Rajiv Gandhi University of Health Sciences, Karnataka

I Year B.Sc. Allied Health Sciences Degree Examination – 09-May-2025

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

BIOCHEMISTRY

(RS-3 – Medical Laboratory Technology, Medical Imaging Technology and Radiotherapy Technology
RS-2 – 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. Classification of carbohydrates
2. Principle of colorimetry
3. Draw the diagram of water distillation apparatus and label
4. Write briefly on biomedical waste management
5. Functions of lipids
6. Structural classification of amino acids
7. Saturated and supersaturated solutions
8. Laboratory balances – types and uses
9. Name essential amino acids and their importance
10. Principle of centrifugation and applications

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

11. Reflux condenser
12. Biological hazards
13. SI units
14. Essential fatty acids
15. Significance of borosilicate glass
16. Composition of nucleosides and nucleotides
17. Incubator
18. Types of funnels
19. Water bath
20. Bunsen burner
21. Responsibilities of health care personnel
22. Henderson Hasselbalch equation and its application

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

23. Components of first aid kit
24. Reagent bottles
25. Define test tube and Folin Wu tube
26. Name the buffers in blood
27. **Automatic pipettes**
28. Write the diagram of Burette and Pasture pipette and their uses
29. Define cold box

Rajiv Gandhi University of Health Sciences, Karnataka

I Year B.Sc. Allied Health Sciences Degree Examination – 12-May-2025

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. Describe microscopic examination of stool
2. Describe sputum analysis
3. List the methods of hemoglobin estimation. Describe in detail about cyanmethemoglobin estimation
4. Describe in detail the principle and procedure of H and E stain
5. Explain extrinsic and intrinsic coagulation pathways with suitable diagram
6. Discuss the physical examination of urine
7. Describe preparation of 10% formalin. Write its advantages and disadvantages
8. Describe normal hematopoiesis
9. Describe biomedical waste categories and its management
10. Discuss anticoagulants used in hematology

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

11. Factors affecting fixation
12. Discuss fouchet's test
13. Types of microtomes
14. Name various body fluids
15. Explain mordants
16. Name three mounting medias
17. Write the principle and procedure of hay's test
18. Name three clearing agents
19. Tests for blood in stool
20. Name three blood group system
21. **Prothrombin time**
22. Packed cell volume

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

23. Name two causes of polyuria
24. Enlist the Transfusion Transmitted Infections
25. Name two non-bile stained ovas
26. Draw LJ Chart
27. Name three grossing instruments
28. Order of draw for blood collection
29. Uses and care of microscopes

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Rajiv Gandhi University of Health Sciences, Karnataka

I Year B.Sc. Allied Health Sciences Degree Examination - 09-May-2025

Time: Three Hours **Max. Marks: 100 Marks**

BIOCHEMISTRY

(**RS-3** – B.Sc Cardiac Care Technology, Perfusion Technology, Renal Dialysis Technology, Respiratory Care Technology, Neuro Sciences Technology, Anesthesia Technology, Operation Theatre Technology, Emergency and Trauma Care Technology)
(**RS-4** – B.Sc Medical Laboratory Technology, Medical Imaging Technology and Radiotherapy Technology)
Anesthesia and Operation Theatre Technology

Q.P. CODE: 3263

(QP contains two pages)

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. Explain the steps of urea cycle. Give its energetic. Add a note on the regulation of the cycle.

2. Describe the sources, daily requirement, biochemical functions and deficiency manifestations of iron**.**

   Or

   Give a detailed account of the β- oxidation of palmitic acid and its energetic.

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

3. Define radioactive isotopes. Discuss their applications in medical field.

4. What are Essential fatty acids (EFA)? Explain their functions and deficiency manifestations.

5. What are carbohydrates? Classify them giving suitable examples.

   Or

   What is transamination? Give the salient features of transamination reactions. Mention two transaminases of diagnostic importance.

