Rajiv Gandhi University of Health Sciences

III Year B.Sc. (M.L.T) Degree Examination – Mar 2013

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

MICROBIOLOGY – III (Revised Scheme)

Q.P. CODE: 1610

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. Name the hepatitis viruses. Write briefly on the mode of transmission and laboratory diagnosis of hepatitis 'B' virus. Add a note on its prevention
2. Classify hypersensitivity. Describe in detail type I hypersensitivity
3. List the opportunistic infections in HIV. Add a note on candida albicans

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

4. Cytomegalo virus
5. Methods of viral cultivation
6. Polio myelitis
7. Innate immunity
8. ELISA
9. Structure and functions of secretory Ig A
10. Mycetoma
11. Dermatophytes
12. Morphology of HIV
13. Nosocomial infection

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

14. Adjuvant
15 Antigenic drift in influenza virus
16. KoH preparation
17. India Ink preparation
18. Cytopathic effect
19. Draw a neat labeled diagram of Bacteriophage
20. Define active immunity
21. Application of Major Histocompatbility Complex
22. Phgocytosis
23. Name four dimorphic fungi

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Rajiv Gandhi University of Health Sciences

III year B.Sc. (M.L.T) Degree Examination – Mar 2013

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

BIOCHEMISTRY – III (Revised Scheme)

Q.P. CODE: 1611

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 acid base balance maintained in the body? Explain the role of different buffers of the body
2. Classify Jaundice. What are the blood and wine test done in differential diagnosis of Jaundice?
3. Write the source, daily requirement, function and deficiency effect of calcium. What is the role of calcitonin in its metabolism?

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

4. Creatinine clearance
5. Free and total acidity
6. Ketone bodies
7. Diagnostic applications of radio isotopes
8. Quality control chart
9. Triglycerides
10. Hyponatremia
11. Fractional test meal
12. Iron transport
13. Phenol sulphophthalein test

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

14. Renal glycosuria
15 Alkaptonuria
16. Radiation effects
17. Hyperkalemia
18. Unsaturated fatty acids
19. Liver enzymes in hepatitis
20. Hemoglobin
21. Urea clearance
22. Urobilinogen
23. Jaffe's test

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Rajiv Gandhi University of Health Sciences

III Year B.Sc. (M.L.T) Degree Examination – Mar 2013

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

BIO-CHEMISTRY – III (RS-2)

Q.P. CODE: 2901

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 steps of catabolism of phenyl alanine and tyrosine. Enumerate various inborn errors associated with this pathway
2. Explain the respiratory regulation of acid base balance. Add a note on metabolic acidosis
3. Write the RDA, sources, absorption and deficiency manifestations of iron

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

4. Write a note on recombinant DNA technology
5. Explain the process of formation of bilirubin
6. Pentagastrin stimulation test
7. Creatinine clearance test.
8. Write the therapeutic application of radioisotopes
9. Homocystinuria
10. Cardiac markers
11. Functions of calcium

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

12. Principle of Van Den Bergh reaction
13. Radioimmunoassay
14. Isoenzymes of creatinine kinase
15. Maple Syrup urine Disease (MSUD)
16. Nutritional classification of proteins
17. Benzidine test
18. Functions of sodium
19. Tracer technique
20. Functions of liver
21. Composition of renal stones
22. Tetany
23. Polyamines

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Rajiv Gandhi University of Health Sciences

III year B.Sc. (M.L.T) Degree Examination – Mar 2013

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

MICROBIOLOGY – III (RS-2)

Q.P. CODE: 2902

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. Give a detailed account of cell mediated immunity.
2. Classify Streptococci. Discuss the pathogenicity, clinical manifestations and the laboratory diagnosis of Streptococcus pyogenes.
3. Enumerate the organisms causing urinary tract infections. Describe the laboratory diagnosis of urinary tract infections.

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

4. Natural acquired active immunity
5. Monoclonal antibodies, its principles and applications.
6. Type IV hypersensitivity
7. Primary lymphoid organs
8. C-Reactive protein
9. Laboratory diagnosis and prophylaxis for anthrax
10. Widal test
11. Lepromin test

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

12. Name three killed vaccines
13. IgD
14. Cytotoxic T cells
15. Immunological tolerance
16. List out the difference between primary and secondary immune response
17. Clonal deletion
18. Oxidase test
19. Nagler reaction
20. Clinical manifestations of Klebsiella species
21. EI Tor vibrios
22. Mantoux test
23. Enumerate three zoonotic diseases transmitted by consumption of milk.

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Rajiv Gandhi University of Health Sciences

III Year B.Sc. (M.L.T) Degree Examination – Mar 2013

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

PATHOLOGY – III
(RS-2)

Q.P. CODE: 2903

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 hormonal cytology of female genital tract
2. Write about different transfusion reactions. Add a note on investigations of transfusion reactions
3. Write about papanicolou's stain, reagent preparation, principle and staining procedure.

