Rajiv Gandhi University of Health Sciences, Karnataka

I Year B.Sc. (Allied Health Sciences) Degree Examination - SEPTEMBER 2015

Time: Three Hours Max. Marks: 80 Marks

ANATOMY
(Including Histology)- RS-2

(MLT, O.T. Technology, Cardiac Care Technology, Perfusion Technology, Neuro Sciences Technology, Renal Dialysis Technology, Respiratory Care Technology, Medical Imaging Technology & Radiotherapy Technology)

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. Classify bones. Draw a labelled diagram of the microscopic structure of compact and spongy bone.
2. Name the parts of the central nervous system. Describe the cerebrum under the following heading:
   a) Hemispheres b) Important gyri and sulci c) Functions d) Blood supply e) Applied aspects
3. Name the parts of the respiratory system. Describe the lungs under the following headings
   a) Lobes b) Important relations c) Histology d) Blood supply e) Applied aspects

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

4. Histology of the kidney
5. Uterine tube –extent, parts and applied aspects
6. Arch of aorta – formation, termination, course and branches.
7. Endocrine part of the pancreas
8. Vermiform appendix – gross anatomy, histology and applied aspects.
9. Gluteus maximus muscle.
10. Name the bones forming the shoulder joint and describe the movements possible and the muscles causing them.
11. Draw a neat, labeled diagram of the ultrastructure of an animal cell.

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

12. Major openings present in the diaphragm and structures passing through them.
13. Name three branches of the brachial plexus.
14. Mention the structures present in the portahepatis.
15. Name the contents of the spermatic cord.
16. Enumerate the sites commonly used for intravenous injections.
17. Name the papillae of the tongue.
18. Name three large groups of lymph nodes in the body.
19. Name three anatomical planes of the body.
20. Draw a neat, labeled diagram of a Graafian follicle.
21. Transitional epithelium
22. Name the parts of the pituitary gland.
23. Name the glands that contribute their secretions to the seminal fluid.

Rajiv Gandhi University of Health Sciences, Karnataka

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I Year B.Sc. (Allied Health Sciences) Degree Examination – APRIL 2015

Time: Three Hours | Max. Marks: 80 Marks

PHYSIOLOGY – RS-2

(MLT, O.T. Technology, Cardiac Care Technology, Perfusion Technology, Neuro Sciences Technology, Renal Dialysis Technology, Respiratory Care Technology, Medical Imaging Technology & Radiotherapy Technology)

Q.P. CODE: 1227

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 the normal rate of respiration? Name the 4 centers of respiration. Describe in detail the nervous regulation of respiration.
2. Describe the structure of the platelets. Give its normal value. Explain its role in haemostasis.
3. Explain with help of a diagram, the mechanism of counter current multiplier. Name the 2 main substances, which contribute to it.

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

4. Draw a diagram to show the phases of cardiac action potential. Explain the term pacemaker potential.
5. List the hormones secreted by the adrenal cortex. Describe the functions of glucocorticoids.
6. Describe the menstrual cycle and hormones regulating it.
7. What is renal plasma threshold for glucose? Explain Glucose tolerance test.
8. Define cardiac cycle. Discuss the phases of ventricular systole.
9. Describe the pain pathway from its origin to termination with a labeled diagram.
10. Explain excitation-contraction coupling.
11. What is absolute eosinophil count? Describe briefly two functions of eosinophil. Name two conditions in which eosinophil count is reduced.

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

12. Functions of testosterone
13. Leukocytosis
14. Impedance matching
15. What are vasa recta? Mention two functions.
16. Define compliance and give a condition in which it is increased.
17. Functions of saliva
18. Enumerate the clinical features of Cushing's disease.
19. Define Starlings Law
20. Erythroblastosis fetalis
21. Draw a normal electrocardiogram wave and label it.
22. How does oral contraceptive prevent pregnancy?
23. List the functions of hypothalamus.