6. Define amino acids. Explain the amino acid classification based on nutritional importance.

7. Describe the structure of t-RNA. Discuss its functions.

8. Define enzymes and coenzymes giving two examples each. Add a note on proenzymes.

9. Discuss the functions and deficiency manifestations of Niacin.

10. What is meant by Standard solution? Give the stepwise procedure for preparing glucose standard solution having strength of 100 mg/dl.

    Or

    What is pellagra? Describe the causes and symptoms.

11. What is BMR? Comment on the reference values. Discuss the factors affecting BMR.

12. Define SI units. Classify them with suitable examples.

SHORT ANSWER (Question No 15 & 20 choice) **10 x 3 = 30 Marks**

13. Calculate the molarity of concentrated HCl.

14. Normal levels for sodium, potassium and chloride in serum. Mention three causes of hyponatraemia.

15. List the indications for body fluid dilution. How is 1 in 500 serial dilution of a serum carried out?

    Or

    List the beneficial role and adverse effects of dietary fibres.

16. Draw the structure of purine and pyrimidine bases. List the minor purine and pyrimidine bases.

17. Metabolic acidosis-definition, causes and biochemical findings.

18. Absorption of carbohydrates by facilitated transport.

19. Wald's visual cycle.

20. Significance of HMP shunt pathway.
Or
Deficiency manifestations of folic acid.

21. Reasons for ordering urinary acidification test. How is it carried out?

22. Causes and management of chemical hazards in healthcare setup.

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I Year B.Sc. Allied Health Sciences Degree Examination - 12-May-2025

Time: Three Hours **Max. Marks: 100 Marks**

PATHOLOGY

(**RS-3** – B.Sc Cardiac Care Technology, Perfusion Technology, Renal Dialysis Technology, Respiratory Care Technology, Neuro Sciences Technology, Anesthesia Technology, Operation Theatre Technology, Emergency and Trauma Care Technology)
(**RS-4** – B.Sc Medical Laboratory Technology, Medical Imaging Technology and Radiotherapy Technology)
Anesthesia and Operation Theatre Technology

Q.P. CODE: 3264

(QP contains two pages)

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 the differences between benign and malignant neoplasms. Add a note on modes of carcinogenesis and ways of spread of tumors.

2. What are the anticoagulants used in a clinical laboratory? Discuss their modes of action and the tests for which they are used.
OR
What is CSF? List the indications of CSF examination and discuss the process of collection of CSF. Tabulate CSF findings in Pyogenic and Tuberculous meningitis.

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

3. What is cell injury? Discuss the types of cell injury.
4. Enumerate differences between Transudates and Exudates.
5. What is a thrombus? Explain the mechanism of thrombus formation.
OR
Discuss factors affecting wound healing.
6. What is autoimmunity? Describe the types of autoimmune disorders and give examples.
7. Define necrosis and describe patterns of tissue necrosis.
8. **Tabulate the antigens and antibodies in ABO blood groups. Explain the procedure of ABO blood grouping**
9. What is Bleeding time? Discuss the methods of estimation with their normal range.
10. **Sputum examination**
OR
Describe the positive pathological findings seen in urine sediment (microscopic examination).
11. Define inflammation. Discuss types of acute inflammation.
12. What is ESR? Explain the stages of ESR. Give the normal range.

SHORT ANSWER (Question No 15 & 20 choice) **10 x 3 = 30 Marks**

13. List any three non bile stained ova.
14. Write the principle of Benedict test.
15. **Name three body fluids**.
OR
Mention any three coagulation factors in the intrinsic pathway of coagulation cascade.

16. What is PCV? Give the normal range of PCV.
17. Explain the Major cross match done before of blood transfusions.
18. List any three signs of inflammation.
19. Mention the methods used for laboratory diagnosis of cancer.
20. Write any three types of emboli.
    OR
    Give any three examples of intracellular accumulation of substances.
21. List any three types of shock.
22. Mention types of pathology calcification with examples.

