Rajiv Gandhi University of Health Sciences, Karnataka

III Year B.Sc. (M.L.T) Degree Examination – APRIL 2017

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

BIOCHEMISTRY – 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 phenylalanine and tyrosine. Enumerate various in born errors associated with this pathway.
2. Classify jaundice. Write in detail about bilirubin metabolism.
3. Write in detail about the renal mechanism of acid-base balance.

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

4. Applications of radioisotopes
5. Creatinine clearance test
6. Acidosis
7. Describe the metabolic fate and functions of Methionine
8. RIA
9. Functional classification of proteins
10. Calcium metabolism
11. Define buffers. Add a note on buffers of blood.

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

12. Van den Bergh reaction
13. Write the normal serum levels of sodium, calcium and potassium.
14. Anion Gap
15. Composition of gastric juice
16. Iron absorption
17. Wilson’s disease
18. Glutathione
19. Define replication and replication fork.
20. Essential and non essential amino acids
21. Maple Syrup Urine Disease (MSUD)
22. Write the normal serum levels of LDH, ALT and AST.
23. Hyponatremia

Rajiv Gandhi University of Health Sciences, Karnataka

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III year B.Sc. (M.L.T) Degree Examination – April 2017

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. Enumerate the etiological agents causing enteric fever. Explain the pathogenicity, laboratory diagnosis and prophylaxis of enteric fever.
2. Define and classify hypersensitivity. Explain type I hypersensitivity in detail.
3. Classify Streptococci. Explain the morphology, cultural characters, toxins produced, pathogenicity and laboratory diagnosis of Streptococcus pyogenes.

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

4. UTI
5. ELISA
6. Laboratory diagnosis of Syphilis
7. Mycobacterium leprae
8. Prophylaxis of tetanus
9. Innate immunity
10. Biological effects of complement
11. 'T' lymphocytes

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

12. Local immunity
13. What is Heterophile antigen? Give example.
14. Graft versus host reaction
15. Structure of IgA
16. MRSA
17. Gardenerella vaginalis
18. RNTCP
19. Name six bacterias causing Pyogenic meningitis.
20. Satellitism
21. Name six bacterias causing food poisoning.
22. Bacterial Zoonosis
23. El-tor vibrios

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Rajiv Gandhi University of Health Sciences, Karnataka

III Year B.Sc. (M.L.T) Degree Examination – APRIL 2017

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. What is Karyotype and idiogram? How do you obtain cells for Karyotyping of human chromosomes? How do you classify human chromosomes?
2. Describe the methods of collection of specimen from respiratory tract, for cytological examination. Also describe the methods of preparation and staining of smears from these specimen.
3. Enumerate the various transfusion reactions. Explain the screening of blood for infective material.

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

4. Component therapy in blood banking
5. Chemical sterilization
6. Coomb's test
7. Hormonal cytology of female genital tract and cytological indices
8. Oncogenes
9. Bethesda system in cytology
10. Describe the different ways to collect sample from the urinary tract to study cancer cells.
11. HLA antigens and their significance

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

12. Hybridoma technology
13. Cytology of the adenocarcinoma of lung
14. Use and care of microscope
15. Radiation changes in cervical cytology
16. FNAC of breast
17. Laminar flow equipment
18. Enumerate various cytological fixatives.
19. Procedure of May-Grunwald-Giemsa staining
20. G-banding
21. Principle of Immunocytochemistry
22. Barr body
23. List the indications for bone marrow biopsy.

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Rajiv Gandhi University of Health Sciences, Karnataka

III Year B.Sc. (MLT) Degree Examination - APRIL 2017

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. Discuss the pathway of beta oxidation of palmitic acid. Add a note on its energetic and regulation.
2. Explain the process of detoxification and biotransformation of xenobiotics.
3. Describe the various mechanisms of regulation of blood pH.

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

4. ELISA
5. Determination of enzymes in pancreatitis
6. Wald's Visual Cycle
7. Preparation of In-house quality control serum
8. Chemistry, functions and clinical significance of albumin
9. Calcium homeostasis
10. Classification and characteristics of tumour markers.
11. Write a note on Dietary fibres.

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

12. Night blindness
13. Metabolic acidosis
14. Functions of phosphorus
15. Normal serum values of: a) LDH b) GGT c) ALP
16. Variables in quality control
17. Calorific value
18. Composition of gall stones
19. Ketosis
20. Van den bergh reaction
21. Enzymes in DNA replication
22. Anion gap
23. CA-125

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Rajiv Gandhi University of Health Sciences, Karnataka

III Year B.Sc. (MLT) Degree Examination - April 2017

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 immunity. Explain in detail about acquired immunity.
2. List RNA viruses. Describe the Morphology, Pathogenicity and laboratory diagnosis of Human immunodeficiency virus.
3. Classify fungi. Discuss in detail about pathogenicity and laboratory diagnosis of Sporotrichosis.

