Rajiv Gandhi University of Health Sciences, Karnataka

I Year B.Sc. (M.L.T) Degree Examination – April - 2014

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

ANATOMY (RS-2)

Q.P. CODE: 1226

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 parts of the gastrointestinal tract. Describe stomach in detail.
2. Classify Joints. Describe the structure of synovial joint in detail.
3. Name the parts of male reproductive system. Describe the prostate gland in detail.

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

4. Circle of Willis.
5. Deltoid muscle
6. Microstructure of the compact bone
7. Bronchopulmonary segments
8. Interior of urinary bladder
9. Supports of uterus
10. Interior of right atrium
11. Microstructure of lymph node

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

12. Name the cartilages of larynx.
13. Name the cranial nerves in order.
14. Name the carpal bones.
15. Contents of cubital fossa
16. Formation & termination of great saphenous vein
17. Normal constrictions of oesophagus
18. Name the parts of human ear.
19. Name any four branches of abdominal aorta.
20. Name the parts of fallopian tube.
21. Name the tributaries of the inferior vena cava.
22. Name the ligaments of Knee joint.
23. Salient features of large intestine.

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Rajiv Gandhi University of Health Sciences, Karnataka

I Year B.Sc. M.L.T. Degree Examination – September 2014

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

ANATOMY – (Revised Scheme)

Q.P. CODE: 1601

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 brachial plexus under the following headings a) Formation b) Branches
2. Mention the layers of the Gut (Histological). Draw and label histology of oesophagus
3. Name the parts of the brain stem, mention the cranial nerves emerging form each region, describe in brief the medulia

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

4. Supports of uterus
5. Movements of supination and pronation and muscles and joints involved in it
6. Scapula - presenting parts and applied aspects
7. Gross anatomy of Testes
8. Microstructure of large sized artery
9. Give the nerve supply of palmar and dorsal aspect of skin of palm
10. Greater omentum
11. Ulnar nerve - Root value, Course, supply

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

12. Enumerate the branches of medial cord of brachial plexus
13. Name of parts of Hip bone
14. Formation and termination of great saphenous vein
15. Name the boundaries and contents of popliteal fossa
16. Name the branches of arch of aorta
17. In which joints do eversion and inversion of foot occur?
18. What is Anatomical position?
19. Name the branches of external carotid artery
20. Name the contents of spermatic cord
21. Name the coverings of kidney

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Rajiv Gandhi University of Health Sciences, Karnataka

First year B.Sc. MLT Degree Examination - April 2014

[Time: 3 Hours] [Max. Marks: 80]

ANATOMY

[Revised Scheme]

Q P Code : 1601

Your answers should be specific to the questions asked.
Draw neat labeled diagrams wherever necessary.

I LONG ESSAY (Answer any Two) (2X10=20)

1. List the different organs of respiratory system and describe right lung in detail.
2. Mention the different parts of female reproductive system and describe uterus in detail.
3. Name major salivary glands. Describe the histology of serous and mucous salivary gland.

II SHORT ESAAY (8X5=40)

4. Describe long bone.
5. Describe sulci and gyri of superolateral surface of cerebral hemisphere.
6. Explain histology of pituitary gland.
7. Explain histology of kidney.
8. Explain right atrium of heart.
9. Urinary bladder
10. Deltoid muscle
11. Femoral triangle

III SHORT ANSWERS (10X2=20)

12. Tubectomy
13. Name the bones of pelvic girdle.
14. List the bones forming lateral wall of nasal cavity.
15. Mention different parts of pancreas.
16. Name the layers of muscular (medium size) artery seen in histology.
17. Name the coverings of kidney.
18. Name the branches arising from external carotid artery.
19. Mention the boundaries of cubital fossa.
20. Name all the ventricles of brain.
21. Name the bones forming knee joint.