I Year B.Sc. Allied Health Sciences Degree Examination – 14-May-2025

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. Define sterilization. Explain autoclave in detail.
2. Kirby – Bauer method of antibiotic sensitivity test.
3. Laboratory diagnosis of Enteric fever.
4. Lesions caused by Streptococcus pyogenes.
5. Explain the prophylaxis of Rabies.
6. Dermatophytes.
7. Laboratory diagnosis of malaria.
8. Anaerobic culture methods.
9. Active immunity.
10. **Immunization schedule**

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

11. Acid fast stain.
12. Factors influencing the growth of bacteria.
13. Enriched media.
14. Diarrhoeagenic E.coli.
15. Draw a neat diagram of Entamoeba histolytica trophozoite and name the parts
16. VDRL test.
17. Prophylaxis of Polio
18. Gonorrhoea.
19. Define nosocomial infection with examples.
20. IgG
21. Halophilic vibrio.
22. Opportunistic infections in HIV.

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

23. Give two contributions of Louis Pasteur.
24. Hanging drop

25. Name two DNA viruses.
26. Name two methods of cultivation of viruses.
27. What is a biological vector? Give two examples.
28. Name two bacteria causing meningitis.
29. What is dimorphic fungi? Give an example.

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I Year B.Sc. Allied Health Sciences Degree Examination – 14-May-2025

Time: Three Hours **Max. Marks: 100 Marks**

MICROBIOLOGY

(**RS-3** – B.Sc Cardiac Care Technology, Perfusion Technology, Renal Dialysis Technology, Respiratory Care Technology, Neuro Sciences Technology, Anesthesia Technology, Operation Theatre Technology, Emergency and Trauma Care Technology)
(**RS-4** – B.Sc Medical Laboratory Technology, Medical Imaging Technology and Radiotherapy Technology)
Anesthesia and Operation Theatre Technology

Q.P. CODE: 3265

(QP contains two pages)

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. Describe clinical features and laboratory diagnosis of enteric fever. Add a note on prophylaxis.
2. Morphology, clinical features and laboratory diagnosis of HIV.

   OR

   Classify fungal infections based on morphology. Describe laboratory diagnosis of fungal infections.

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

3. Hot air oven.
4. Innate immunity.
5. **Laboratory diagnosis of cholera**
   Or
   Nosocomial infection
6. National Immunization Schedule.
7. Serological markers of HBV.
8. Biomedical waste management.
9. Describe different Anaerobic culture methods.
10. E. histolytica –clinical manifestations and laboratory diagnosis

    OR

    T. solium- clinical manifestations and laboratory diagnosis.
11. Laboratory diagnosis of Gonorrhea.
12. Describe IgM antibody with a neat labeled diagram.

SHORT ANSWER (Question No 15 & 20 choice) **10 x 3 = 30 Marks**

13. Name three methods of cultivation of viruses.
14. S. pneumonia: On Gram stain appears as ……..
    Catalase ……
    Optochin …….
15. Flagella

    OR

    MRSA – expand the short form. List methods of prevention of its transmission.
16. Name three Gaseous disinfectants.
17. **Give 3 examples for RNA virus**

18. Name three dimorphic fungi.

19. Define enriched media and give two examples.

20. Negative stain.
OR
Define precipitation and agglutination reaction.

21. Germ tube test.

22. Three modes of transmission of Hepatitis B virus.

I Year B.Sc. Allied Health Sciences Degree Examination - 19-May-2025

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

Basic Anatomy including Histology

(RS 3 – Medical Laboratory Technology, Medical Imaging Technology & Radiotherapy
RS2 – Operation Theatre Technology, Cardiac Care Technology, Perfusion Technology, Renal Dialysis Technology, Respiratory Care Technology, Anaesthesia Technology & Neuro Sciences Technology)

Q.P. CODE: 3151

(QP contains two pages)

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

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

1. Transitional epithelium with example
2. Hyaline cartilage with examples
3. Interior of right atrium
4. Great saphenous vein
5. Thoracic duct
6. Nasal septum
7. Right kidney
8. Histology of lymph node
9. Cavernous sinus
10. Thyroid gland

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

11. Draw neat diagram of graffian follicle.
12. Mention all the bones of upper limb.
13. Anatomical position
14. Name the branches of third part of axillary artery.
15. Median cubital vein
16. Waldeyer’s ring
17. Name the parts of male urethra.
18. Name the parts of urinary system.
19. Name the parts of digestive system.
20. Mention the fibrous joints with example.
21. Draw neat labelled diagram of histology of thyroid gland.
22. Mention the muscles of anterior compartment of arm.