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

4. Pathogenicity and laboratory diagnosis of Influenza virus
5. Laboratory diagnosis Rabies
6. Types IV hypersensitivity
7. Pathogenicity and Laboratory diagnosis of Hepatitis A Virus
8. Write a note on mycotoxins.
9. Mycetoma
10. Agglutination reactions
11. Preparation and Application if Monoclonal Antibodies

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

12. Germ tube test
13. Name any 3 important properties of antigen
14. Differences between T cell and B cell (Any three)
15. Name 3 Congenital viral infection
16. Name 3 stains used in study of fungus
17. Name 3 precipitation reaction
18. Name 3 Viral Vaccines
19. Name any three dimorphic fungi
20. Morphology of Penicillium
21. KOH mount
22. Name 3 para myxoviruses
23. Natural Killer Cells

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Rajiv Gandhi University of Health Sciences, Karnataka

III Year B.Sc. (MLT) Degree Examination - APRIL 2017

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 principles of immunohistochemistry. Describe 5 IHC markers and their significance.
2. Describe the voluntary donor selection Criteria. Add a note on donor adverse reactions and Post donation Care.
3. Describe in detail the procedure for FNAC. Add a note on spray fixatives and limitations of FNAC.

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

4. Pleural effusions-cell counting and cell typing
5. Quality control parameters of fresh frozen plasma
6. Graft Vs Host disease
7. Sample collection for Endometrial cytology
8. Describe the progressive and regressive stains.
9. Single donor platelets
10. Rapid Pap stain
11. Cell block preparation

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

12. What are the absolute indications for whole blood transfusions?
13. Mention Karyotypic and Phenotypic abnormalities of Turners Syndrome.
14. Two uses and two disadvantages of spray fixative
15. Name organisms detected on Pap smear examination.
16. Significance of paked red blood cell contamination
17. Draw neat labelled diagram of normal Pap smear
18. Mention different colours of Colloid in different stains.
19. Mention the hormones influencing normal menstrual cycle.
20. Mention the significance of Psammoma body.
21. Indications of Electron Microscopy
22. Indications of Bronchial brushings
23. Mention 2 normal maturation indices. *****

Rajiv Gandhi University of Health Sciences, Karnataka

III Year B.Sc. (MLT) Degree Examination - SEP-2017

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. Explain the electrophoretic separation of plasma proteins using agarose gel.
2. Write a note on arterial blood gas analysis and its clinical significance.
3. Describe clinical laboratory automation in detail.

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

4. Nutritional disorders
5. Types of jaundice
6. Galactosemia
7. Post transcriptional and post translational modifications
8. Frederickson's classification of Hyperlipoproteinemia
9. Isoenzymes
10. Write a note on Mutations.
11. Functions of Thyroid hormones

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

12. Explain a) Mean b) Standard deviation c) Coefficient of variation
13. Metabolic alkalosis
14. Anion gap
15. Rickets
16. Alpha-1 antitrypsin
17. Normal serum levels of a) Total cholesterol b) Total bilirubin c) Total proteins
18. Composition of pancreatic juice
19. Henderson – Hasselbach equation
20. Biological reference intervals
21. Lipid profile
22. Functions of Iron
23. Sensitivity and specificity

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Rajiv Gandhi University of Health Sciences, Karnataka

III Year B.Sc. (MLT) Degree Examination - SEP-2017

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. List the antigen-antibody reactions. Describe in detail about agglutination reaction.
2. Enumerate the viruses causing hepatitis. Discuss the morphology, pathogenesis, laboratory diagnosis and prophylaxis of Hepatitis B virus.
3. Discuss the pathogenesis and laboratory diagnosis of Dermatophytes.

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

4. Cultivation of viruses
5. Discuss the pathogenesis and laboratory diagnosis of Herpes simplex virus.
6. Prophylaxis in rabies
7. Viral diarrhoeal diseases
8. Discuss pathogenesis and laboratory diagnosis of Candidiasis.
9. Zygomycosis
10. Discuss type IV hypersensitivity.
11. Cytokines

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

12. Name three DNA viruses
13. Antigenic shift
14. Name three antiretroviral drugs.
15. Name three viral inclusion bodies.
16. Antigen presenting cells
17. Tumour antigen
18. Hapten
19. Name three antifungal agents
20. Define dimorphic fungi with two examples.
21. Classify fungi based on diseases caused.
22. Natural killer cells
23. KOH mount

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Rajiv Gandhi University of Health Sciences, Karnataka

III Year B.Sc. (MLT) Degree Examination - SEP-2017

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. Discuss in brief about the anatomy, histology and physiology of female genital tract.
2. Discuss the principles and equipment used in flow cytometry. Add a note on its uses in diagnosis of Leukaemias / lymphoma's.
3. Name the blood group systems / antigens of clinical importance. Discuss their application in transfusion practice.

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

4. May Grunwald Geimsa stain
5. Laminar air flow equipment
6. Coomb's test
7. Cell block preparation
8. Fine Needle Aspiration Cytology
9. Transfusion reaction and work up
10. Chromosomal and DNA content of cells
11. CSF cytology

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

12. Minor cross matching
13. Fresh frozen plasma
14. Mention blood transfusion transmitted diseases.
15. CSF in Pyogenic meningitis
16. Types of microscope
17. Principles of Shorr stain
18. Mention the indications of karyotyping
19. Bombay blood group
20. Maturation index
21. Papanicolaou stain
22. Name 3 cytological fixatives
23. Colchicine

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