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

4. Inverted microscope
5. Carcinoma in situ
6. Cryoprecipitate
7. Anatomy and physiology of breast
8. Microscopic examination of CSF
9. Coombs test
10. What is components therapy
11. Cytocentrifuge

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

12. Stains used in cytology
13. Cytological fixatiues
14. Bombay blood group
15. Morphology of intermediate cell
16. What is Barr body
17. Transfusion reactions
18. Subculturing a cell line
19. Platelet seperation
20. Bronchoalveolar lavage
21. What is Dry and Wet fixation?
22. Carbon dioxide incubator
23. Instruments used in taking cervical and vaginal smears

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Rajiv Gandhi University of Health Sciences

III Year B.Sc. (M.L.T) Degree Examination – Mar 2013

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

PATHOLOGY – III (Revised Scheme)

Q.P. CODE: 1609

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 principles, preparation of reagents and technique of papanicolaou's stain
2. Describe the detail blood bank administration
3. Discuss the different screening tests carried out on the donated blood. Write briefly about various anticoagulants used and their uses in blood bank

SHORT ESSAYS **8 x 5 = 40 Marks**

4. Describe the normal anatomy and histology of respiratory tract
5. Quality control in cytology
6. Discuss briefly role of exfoliative cytology in the diagnosis of cancer
7. Differences between normal and malignant cells
8. Semen analysis
9. Flow cytometry
10. Write a note on the preservation of immortalized cell lines
11. FNAC

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

12. Mention different types of microscope
13. Screening test for Australia-Antigen
14. Inverted microscope
15. Florescence reactions
16. Histology of salivary glands
17. Nomenclature of human chromosomes
18. Incubator
19. Pap smear findings in carcinoma of cervix
20. Applications of photomicrography in cytogenetics
21. Bombay blood group

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Rajiv Gandhi University of Health Sciences

Rajiv Gandhi University of Health Sciences, Karnataka

III Year B.Sc. (M.L.T) Degree Examination – Aug 2013

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

MICROBIOLOGY – III (Revised Scheme)

Q.P. CODE: 1610

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 Arboviruses. Discuss pathogenicity and laboratory diagnosis of dengue fever.
2. Name antigen-antibody reactions. Describe the principle and applications of precipitation reactions.
3. List fungi causing systemic infections. Give a detailed account of Histoplasmosis.

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

4. Immunoglobulin 'M'
5. Coomb's test
6. Mechanisms of autoimmunity
7. T lymphocyte
8. Hybridoma
9. Interferon
10. Rubella virus
11. Oncogenic viruses
12. Rhinosporidiosis
13. Polio vaccines

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

14. Germ tube test
15. Sabouraud's dextrose agar
16. Name any two killed viral vaccines
17. Actinomycetes
18. Polymerase chain reaction
19. Cytopathic effect
20. Atopy
21. Adjuvants
22. Japanese encephalitis virus
23. Paul-Bunnel test

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Rajiv Gandhi University of Health Sciences, Karnataka

III Year B.Sc. (M.L.T) Degree Examination – Aug 2013

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

BIO-CHEMISTRY – III (RS-2)

Q.P. CODE: 2901

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 are buffers? Describe in detail the role various blood buffers in the maintenance of acid base balance. Add a note on metabolic alkalosis.
2. What are the source, RDA, Biochemical functions and deficiency disorders of calcium?
3. What is the composition and functions of gastric juice? How do you measure free and total acidity? Mention the causes of hypoacidity.

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

4. Transamination
5. Formation of biliribin
6. Important products derived from glycine.
7. Quality Control in a laboratory
8. What are the sources of iron? Describe the disorders associated with iron metabolism.
9. Radio Immunoassay
10. Biochemical functions of phosphorous
11. Cardiac markers

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

12. Chloride shift
13. Essential amino acids
14. Mean and Standard deviation
15. Types of RNA and their function
16. Write the different types of renal stones
17. Define Osmolality. Mention the substances that contribute to serum osmolality.
18. Principle of MEIA and any two application
19. Ceruloplasmin
20. Hyperkalemia
21. Mention any three enzymes used in diagnosis of liver disorders along with their biological reference ranges.
22. What is DNA replication? Mention any two enzymes involved in DNA replication.
23. Write any two Westgard warning rules.

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Rajiv Gandhi University of Health Sciences

Rajiv Gandhi University of Health Sciences, Karnataka

III Year B.Sc. (M.L.T) Degree Examination – Aug 2013

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

BIO-CHEMISTRY – III (RS-2)

Q.P. CODE: 2901

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. List the liver function tests. Explain any two in detail.
2. What is immunoassay? Write the different types of ELISA and their applications.
3. What is pH? Describe in detail the role of respiratory system and kidney in the maintenance of acid base balance.