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Rajiv Gandhi University of Health Sciences, Karnataka

I Year B.Sc. (M.L.T) Degree Examination – April 2014

Time: 3 Hours **Max. Marks: 40 Marks**

Physiology

Q.P. Code : 1602

Your answers should be specific to the questions asked.
Draw neat labeled diagrams wherever necessary

(Note : Both QP Codes 1602 and 1603 are to be answered within total duration of 3 hours)

LONG ESSAYS (Answer any One) **1 x 10 = 10 Marks**

1. State Landsteiner's law? List the importance of blood groups. Explain the type of blood transfusion.
2. Describe the actions and regulation of secretion of growth hormone. Explain Gigantism

SHORT ESSAYS (Answer any Four) **4 x 5 = 20 Marks**

3. Explain the different phases of gastric juice secretion
4. Explain the chemical regulation of respiration
5. Describe briefly Excitation Contraction Coupling
6. Trace the pain pathway
7. Write a note on the intrinsic pathway of coagulation

SHORT ANSWERS **5 x 2 = 10 Marks**

8. Name the hormones of the anterior pituitary gland.
9. Draw a reflex arc.
10. Define Cardiac output and give its normal value
11. Myopia
12. Draw a neat labeled diagram of a neuron.

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Rajiv Gandhi University of Health Sciences, Karnataka

I Year B.Sc. (M.L.T) Degree Examination – September 2014

Time: 3 Hours **Max. Marks: 40 Marks**

Physiology

Q.P. Code : 1602

Your answers should be specific to the questions asked.
Draw neat labeled diagrams wherever necessary

(Note : Both QP Codes 1602 and 1603 are to be answered within total duration of 3 hours)

LONG ESSAYS (Answer any One) **1 x 10 = 10 Marks**

1. Draw a schematic diagram to show the intrinsic and extrinsic pathway of coagulation. Add a note on Anticoagulants and clotting time
2. Define action potential. With a well labeled graph explain the ionic basis of action potential

SHORT ESSAYS (Answer any Four) **4 x 5 = 20 Marks**

3. Draw and explain the oxygen dissociation curve for normal adult haemoglobin
4. Define a synapse. Write briefly on the properties of synapse
5. List the composition and functions of saliva
6. Trace the touch pathway
7. With a labeled diagram describe the micturition reflex

SHORT ANSWERS **5 x 2 = 10 Marks**

8. Define saltatory conduction
9. Give the normal haemoglobin concentration. Define anemia
10. What is the action of ADH on renal tubules
11. Enumerate the sex hormones in males and females
12. Define cardiac output and give its normal value

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Rajiv Gandhi University of Health Sciences, Karnataka

I Year B.Sc. (M.L.T) Degree Examination – April 2014

Time: 3 Hours **Max. Marks: 40 Marks**

Biochemistry

Q.P. Code : 1603

Your answers should be specific to the questions asked.
Draw neat labeled diagrams wherever necessary

(Note : Both QP Codes 1602 and 1603 are to be answered within total duration of 3 hours)

LONG ESSAYS (Answer any One) **1 x 10 = 10 Marks**

1. Classify carbohydrates. Add a note on invert sugar
2. Henderson's hasselbach equation

SHORT ESSAYS (Answer any Four) **4 x 5 = 20 Marks**

3. Define indicators. Explain their mechanism of action.
4. Primary structure of proteins.
5. Define buffers. Mention their uses.
6. Essential amino acids.
7. Epimers.

SHORT ANSWERS **5 x 2 = 10 Marks**

8. Atomic weight
9. Rancidity
10. Structure of DNA
11. Name the different types of pipettes.
12. Define normality

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Rajiv Gandhi University of Health Sciences, Karnataka

I Year B.Sc. (M.L.T) Degree Examination – September 2014

Time: 3 Hours **Max. Marks: 40 Marks**

Biochemistry

Q.P. Code : 1603

Your answers should be specific to the questions asked. Draw neat labeled diagrams wherever necessary

(Note : Both QP Codes 1602 and 1603 are to be answered within total duration of 3 hours)

LONG ESSAYS (Answer any One) **1 x 10 = 10 Marks**

1. What are proteins? Classify proteins based on their functions giving suitable examples
2. Define standard solution. Explain the technique of preparation of standard solution giving a suitable example. Give three uses of a standard solution

SHORT ESSAYS (Answer any Four) **4 x 5 = 20 Marks**

3. Use, care and maintenance of an analytical balance in clinical laboratory
4. Define acids, bases, salts and indicators. Give one example each
5. Give the procedural steps for determining PH of buffer using PH meter
6. Watson – crick model of DNA structure
7. Classify carbohydrates with one example each

SHORT ANSWERS **5 x 2 = 10 Marks**

8. Iso electric PH of Proteins
9. Invert sugar
10. Essestial fatty acids
11. Uses of centrifuge
12. Beer lambert's law

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Rajiv Gandhi University of Health Sciences, Karnataka