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Rajiv Gandhi University of Health Sciences, Karnataka

I Year B.Sc. (Allied Health Sciences) Degree Examination – SEPTEMBER 2015

Time: Three Hours | Max. Marks: 80 Marks

PHYSIOLOGY – RS-2

(MLT, O.T. Technology, Cardiac Care Technology, Perfusion Technology, Neuro Sciences Technology, Renal Dialysis Technology, Respiratory Care Technology, Medical Imaging Technology & Radiotherapy Technology)

Q.P. CODE: 1227

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. Explain with the help of diagram stages of erythropoiesis. Name the factors, which regulate erythopoiesis.
2. Describe how Oxygen is transported in the blood. Draw and Explain the O_2 dissociation curve. What is Bohr's effect?
3. Define glomerular filtration rate (GFR). List the factors regulating GFR. Name any one of the method used to measure GFR.

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

4. Describe the conducting system of the Heart.
5. Functions of Insulin
6. List the Gastro Intestinal (GI) movements. Explain any two in detail.
7. Classify leukocytes. Describe and write the functions of any one of them.
8. Enumerate the properties of a neuron. Discuss the property of refractory period.
9. Explain briefly process of transmission across neuromuscular junction.
10. Explain the phases of menstrual cycle.
11. Define hypoxia. List the types of hypoxia.

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

12. Draw and label an ECG wave.
13. What is JVP? What is the normal value and its significance.
14. What is Surfactant? Write about the composition and its clinical importance.
15. List the functions of CSF.
16. Why does B12 deficiency cause anemia? What is the blood picture in this condition?
17. List any 3 functions of testosterone.
18. Any three functions of skin
19. What is ESR? Name any 2 conditions where ESR is increased.
20. List any 3 functions of cerebellum.
21. Name the type of deafness. List any 2 tests used to diagnose deafness.
22. Complications of mismatched blood transfusion
23. Define Cardiac output. Give its normal value.

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Rajiv Gandhi University of Health Sciences, Karnataka

I Year B.Sc. (Allied Health Sciences) Degree Examination - SEPTEMBER 2015

Time: Three Hours Max. Marks: 80 Marks

BIOCHEMISTRY (RS-2)

(MLT, O.T. Technology, Cardiac Care Technology, Perfusion Technology, Neuro Sciences Technology, Renal Dialysis Technology, Respiratory Care Technology, Anesthesia Technology, Medical Imaging Technology & Radiotherapy Technology)

Q.P. CODE: 1228

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 the principle of Centrifuge? Enumerate different types of Centrifuges. Enumerate any five uses of Centrifuge. How do you convert G to RPM?
2. What is the principle of pH meter? Write a neat labelled diagram of a pH meter. Explain the use, care and maintenance of pH meter.
3. Write in detail the chemistry, sources, functions and deficiency manifestations of Vitamin A.

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

4. Enumerate different types of Cuvettes and write its uses.
5. What is pre-analytical, analytical and post-analytical phase? Enumerate any four pre-analytical variables that affect the test done in a clinical lab.
6. Explain the collection of CSF.
7. Explain the use, care and maintenance of Hot Air Oven.
8. Explain the regulation of Sodium in the body.
9. How Water Balance is achieved in the body?
10. Metabolic Acidosis and Respiratory Acidosis
11. What is an Indicator? Enumerate any two different types of Indicators and their use.

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

12. Enumerate any three types of Laboratory Balance. Write maintenance of a Chemical Balance.
13. What is Percent Solution? How do you prepare 1% NaCl?
14. What are the uses of Standard Flask and Burette?
15. What is Aufbau's principle?
16. Anion Gap
17. Enumerate any three functions of Vitamin D.
18. What is the difference between Saturated and Super Saturated Solution?
19. How do you prepare a Standard Glucose Solution?
20. What is a Deliquescent Compound? Enumerate any two Deliquescent Compounds.
21. Enumerate principle of Electrophoresis.
22. What is the Normal Serum Levels of (a) Sodium (b) Potassium (c) Chloride?
23. Arrehenius concept of acid and base

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Rajiv Gandhi University of Health Sciences, Karnataka

I Year B.Sc. (Allied Health Sciences) Degree Examination - APRIL 2015

Time: Three Hours Max. Marks: 80 Marks

BIOCHEMISTRY (RS-2)

(MLT, O.T. Technology, Cardiac Care Technology, Perfusion Technology, Neuro Sciences Technology, Renal Dialysis Technology, Respiratory Care Technology, Anesthesia Technology, Medical Imaging Technology & Radiotherapy Technology)

Q.P. CODE: 1228

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 principle and different parts of a colorimeter with a neat labeled diagram. Indicate the uses of colorimeter in clinical laboratory.
2. Blood and Urine specimen collection – techniques involved and preservatives used
3. Classify vitamins. Explain RDA, sources, functions and deficiency of Vitamin A.