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

23. Name the branches of arch of aorta.
24. Mention the parts of adult long bone.
25. Mention the parts of fallopian tube.

26. Name the ear ossicles.
27. Name the major salivary glands.
28. Name four paranasal air sinuses.
29. Name the structures passing through oesophageal opening of diaphragm.

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I Year B.Sc. Allied Health Sciences Degree Examination - 19-May-2025

Time: Three Hours **Max. Marks: 100 Marks**

BASIC ANATOMY INCLUDING HISTOLOGY

(**RS-3** – B.Sc Cardiac Care Technology, Perfusion Technology, Renal Dialysis Technology, Respiratory Care Technology, Neuro Sciences Technology, Anesthesia Technology, Operation Theatre Technology, Emergency and Trauma Care Technology)
(**RS-4** – B.Sc Medical Laboratory Technology, Medical Imaging Technology and Radiotherapy Technology)
Anesthesia and Operation Theatre Technology

Q.P. CODE: 3261

(QP contains two pages)

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

LONG ESSAYS **2 x 10 = 20 Marks**

1. **Classify synovial joints and describe in detail the hip joint**
   Or
   Classify joints with example and describe synovial joints in detail

2. Describe the gross features of uterus under the following heading-parts, position, relations, blood supply and ligaments
   OR
   Name the parts of the excretory system and describe the gross structure of the Kidney in detail

SHORT ESSAYS **10 x 5 = 50 Marks**

3. **Cubital fossa**
   Or
   Parts of growing bone with diagram
4. Draw a diagram of histology of lymph node
5. Constrictions of oesophagus
   OR
   Abdominal aorta
6. Dural folds
7. Lymphatic drainage of stomach
8. Structure of neuron
9. Tympanic membrane
10. Large intestine
    OR
    Porto caval anastomosis
11. Layers of eyeball
12. Histology of trachea

SHORT ANSWER (Question No 15 & 20 choice) **10 x 3 = 30 Marks**

13. Name the paranasal air sinuses.
14. Name opening of right atrium.
15. Name the parts of Lacrimal apparatus
    OR
    Name the parts of corpus callosum.
16. Name the parts of male reproductive system.
17. Draw the histology of hyaline cartilage.
18. Name the cranial nerves in order.

19. Spermatogenesis.
20. Muscles of tongue
    OR
    Muscles of mastication
21. Anatomical position.
22. **Great saphenous vein**

I Year B.Sc. Allied Health Sciences Degree Examination – 21-May-2025

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

PHYSIOLOGY (RS-3)

(**RS-3** – Medical Laboratory Technology, Medical Imaging Technology and Radiotherapy Technology
RS-2 – Operation Theatre Technology, Cardiac Care Technology, Perfusion Technology, Renal Dialysis Technology, Respiratory Care Technology, Anaesthesia Technology and Neurosciences Technology)

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. Define erythropoiesis and explain the stages of erythropoiesis
2. Tabulate the difference between saltatory conduction and continuous conduction
3. Define Glomerular Filtration Rate (GFR). Give its normal value. Explain any two factor regulating GFR
4. Draw and describe the visual pathway with the help of a labelled diagram
5. List and explain the actions of glucocorticoids
6. Explain the steps in spermatogenesis. Add a note on the factors that regulate spermatogenesis
7. Explain the defaecation reflex with the help of a diagram
8. With the help of a diagram explain the oxygen-haemoglobin dissociation curve. List the factors that cause the right and left shifts of the curve
9. Describe the conducting system of the heart with a labelled diagram
10. Trace the pathway for temperature