I year B.Sc. (M.L.T) Degree Examination – April 2014

Time: 3 Hours **Max. Marks: 40 Marks**

Pathology

Q.P. Code : 1604

Your answers should be specific to the questions asked.
Draw neat labeled diagrams wherever necessary

(Note : Both QP Codes 1604 and 1605 are to be answered within total duration of 3 hours)

LONG ESSAYS (Answer any One) **1 x 10 = 10 Marks**

1. Name the various fixatives, their mode of action and indication in the histopathology laboratory
2. Describe in detail the chemical examination of urine. Add a note on the instructions given to the patient for 24 hour collection

SHORT ESSAYS (Answer any Four) **4 x 5 = 20 Marks**

3. Grossing techniques
4. H & E stain
5. Tabulate the CSF findings in pyogenic meningitis
6. Describe stool examination
7. Record keeping in a laboratory

SHORT ANSWERS **5 x 2 = 10 Marks**

8. Write two abnormal forms of sperms
9. Knife sharpening
10. Types of wax
11. List the different types of microtomes
12. Name two bile stained ova

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Rajiv Gandhi University of Health Sciences, Karnataka

I year B.Sc. (M.L.T) Degree Examination – September 2014

Time: 3 Hours **Max. Marks: 40 Marks**

Pathology
Q.P. Code: 1604

Your answers should be specific to the questions asked.
Draw neat, labeled diagrams wherever necessary

(Note: Both QP Codes 1604 and 1605 are to be answered within total duration of 3 hours)

LONG ESSAYS (Answer any One) **1 x 10 = 10 Marks**

1. a. What is decalcification?
   b. Describe the methods of decalcification with their principles.
   c. How do you assess its end-point? (2+5+3 = 10 Marks)
2. a. Describe in detail how a CSF sample collected is processed in the laboratory.
   b. List the findings in Pyogenic meningitis. (4+6 = 10 Marks)

SHORT ESSAYS (Answer any Four) **4 x 5 = 20 Marks**

3. Describe the steps of processing of a biopsy for histopathology.
4. Enlist fixatives. Add a note on formalin.
5. Microscopic examination of urine
6. Write the principle, procedure of Rothera's test and its interpretation.
7. Describe the examination of ova and cysts in a stool sample.

SHORT ANSWERS **5 x 2 = 10 Marks**

8. List the different parts of a microscope.
9. What is the use of wax in a histopathology laboratory?
10. List the instruments used in grossing.
11. Benedict's test
12. What is normal sperm count? How is it assessed in the laboratory?

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Rajiv Gandhi University of Health Sciences, Karnataka

I year B.Sc. (M.L.T) Degree Examination – September 2014

Time: 3 Hours **Max. Marks: 40 Marks**

Microbiology

Q.P. Code : 1605

Your answers should be specific to the questions asked.
Draw neat labeled diagrams wherever necessary

(Note : Both QP Codes 1604 and 1605 are to be answered within total duration of 3 hours)

LONG ESSAYS (Answer any One) **1 x 10 = 10 Marks**

1. Describe briefly the growth requirements of bacteria. Discuss bacterial growth curve
2. Draw a neat labeled diagram of bacterial cell. Write in detail about bacterial flagella

SHORT ESSAYS (Answer any Four) **4 x 5 = 20 Marks**

3. Bacterial capsule
4. Classification of bacteriologic media
5. Bacterial filters
6. Waste management
7. Bacterial spore

SHORT ANSWERS **5 x 2 = 10 Marks**

8. Citrate test
9. Two characteristics of prokaryotes
10. Two differential media
11. Glutaraldehyde
12. Quality control

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Rajiv Gandhi University of Health Sciences, Karnataka

I year B.Sc. (M.L.T) Degree Examination – April 2014

Time: 3 Hours **Max. Marks: 40 Marks**

Microbiology

Q.P. Code : 1605

Your answers should be specific to the questions asked.
Draw neat labeled diagrams wherever necessary

(Note : Both QP Codes 1604 and 1605 are to be answered within total duration of 3 hours)