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

4. Cleaning of pipettes and test tubes
5. Accuracy, precision, specificity and sensitivity
6. What are buffers? Discuss the common blood buffers.
7. Sodium regulation
8. Derive Henderson Hasselbalch equation, and mention the significance.
9. Nutritional importance of lipids
10. Centrifuge – principle and types
11. Define acids, bases and write the three theories.

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

12. Salts and Indicators
13. Anion gap
14. Uses of standard flask
15. Normal levels of Electrolytes (sodium, potassium, chlorides and bicarbonates)
16. Calorific value of food stuffs
17. Functions of vitamin K
18. Molar and Molal solutions
19. Respiratory acidosis
20. RQ
21. Uses of Incubator
22. Define BMR.
23. How do you prepare 2 molar sodium hydroxide solution?

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Rajiv Gandhi University of Health Sciences, Karnataka

I Year B.Sc. (Allied Health Sciences) Degree Examination - SEPTEMBER 2015

Time: Three Hours | Max. Marks: 80 Marks

PATHOLOGY (RS-2)

(Clinical Pathology & Heamatology & Blood Banking)

(MLT, O.T. Technology, Cardiac Care Technology, Perfusion Technology, Neuro Sciences Technology, Renal Dialysis Technology, Respiratory Care Technology, Medical Imaging Technology & Radiotherapy Technology)

Q.P. CODE: 1229

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 various methods of decalcification
2. Write a essay on urine examination. Add a note on clinical significance
3. Name the anticoagulants used in Hematology. Describe their mode of action and uses.

SHORT ESSAY 6 x 5 = 30 Marks

4. Write briefly about examination of cerebrospinal fluid (CSF)
5. What are different embedding media? How do you do paraffin embedding?
6. What are objectives of quality control? Add a note on types of errors in quality control
7. Describe briefly the eggs of taenia solium, trichuris trichura, ankylostoma duodenale and ascrais lumbricoides
8. Add a brief note on prothrombin time, activated partial thromplastin time (PT, APTT)
9. How do you examine sample of semen for total sperm count, sperm morphology?
10. Write a note on bio-medical waste management
11. Types of cross matching

SHORT ANWERS 10 x 3 = 30 Marks

12. Sahli's haemoglobinometer
13. Stool examination
14. Microscopic examination of ascitic fluid
15. Mention the types of ketone bodies
16. Mention two bile stained ova
17. What are the methods used in sharpening microtome knives?
18. What are the basic steps in staining and mounting paraffin section?
19. Clotting time. Normal value and its uses
20. Mention three causes of hematuria
21. Name two substances lost during fixation
22. Name various body fluids
23. Methods of collection of blood samples

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Rajiv Gandhi University of Health Sciences, Karnataka

I Year B.Sc. (Allied Health Sciences) Degree Examination - APRIL - 2015

Time: Three Hours | Max. Marks: 80 Marks

PATHOLOGY (RS-2)

(Clinical Pathology & Heamatology & Blood Banking)

(MLT, O.T. Technology, Cardiac Care Technology, Perfusion Technology, Neuro Sciences Technology, Renal Dialysis Technology, Respiratory Care Technology, Medical Imaging Technology & Radiotherapy Technology)

Q.P. CODE: 1229

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. Outline the principles of Decalcification. Mention different methods of Decalcification. Add a note on tests to detect completion of decalcification.
2. Discuss the methods of collection and composition of semen. Write on physical and microscopic examination of semen.
3. Describe in detail the sputum examination.

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

4. Grossing instruments and techniques
5. Tissue processing for routine paraffin section
6. Microscopic examination of feces
7. Indications for lumbar puncture
8. Compatibility testing
9. Urobilinogen in urine
10. Discuss quality control in laboratory organization.
11. Bleeding time

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

12. Principle of cyanmethemoglobin method of hemoglobin estimation
13. Activated partial thromboplastin time
14. Tests to detect protein in urine
15. Uses of microscope
16. Differences between haematuria and haemoglobinuria
17. Fouchet's test
18. Name some parasites ova/eggs seen in stool sample.
19. Tests for glucose in urine
20. Name any three clearing agents.
21. Major crossmatching.
22. Leukhart's "L" mould.
23. Casts in urine