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

11. What is triple response?
12. List any three functions of the middle ear
13. Define Erythrocyte Sedimentation Rate (ESR). Write its normal value in males and females
14. Write any three functions of bile juice
15. List any three clinical features seen in type II diabetes mellitus
16. Briefly explain the milk ejection reflex with help of flow chart
17. Draw a neat diagram of the nephron and label it parts
18. List any three small intestinal movements. Explain any one
19. List any three functions of the cerebellum
20. Write any three properties of a cardiac muscle
21. What is the normal bleeding time? Name one bleeding disorder
22. Define Shock. Write any two features seen in shock

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

23. What is the normal hemoglobin value?
24. Write the name of any two anticoagulants and their uses
25. Name the pancreatic proteolytic enzymes
26. Write any two properties of a synapse
27. Define Bohr’s effect
28. Write any two actions of aldosterone
29. Write any two functions of surfactant

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Rajiv Gandhi University of Health Sciences, Karnataka

I Year B.Sc. Allied Health Sciences Degree Examination - 21-May-2025

Time: Three Hours **Max. Marks: 100**

PHYSIOLOGY

(**RS-3** – B.Sc Cardiac Care Technology, Perfusion Technology, Renal Dialysis Technology, Respiratory Care Technology, Neuro Sciences Technology, Anesthesia Technology, Operation Theatre Technology, Emergency and Trauma Care Technology)

(**RS-4** – B.Sc Medical Laboratory Technology, Medical Imaging Technology and Radiotherapy Technology)

Anesthesia and Operation Theatre Technology

Q.P. CODE: 3262

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 haemostasis. With the help of a schematic diagram, explain the intrinsic mechanism of blood coagulation
2. What are the different forms of O_2 transport in the blood? Draw and label the oxygen haemoglobin dissociation curve. List the factors that cause the right shift of the curve

   OR

   Describe the origin, course, termination and functions of the cortico-spinal tract with a labelled diagram

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

3. Define anaemia. Name two types of anaemia with their cause
4. Draw a spirogram to show the lung volumes and capacities
5. Draw a neat labelled diagram of a normal lead II electrocardiogram (ECG). Write the causes of each wave and mention any two uses of ECG

   OR

   With the labelled graph, explain the ionic basis of a nerve action potential
6. Explain the phases of regulation of secretion of gastric juice
7. Define Glomerular Filtration Rate (GFR) with its normal value. Write any two factors which influence GFR
8. Discuss the different phases of ventricular systole during cardiac cycle
9. Describe any two types of movements of small intestine and its significance
10. With the help of the diagram, explain the ovarian changes that occur during the menstrual cycle

    OR

    What is referred pain? Give any two examples of the same
11. What is the cause of Acromegaly? List the clinical features of the same
12. List the functions of middle ear

SHORT ANSWER (Question No 15 & 20 choice) **10 x 3 = 30 Marks**

13. Compare simple diffusion and facilitated diffusion with an example for each
14. Define PCV and ESR. Write the normal values
15. What is a Sarcomere? Name the contractile proteins present in the skeletal muscle

    OR

    List any two cardiovascular and respiratory changes that occur during the exercise
16. State Landsteiner's law. What is the importance of knowing the blood group?
17. Define dead space in the lungs. What are the types of dead space?
18. Define the term 'renal clearance' giving its formula
19. List three functions of cerebrospinal fluid
20. Name the hormones regulating glucose level in the blood. Write the function of any one hormone

    OR

    Write any three differences between upper motor neuron lesion and lower motor neuron lesion
21. Add a note on pregnancy immunological test
22. Name the receptors for vision and its functions. Tabulate any three differences between them

Rajiv Gandhi University of Health Sciences, Karnataka

I Year B.Sc. Allied Health Sciences Degree Examination – 24-Oct-2025

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

BASIC ANATOMY (INCLUDING HISTOLOGY)