LONG ESSAYS (Answer any One) **1 x 10 = 10 Marks**

1. Describe bacterial cell wall and capsule
2. Describe the bacterial preservation methods used in microbiology

SHORT ESSAYS (Answer any Four) **4 x 5 = 20 Marks**

3. Louis Pasteur
4. Antibiotic sensitivity tests
5. Transport media
6. Oxidase & catalase test
7. Hot air oven

SHORT ANSWERS **5 x 2 = 10 Marks**

8. Bacterial growth curve
9. Eijkman test
10. Membrane filters
11. Grams staining
12. Uses of dark ground microscope

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Rajiv Gandhi University of Health Sciences, Karnataka

I Year B.Sc. MLT Degree Examination – April 2014

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

BASIC ANATOMY (INCLUDING HISTOLOGY) (RS3)
Q.P. CODE: 3151

Your answers should be specific to the questions asked.
Draw neat, labeled diagrams wherever necessary

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

1. Name the parts of male reproductive system and describe the gross anatomy of testis.
2. Describe the sulci and gyri of supero-lateral surface of cerebral hemisphere.
3. Describe the Pituitary gland under the following headings– location, parts and blood supply.
4. Define and describe the broncho pulmonary segments of lung with neat diagram.
5. Name the parts of Gastro intestinal tract. Add a note on blood supply of stomach.
6. Describe the left ventricle of heart with neat diagram.
7. Classify synovial joints with example.
8. Describe the gross anatomy of Cerebellum
9. Describe the location, relations and ligaments of liver.
10. Describe the major and minor openings of diaphragm.

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

11. Transitional epithelium
12. Draw a neat diagram of cross section of spinal cord.
13. Foetal circulation
14. Histology of supra renal gland
15. Blood supply of lateral wall of nose
16. Histology of Hyaline cartilage with example
17. Tympanic membrane
18. Locations and ligaments of Spleen
19. Structures passing through Foramen magnum
20. Pleura
21. Histology of thin Skin
22. Erb's point

TO THE POINT ANSWERS (Answer any Five) **5 x 2 = 10 Marks**

23. Cauda equina
24. Name the branches of axillary artery.
25. Name the layers of cornea.
26. Draw the typical intercostal nerve.
27. Name the parts of fallopian tube.

Rajiv Gandhi University of Health Sciences, Karnataka

I Year B.Sc. MLT Degree Examination – April 2014

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

PHYSIOLOGY (RS3)
Q.P. CODE: 3152

Your answers should be specific to the questions asked.
Draw neat, labeled diagrams wherever necessary

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

1. Explain the stages of Erythropoiesis.
2. Discuss the property of excitability in a cardiac muscle.
3. Define a sarcomere. Explain its role in contraction cycle.
4. Defaecation reflex
5. Trace the pathway for fine touch.
6. Describe the features of oxygen dissociation curve with the help of a graph.
7. Explain the counter current mechanism.
8. Enumerate the functions of parathyroid hormone.
9. What is a receptor? Discuss any three properties of receptor.
10. Secondary sexual characteristics in females

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

11. Action of sympathetic and parasympathetic neurons on (a) Pupil and (b) Heart
12. Functions of platelets
13. Name the components of the conducting system of the heart.
14. Astigmatism
15. Saltatory conduction
16. Van den Berg's test for jaundice
17. Functions of CSF
18. Draw the structure of a Basophil and a Monocyte. Mention their function.
19. Write the processes taking place in the pharyngeal phase of deglutition.
20. Define immunity and types of immunity.
21. Immunological test for pregnancy
22. Features of diabetes mellitus

TO THE POINT ANSWERS (Answer any Five) **5 x 2 = 10 Marks**

23. Functions of RBC's
24. Functions of astrocytes
25. Cross-matching of blood
26. Define intrapulmonary pressure. Give its normal value.
27. Hypoxia and types of hypoxia

Rajiv Gandhi University of Health Sciences, Karnataka

I Year B.Sc. MLT Degree Examination – April 2014

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

BIOCHEMISTRY (RS3)
Q.P. CODE: 3153

Your answers should be specific to the questions asked. Draw neat, labeled diagrams wherever necessary

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

1. Classification of amino acids based on structure
2. Different types of tubes in a lab and their uses
3. Write the principle, components and working of a colorimeter.
4. Components of first aid kit and first aid measures to be followed in a laboratory after needle stick injury
5. Incubator – components and uses
6. Different types of waste in laboratory and its segregation
7. Definition and classification of fatty acids
8. Draw a neatly labeled diagram of a two-pan laboratory balance. Add a note on the care and maintenance.
9. Define centrifugal force. Procedure to centrifuge biological specimen in lab
10. Define nucleosides and nucleotides. Add a note on its occurrence.