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Rajiv Gandhi University of Health Sciences, Karnataka

I Year B.Sc. (Allied Health Sciences) Degree Examination - APRIL 2015

Time: Three Hours | Max. Marks: 80 Marks

MICROBIOLOGY (RS-2)

(MLT, O.T. Technology, Cardiac Care Technology, Perfusion Technology, Neuro Sciences Technology, Renal Dialysis Technology, Respiratory Care Technology, Medical Imaging Technology & Radiotherapy Technology)

Q.P. CODE: 1230

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 causative agents of malaria. Discuss laboratory diagnosis of malaria.
2. Describe laboratory diagnosis of Human Immunodeficiency Virus.
3. Describe the morphology, life cycle and lab diagnosis of Ascaris lumbricoides.

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

4. Biomedical waste management.
5. Ziehl Neelsen Stain.
6. Bacterial flagella.
7. Hot air oven.
8. Laboratory diagnosis of Ancylostoma duodenale.
9. Antibiotic susceptibility testing.
10. Laboratory diagnosis of cholera.
11. Laboratory diagnosis of Cryptococcal manifestations.

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

12. Negative Stain.
13. Cold sterilization.
14. Phenols as disinfectants.
15. Cytopathic effect.
16. List three medically important species of Aspergillus.
17. Kass' criteria.
18. Dark ground microscope.
19. Atypical mycobacteria.
20. Morphology of Leptospira with a diagram.
21. Oral Poliomyelities Vaccine.
22. Name 3 opportunistic fungi.
23. List methods of growing viruses.

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Rajiv Gandhi University of Health Sciences, Karnataka

I Year B.Sc. (Allied Health Sciences) Degree Examination - SEPTEMBER 2015

Time: Three Hours Max. Marks: 80 Marks

MICROBIOLOGY (RS-2)

(MLT, O.T. Technology, Cardiac Care Technology, Perfusion Technology, Neuro Sciences Technology, Renal Dialysis Technology, Respiratory Care Technology, Medical Imaging Technology & Radiotherapy Technology)

Q.P. CODE: 1230

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 Disinfection. Classify and explain the various Chemical Disinfectants in detail.
2. Enumerate the Hepatitis Viruses. Explain the morphology, laboratory diagnosis and prevention of Hepatitis B Viruses.
3. Describe the morphology, disease caused and laboratory diagnosis of Vibrio cholerae.

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

4. Bacterial Growth Curve
5. Acid Fast Stain
6. Widal test
7. National Immunization Schedule
8. Laboratory diagnosis of Syphilis
9. Life cycle of Ancylostoma duodenale
10. Dermatophytes
11. Antibiotic Sensitivity Test

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

12. Name three important methods of diagnosis of Malaria in the laboratory.
13. Draw a neat diagram of Entamoeba histolytica trophozoite.
14. Name three methods of Virus Cultivation.
15. Cryptococcosis
16. Name three Bacterias causing UTI.
17. RNTCP
18. Name three Pyogenic Cocci.
19. Enriched Media
20. Draw a neat labeled diagram of HIV.
21. Name three Bile Stained Eggs.
22. Name three Opportunistic fungi.
23. Albert's Stain

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Rajiv Gandhi University of Health Sciences, Karnataka

I Year B.Sc. Allied Health Sciences Degree Examination – SEPTEMBER 2015

Time: Three Hours Max. Marks: 80 Marks

BASIC ANATOMY (INCLUDING HISTOLOGY)

(RS3 – Medical Laboratory Technology, Medical Imaging Technology and Radiotherapy Technology RS2 – Operation Theatre Technology, Cardiac Care Technology, Perfusion Technology, Renal Dialysis Technology, Respiratory Care Technology, Anaesthesia Technology and Neurosciences Technology)

Q.P. CODE: 3151

(QP contains two pages)

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. Pancreas – parts, relations of head, blood supply and nerve supply
2. Spleen – position, ligaments, blood supply and applied aspect
3. Histology of trachea
4. Lateral wall of nose
5. Right atrium – interior and openings
6. Meninges of brain
7. Urinary bladder – position, ligaments, blood supply and applied aspect
8. Fertilization
9. Porto-caval anastomosis
10. Classification of synovial joints with examples

