FNAC? Discuss uses, advantages and disadvantages.
3. What is an ideogram? Discuss the procedure of Karyotyping using peripheral blood.

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

4. Histology and normal cytology of respiratory tract.
5. Urine Cytology.
6. Cytological Fixatives.
7. Autologous Blood Transfusion.
8. Quality Control in Blood Bank.
9. Bombay Blood Group.
10. Turners Syndrome.
11. Chromosomal abnormalities in Cancer.

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

12. Maturation Index.
13. Regressive staining.
14. Use and care of microscope.
15. Cryoprecipitate.
16. Colchicine.
17. Sex chromatin.
18. Apheresis.
19. List three application of immunohistochemistry.
20. Blood bags.
21. CSF in tuberculous meningitis.
22. List three donor adverse reactions.
23. List stains used in cytology.

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Rajiv Gandhi University of Health Sciences, Karnataka

Third Year B.Sc. Medical Laboratory Technology Degree Examination – 16-May-2023

Time: Three Hours | Max. Marks: 100 Marks

BIOCHEMISTRY – III (RS-4)

Q.P. CODE: 3282

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. Write in detail the various stages of translation. Add a note on its inhibitors and post-translational modifications

2. Explain in detail about clinical laboratory automation

   OR

   What is glucose tolerance test? Give the procedure and clinical indications of oral glucose tolerance test. Draw the normal and diabetic GTT curves

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

3. Laboratory safety measure
4. Principle and applications of ELISA
5. Classification and functions of plasma proteins

   OR

   Cardiac markers and their clinical significance
6. Electrophoretic separation of lipoproteins and clinical applications
7. Gout
8. Mutations and their effects
9. Sorbitol pathway of fructose metabolism and disorders
10. Disorders of acid-base balance and their causes

    OR

    Thyroid hormone functions and thyroid function tests
11. Types of errors in clinical laboratory
12. CSF analysis and its clinical significance

SHORT ANSWER 10 x 3 = 30 Marks

13. Preparation of quality control sera
14. Standard deviation and coefficient variation
15. Significance of uronic acid pathway
16. Principle and applications of HPLC
17. HbA1c estimation and its clinical interpretation
18. Acute phase proteins and their importance
19. Reference values of arterial blood gases and pH
20. Coronary artery disease
21. Microalbuminuria and clinical significance
22. Pancreatic function tests

Rajiv Gandhi University of Health Sciences, Karnataka

Third Year B.Sc. Medical Laboratory Technology Degree Examination – 18-May-2023

Time: Three Hours | Max. Marks: 100 Marks

MICROBIOLOGY – III (RS-4)

Q.P. CODE: 3283

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. Define and classify hypersensitivity. Describe in detail type IV hypersensitivity
2. List RNA viruses. Describe the pathogenicity and laboratory diagnosis of human immunodeficiency virus infection

   OR

   Classify Fungi. Discuss in detail pathogenicity and laboratory diagnosis of candidiasis

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

3. Monoclonal antibodies - principles and applications
4. Cryptococcus neoformans – pathogenicity and lab. diagnosis
5. Zygomycosis

   OR

   Mycetoma
6. Dermatophytes – pathogenicity
7. T lymphocytes
8. Immunofluorescence
9. Prohylaxis of Polio
10. Pathogenesis and laboratory diagnosis of measles

    OR

    Prophylaxis for rabies
11. Mechanism of innate immunity
12. Antigenic shift and antigenic drift

SHORT ANSWER 10 x 3 = 30 Marks

13. Serological markers of hepatitis B virus
14. Biological functions of complement
15. Negri bodies
16. Slide culture
17. Name three autoimmune diseases
18. Plasma cell
19. Name three antiviral agents
20. Name three cell lines
21. Draw a neat diagram of IgG
22. Name three dimorphic fungi

Rajiv Gandhi University of Health Sciences, Karnataka

III Year B.Sc. (M.L.T) Degree Examination – 20-May-2023

Time: Three Hours | Max. Marks: 100 Marks

PATHOLOGY – III (RS-4)

Q.P. CODE: 3284

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. Discuss principle, procedure of flow cytometry.

2. Enumerate the transfusion reactions. Discuss the process of investigating a transfusion reaction.
   OR
   Discuss the process of culturing peripheral lymphocytes. Add a note on different types of banding techniques.

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

3. Papanicolaou staining.
4. Rh blood group system.
5. Cytologic criteria for malignancy.
   OR
   Quality control in cytology laboratory.
6. Indications for platelet transfusions. How do you store platelets?
7. Write histology and normal cytology of respiratory tract.
8. Chromosomal abnormalities in cancer.
9. Hemolytic disease of the newborn.
10. What is Barr Body? Add a note on different staining methods used.
    OR
    Bombay blood group.
11. Describe the method of processing sputum for Cytologic examination.
12. Plasmapheresis.

SHORT ANSWER 10 x 3 = 30 Marks

13. FNAC of breast.
14. Cytology of carcinoma of cervix.
15. Oncogenes.
16. Significance of HLA antigens.
17. Du test.
18. Three anticoagulants used in blood bank.
19. Spray fixatives.
20. Use and care of microscope.
21. Triploidy.
22. Colchicines.