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

4. Arterial Blood Gas Analysis
5. List the various types of renal Calculi. Add a note on struvite stones.
6. Describe the tests used to assess renal tubular function.
7. Radiation hazards
8. Fractional test meal
9. What is physiological jaundice? Describe the laboratory findings in obstructive jaundice.
10. Describe translation initiation.
11. Write the functions of sodium. Add a note on hyponatremia.

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

12. Mention any three Westgard rules and their significance.
13. Write biological reference range for urine protein. Mention any two causes of proteinuria.
14. Mention three errors of pre analytical phase and the precautions to be taken to avoid them.
15. Principle of MEIA and any two application
16. Okazaki fragments
17. Write the storage and transport from of iron.
18. Mention the special products formed from tyrosine.
19. What are acids and bases? Give examples.
20. Mention any two therapeutic enzymes along with their biological importance.
21. Write any three Transmethylation reactions.
22. What is PCR? Mention any two of its applications.
23. External quality control program

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Rajiv Gandhi University of Health Sciences

Rajiv Gandhi University of Health Sciences, Karnataka

III year B.Sc. (M.L.T) Degree Examination – Aug 2013

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

MICROBIOLOGY – III (RS-2)

Q.P. CODE: 2902

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 Mycobacteria of medical importance. Describe in detail pathogenicity and laboratory diagnosis of Pulmonary Tuberculosis
2. Define and classify Hypersensitivity. Discuss Type I Hyper Sensitivity in detail.
3. Enumerate Anaerobic bacteria pathogenic to man. Describe briefly pathogenicity and laboratory diagnosis of Tetanus. Add a note on the Post Exposure Prophylaxis

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

4. Immunofluorescence
5. Structure and function of Ig M
6. Vaccines
7. VDRL test
8. Bacterial Meningitis
9. Agglutination reactions
10. Bacillary dysentery
11. Helicobacter pylori

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

12. Tumor Antigen
13. Three differences between Exotoxin and Endotoxin
14. Cytokines
15. Morphology of C. diphtheriae
16. IMViC test
17. Oxidase test and 2 positive examples
18. Enumerate diarrhoeagenic E coli
19. Significant bacteriuria
20. CAMP test
21. Selective media for Vibrio cholerae
22. Lepromin test
23. Define nosocomial infection with 2 causative agents

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Rajiv Gandhi University of Health Sciences

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Rajiv Gandhi University of Health Sciences, Karnataka

III year B.Sc. (M.L.T) Degree Examination – Aug 2013

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

BIOCHEMISTRY – III (Revised Scheme)

Q.P. CODE: 1611

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 sources, daily, requirement, absorption, biochemical functions and deficiency manifestations of iron
2. Describe urea cylle. Add a note on its disorders
3. Enumerate liver function tests and describe in detail any two of them with clinical significance

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

4. Derive Henderson – Hasselbach equation
5. Explain basic clinical importance of enzymology. Add a note on isoenzyme
6. Creatinine clearance test
7. What is metabolic acidosis? Enumerate its causes
8. Transamination
9. Errors in Laboratory test
10. Composition and functions of gastric juice
11. Automation
12. Units of radio activity & radiation hazards
13. Pentagastrin stimulation test

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

14. Accuracy
15 Precision
16. What is titrable acidity of urine
17. Bile pigments
18. List any three trace elements
19. Function of phosphorous
20. Bromosulfthalein test
21. Sources of calcium in nutrition
22. Acid phosphatase
23. Mention the normal levels of (A) Potassium & (B) Sodium

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Rajiv Gandhi University of Health Sciences

Rajiv Gandhi University of Health Sciences, Karnataka

III Year B.Sc. (M.L.T) Degree Examination – Aug 2013

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

PATHOLOGY - III
(RS-2)

Q.P. CODE: 2903

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 complications of Blood Transfusion. How do you investigate Transfusion reactions?
2. Describe the reagent preparation and technique of papanicolaou's staining
3. Describe normal cytology of Female Genital Tract. Add a note on cytologic indices.

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

4. CSF Analysis
5. F N A C
6. Principles and uses of Flow Cytometry
7. Preparation and staining procedure of MAY GRUNWALD GEIMSA stain
8. Bethesda system for cervico vaginal cytopathology
9. Haemolytic disease of new born
10. Normal histology and cytology of Salivary gland
11. Structural abnormality of Human Chromosomes

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

12. Four differences between Benign and Malignant cells
13. Fixation methods
14. Name Immuno Cytochemical Epithelial markers
15. List out Types of Microscopes
16. Classify Chromosomes
17. Blood components
18. Differential Diagnosis of Discharge from Nipple
19. BARR BODY
20. Intermediate cell
21. Bombay blood group
22. Dysplastic cell
23. Broncho Alveolar Lavage

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