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

11. Oogenesis
12. Typical inter-costal nerve
13. Histology of Submandibular salivary gland
14. Sulci and gyri on the medial surface of cerebrum
15. Interior of anal canal
16. Cavity of larynx
17. Name the tracts of spinal cord.
18. Fallopian tube
19. Structure of neuron
20. Gall bladder
21. Transitional epithelium
22. Thyroid gland – blood supply

Rajiv Gandhi University of Health Sciences, Karnataka

I Year B.Sc. Allied Health Sciences Degree Examination – APRIL 2015

Time: Three Hours Max. Marks: 80 Marks

PHYSIOLOGY

(RS3 – Medical Laboratory Technology, Medical Imaging Technology and Radiotherapy Technology RS2 – Operation Theatre Technology, Cardiac Care Technology, Perfusion Technology, Renal Dialysis Technology, Respiratory Care Technology, Anaesthesia Technology and Neurosciences Technology)

Q.P. CODE: 3152

(QP contains two pages)

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. Define Erythropoiesis. Explain the factors regulating Erythropoiesis.
2. Enumerate the properties of cardiac muscle. Explain the property of conductivity.
3. Describe the events taking place at the neuro-muscular junction.
4. Defaecation reflex
5. Differentiate between conditioned and unconditioned reflex.
6. Neural regulation of respiration
7. Explain counter-current mechanism.
8. Enumerate and describe the functions of insulin.
9. What is a receptor? Discuss any three properties of receptor.
10. Spermatogenesis

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

11. Draw and label JG apparatus.
12. Functions of plasma proteins
13. Tachycardia and its causes
14. Myopia
15. Saltatory conduction
16. Lumbar puncture
17. Functions of skin
18. Structure of nephron
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 gigantism

Rajiv Gandhi University of Health Sciences, Karnataka

I Year B.Sc. Allied Health Sciences Degree Examination – SEPTEMBER 2015

Time: Three Hours Max. Marks: 80 Marks

PHYSIOLOGY

(RS3 – Medical Laboratory Technology, Medical Imaging Technology and Radiotherapy Technology RS2 – Operation Theatre Technology, Cardiac Care Technology, Perfusion Technology, Renal Dialysis Technology, Respiratory Care Technology, Anaesthesia Technology and Neurosciences Technology)

Q.P. CODE: 3152

(QP contains two pages)

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 intrinsic mechanism of coagulation. Write the mechanism of action of any two anticoagulants.
2. Briefly describe the property of refractory period in a cardiac muscle.
3. Enumerate the neuroglial cells and mention any two functions of each.
4. Functions of stomach
5. Write a note on transfusion reaction.
6. Chemical regulation of respiration
7. Explain the micturition reflex.
8. Enumerate the functions of Aldosterone.
9. Trace the pyramidal pathway.
10. Explain the features seen in diabetes mellitus.

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

11. Define EEG. Name the waves of EEG.
12. Functions of platelets
13. Name the components of the conducting system of the heart.
14. Trace the olfactory pathway.
15. Differentiate between isometric contraction and isotonic contraction.
16. Fibrinolysis
17. Function of Surfactant
18. Enumerate the functions of thalamus.
19. Any five functions of saliva
20. What is eosinophilia? List the causes.
21. Define menopause. Write any two features.
22. Define synapse and mention types of synapse.

Rajiv Gandhi University of Health Sciences, Karnataka

I Year B.Sc. Allied Health Sciences Degree Examination – SEPTEMBER 2015

Time: Three Hours Max. Marks: 80 Marks

BIOCHEMISTRY

(RS3 – Medical Laboratory Technology, Medical Imaging Technology and Radiotherapy Technology RS2 – Operation Theatre Technology, Cardiac Care Technology, Perfusion Technology, Renal Dialysis Technology, Respiratory Care Technology, Anaesthesia Technology and Neurosciences Technology)

Q.P. CODE: 3153

(QP contains two pages)

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. Laboratory safety measures
2. Principle, components and working of a colorimeter
3. Working of water distillation apparatus
4. Define standard solution. How is stock solution of glucose prepared?
5. Derive Henderson Hasselbalch's equation.
6. Draw the diagram of pH meter and label all the components.
7. Laboratory balances – types, uses and care
8. Define salts and classify them.
9. Write about different types of flasks used in the laboratory.
10. What is the pH of blood? Name the fluid buffers. Explain any buffer in the regulation of blood pH.