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

11. Write the normal pH of blood. Name the fluid buffers in the regulation of blood pH..
12. Functions of amino acids
13. Diagram of a Dessicator. Add a note on dessicants
14. Calculate the Molarity of concentrated hydrochloric acid.
15. Write the structure for D-glucose, D-fructose and D-galactose.
16. Responsibilities of laboratory personnel
17. Define Indicators. Name any two indicators and give their pH range.
18. Uses of Bunsen burner and wire gauze
19. Functions of lipids
20. Classification of monosaccharides
21. Preparation of 100ml of 2N NaOH from 10N NaOH
22. Micropipettes – glass and automated

TO THE POINT ANSWERS (Answer any Five) **5 x 2 = 10 Marks**

23. Define (a) Equivalent weight (b) Molecular weight with one example.
24. Cyclomixers
25. Use of saturated solution in laboratory
26. Two uses of radioactive isotopes in diagnostic field
27. Valency of two elements
28. Types of glass
29. SI units for glucose and total protein in serum

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Rajiv Gandhi University of Health Sciences, Karnataka

I Year B.Sc. MLT Degree Examination – April-2014

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

PATHOLOGY (RS3)
Q.P. CODE: 3154

Your answers should be specific to the questions asked. Draw neat, labeled diagrams wherever necessary

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

1. Describe various types of paraffin waxes and their advantages.
2. Describe method of section cutting in detail.
3. Quality control in haematology lab
4. Describe microscopic examination of urine.
5. Describe procedure of receiving the specimens and processing.
6. Describe methods of stool examination.
7. Mention the different methods of haemoglobin estimation and describe one of them in detail.
8. Describe various mountants.
9. Describe methods of collection and processing of blood in blood bank.
10. Describe semen analysis.

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

11. Describe different adhesives.
12. Describe dehydration.
13. Describe maintenance of records and filing slides.
14. Describe proteinuria. Describe two tests to detect it.
15. Describe sputum examination.
16. Describe cleaning of glasswares.
17. Methods of PCV examination
18. Describe pathways of coagulation.
19. Activated partial thromboplastin time
20. Bleeding time
21. Describe two blood transfusion reactions.
22. Describe method of measurement of specific gravity of urine.

TO THE POINT ANSWERS (Answer any Five) **5 x 2 = 10 Marks**

23. Blueing
24. CSF microscopy in bacterial meningitis
25. Name two grossing instruments.
26. Tests for occult blood in stool
27. Cobweb Coagulum
28. Sites for lumbar puncture
29. Name the SI units.

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Rajiv Gandhi University of Health Sciences, Karnataka

I Year B.Sc. MLT Degree Examination – April 2014

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

MICROBIOLOGY (RS3)
Q.P. CODE: 3155

Your answers should be specific to the questions asked. Draw neat, labeled diagrams wherever necessary

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

1. Bacterial growth curve
2. Selective media
3. Autoclave
4. Biomedical waste management
5. Universal Immunization schedule
6. Modes of transmission of infection
7. Typhoid fever
8. Pulmonary tuberculosis
9. Life cycle of Ascaris lumbricoides
10. Rabies

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

11. Acid fast staining
12. VDRL
13. Erythrocytic schizogony
14. Microfilaria
15. Rice water stool
16. Name three sexually transmitted diseases.
17. Diseases caused by Streptococcus pyogenes
18. Name four vaccines.
19. Aspergillosis
20. Poliomyelitis vaccine
21. Opportunistic diseases in AIDS
22. Dengue virus

TO THE POINT ANSWERS (Answer any Five) **5 x 2 = 10 Marks**

23. Draw a neat, labeled diagram of egg of Hookworm.
24. Draw a neat, labeled diagram of morphology of Hepatitis B virus.
25. Name four gram-negative bacteria.
26. Name four Arboviruses.
27. Capsule detection
28. Draw a neat, labeled diagram of Trophozoite of Entamoeba histolytica.
29. Name four methods of laboratory diagnosis of parasitic infections.

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