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

11. Significance of borosilicate glass
12. Limitations of Beer-Lambert's law
13. Types of Cuvettes and its uses
14. Hot air oven
15. First aid in laboratory
16. Types of glass pipettes
17. Principle of working of a centrifuge
18. Define acids and bases with suitable examples.
19. Define SI units. Classify them.
20. How do you prepare 100ml of 0.5N NaOH from 2N NaOH?
21. Formula to calculate normality and molarity of concentrated acids
22. Define (a) Test tube (b) Burette (c) Tripod stand

Rajiv Gandhi University of Health Sciences, Karnataka

I Year B.Sc. Allied Health Sciences Degree Examination – APRIL 2015

Time: Three Hours Max. Marks: 80 Marks

BIOCHEMISTRY

(RS3 – Medical Laboratory Technology, Medical Imaging Technology and Radiotherapy Technology RS2 – Operation Theatre Technology, Cardiac Care Technology, Perfusion Technology, Renal Dialysis Technology, Respiratory Care Technology, Anaesthesia Technology and Neurosciences Technology)

Q.P. CODE: 3153

(QP contains two pages)

Your answers should be specific to the questions asked.

Draw neat, labeled diagrams wherever necessary

SHORT ESSAYS (ATTEMPT ANY EIGHT) 8 x 5 = 40 Marks

1. Draw a neat diagram of chemical balance and label the parts. Mention the precautions to taken while handling.
2. Water distillation apparatus – components, working and uses
3. Principle and components of pH meter
4. Water deionisers and their uses
5. Laboratory safety measures
6. Define Beer-Lambert law. Write its limitations.
7. Define normality. Explain preparation of: (i) 0.1N NaOH, (ii) 0.1N HCl from 1N HCl.
8. Write Henderson-Hasselbalch equation and its applications.
9. Principle and applications of centrifugation technique
10. Explain the preparation of:
    a) 1% glucose stock standard solution
    b) 0.1% glucose working standard solution

SHORT ANSWERS (ATTEMPT ANY TEN) 10 x 3 = 30 Marks

11. Define (i) Valency (ii) Molecular weight (iii) Equivalent weight of element.
12. Uses of (i) Dessicator (ii) Standard flask (iii) Pipette
13. Significance of Borosilicate glass
14. Define acids, bases and buffers with one example each.
15. Preparation of 200ml of 0.9% NaCl solution
16. Convert 0.5N NaOH into percent solution.
17. Classify SI units with examples.
18. Define (a) Test tube (b) Centrifuge tube (c) Wire gauze
19. Hot air oven and its uses
20. Define Molality. Explain how to prepare 1 Molal solution of NaOH.
21. What is a hygroscopic substance? Give two examples.
22. Types of racks and their uses

Rajiv Gandhi University of Health Sciences, Karnataka

I Year B.Sc. Allied Health Sciences Degree Examination – SEPTEMBER 2015

Time: Three Hours Max. Marks: 80 Marks

PATHOLOGY

(RS3 – Medical Laboratory Technology, Medical Imaging Technology and Radiotherapy Technology RS2 – Operation Theatre Technology, Cardiac Care Technology, Perfusion Technology, Renal Dialysis Technology, Respiratory Care Technology, Anaesthesia Technology and Neurosciences Technology)

Q.P. CODE: 3154

(QP contains two pages)

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 fixatives – add a note on their modes of action.
2. Decalcification
3. ESR
4. Normal haematopoiesis
5. Reticulocyte count
6. Bleeding time
7. Mention the different methods used to measure hemoglobin and write the principle of one of them.
8. Red cell indices
9. Steps in tissue processing
10. Anticoagulants used in the laboratory

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

11. Care of microscope
12. Mention three mountants.
13. Define mordant. Mention the mordants commonly used in H & E staining.
14. Mention the ketone bodies.
15. What is the normal total leucocyte count and mention the composition of WBC diluting fluid.
16. Mention the methods for blood grouping.
17. Write two methods for doing bleeding time and the normal values.
18. Types of microtomes
19. Urinary casts
20. Tests for protein in urine
21. Procedure for Leishman stain of peripheral blood smear
22. Honing and stropping

Rajiv Gandhi University of Health Sciences, Karnataka

I Year B.Sc. Allied Health Sciences Degree Examination – APRIL - 2015

Time: Three Hours Max. Marks: 80 Marks

PATHOLOGY

(RS3 – Medical Laboratory Technology, Medical Imaging Technology and Radiotherapy Technology RS2 – Operation Theatre Technology, Cardiac Care Technology, Perfusion Technology, Renal Dialysis Technology, Respiratory Care Technology, Anaesthesia Technology and Neurosciences Technology)

Q.P. CODE: 3154

(QP contains two pages)

Your answers should be specific to the questions asked.

Draw neat, labeled diagrams wherever necessary

SHORT ESSAYS (ATTEMPT ANY EIGHT) 8 x 5 = 40 Marks

1. Describe the steps in tissue processing of formalin fixed specimen.
2. ABO blood group
3. Examination of cerebrospinal fluid
4. Quality control in the laboratory
5. Describe stains used in hematology.
6. Compatibility testing
7. ESR
8. Microtome
9. H & E staining
10. Enumerate the normal constituents of blood. Describe the structure and function of Neutrophils.

SHORT ANSWERS (ATTEMPT ANY TEN) 10 x 3 = 30 Marks

11. Prothrombin time
12. Hematoxylins
13. Embedding
14. Classify fixatives.
15. Describe various anticoagulants used in hematology.
16. Diseases transmitted through blood transfusion
17. Microscopic examination of body fluids
18. Complications of Venepuncture
19. Describe the method of collection of CSF
20. Febrile transfusion reaction
21. Benedicts test
22. Mounting media

Rajiv Gandhi University of Health Sciences, Karnataka

I Year B.Sc. Allied Health Sciences Degree Examination – APRIL 2015

Time: Three Hours Max. Marks: 80 Marks

MICROBIOLOGY

(RS3 – Medical Laboratory Technology, Medical Imaging Technology and Radiotherapy Technology RS2 – Operation Theatre Technology, Cardiac Care Technology, Perfusion Technology, Renal Dialysis Technology, Respiratory Care Technology, Anaesthesia Technology and Neurosciences Technology)

Q.P. CODE: 3155

(QP contains two pages)

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. Bacterial cell wall
3. Autoclave
4. Principles of biomedical waste management
5. Immunization schedule in children
6. Write a note on the diseases caused by Staphylococcus aureus
7. Blood culture
8. Lab diagnosis of parasitic infections
9. Cultivation of viruses
10. Dermatophytes

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

11. Enrichment media
12. Live-attenuated vaccines
13. Transmission of hospital acquired infections
14. Kirby Bauer Disc diffusion method
15. Concentration of stool sample
16. Cryptococcosis
17. Draw a neat, labeled diagram of Human Immunodeficiency Virus.
18. VDRL test
19. ZN staining
20. Write any three differences between amoebic dysentery and bacterial dysentery.
21. Viral capsid
22. KOH mount

Rajiv Gandhi University of Health Sciences, Karnataka

I Year B.Sc. Allied Health Sciences Degree Examination – SEPTEMBER 2015

Time: Three Hours Max. Marks: 80 Marks

MICROBIOLOGY

(RS3 – Medical Laboratory Technology, Medical Imaging Technology and Radiotherapy Technology RS2 – Operation Theatre Technology, Cardiac Care Technology, Perfusion Technology, Renal Dialysis Technology, Respiratory Care Technology, Anaesthesia Technology and Neurosciences Technology)

Q.P. CODE: 3155

(QP contains two pages)

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. Briefly explain the various methods opted under the management of biomedical wastes.
2. Chart out the immunization schedule followed to immunize the children.
3. Write a note on pathogenic lesions caused by Dermatophytes.
4. Briefly explain the clinical manifestation of Ancylostoma duodenale.
5. Write a note on Hepatitis A virus.
6. Laboratory diagnosis of cholera
7. Acquired immunity
8. ELISA
9. Write a note on nosocomial infection.
10. Tissue culture

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

11. Germ tube test
12. Coagulase test
13. Enriched media
14. Gram staining
15. Poliomyelitis
16. ASLO
17. Radiation technique used under sterilization
18. Serological markers of Hepatitis B virus
19. Write a note on Antiseptics.
20. Black water fever
21. List the opportunistic infections in AIDS
22. Laboratory diagnosis of gonorrhoea