(RS-3 – Medical Laboratory Technology, Medical Imaging Technology and Radiotherapy Technology
RS-2 – Operation Theatre Technology, Cardiac Care Technology, Perfusion Technology, Renal Dialysis Technology, Respiratory Care Technology, Anaesthesia Technology and Neurosciences Technology)

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. Classify epithelium with suitable examples
2. **Cubital fossa- boundaries and contents**
   Or
   Axillary artery course and branches
3. Uterus – parts, position and blood supply
4. Name the types of muscles. Draw a neat labelled diagram of transverse section of skeletal muscle
5. Classify synovial joints with examples
6. Describe the external features and blood supply of lung
7. Describe spermatogenesis
8. Abdominal aorta – formation, termination and branches
9. Draw a neat labelled diagram of typical spinal nerve
10. **Describe the upper end of femur**
    Or
    Pituitary Gland

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

11. Name the layers of pericardium
12. Name the bones of the vertebral column
13. Draw neat labelled diagram of nephron
14. Name the cranial nerves in order
15. Enumerate any three difference between thick skin and thin skin
16. Name the extra ocular muscles with their nerve supply
17. Name the meningeal layers of the brain
18. Name the parts and blood supply of thyroid gland
19. Name the parts of male urethra
20. Difference between serous and mucous salivary gland
21. Name the parts of the hip bone
22. Differentiate between the three types of cartilage with examples

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

23. Name the parts of small intestine
24. Define the anatomical position
25. Name the structures at hilum of kidney
26. Name the parts of fallopian tube
27. Name the parts of corpus callosum
28. Name the paranasal air sinuses
29. Name the lobes of prostate gland

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Rajiv Gandhi University of Health Sciences, Karnataka

I Year B.Sc. Allied Health Sciences Degree Examination - 24-Oct-2025

Time: Three Hours **Max. Marks: 100 Marks**

BASIC ANATOMY INCLUDING HISTOLOGY

(**RS-3** – B.Sc Cardiac Care Technology, Perfusion Technology, Renal Dialysis Technology, Respiratory Care Technology, Neuro Sciences Technology, Anesthesia Technology, Operation Theatre Technology, Emergency and Trauma Care Technology)
(**RS-4** – B.Sc Medical Laboratory Technology, Medical Imaging Technology and Radiotherapy Technology)
Anesthesia and Operation Theatre Technology

Q.P. CODE: 3261

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. Name the parts of gastrointestinal system. Describe the gross anatomy of liver.
2. **Name the parts of male reproductive system. Describe the gross anatomy of testis**.
   OR
   Name the endocrine glands and describe the thyroid gland.

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

3. Classify of joints with example.
4. Histology of skeletal muscle.
5. Median cubital vein.
   OR
   Oogenesis.
6. **Deltoid muscle**
   Or
   Arterial supply of the heart
7. **Name the bones forming and movements of shoulder joint**
   Or
   Spleen
8. Describe the cross section of kidney.
9. Bronchopulmonary segments.
10. **Positions of appendix**
    OR
    Greater omentum
11. Right atrium of the heart.
12. Transitional epithelium with example.

SHORT ANSWER (Question No 15 & 20 choice) **10 x 3 = 30 Marks**

13. Name the parts of pancreas.
14. Name the coverings of brain.
15. Name the branches of arch of aorta.
    OR
    Name any three lymphoid organs.
16. Name the parts of brain stem.
17. Name the lobes and fissures of right lung.
18. Histology of trachea.
19. Name any three muscles of upper limb.
20. Draw the structure of a nephron.
    OR
    Name the muscles of mastication.
21. Name the contents of spermatic cord.
22. Name the ear ossicles.

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Rajiv Gandhi University of Health Sciences, Karnataka

I Year B.Sc. Allied Health Sciences Degree Examination – 27-Oct-2025

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

PHYSIOLOGY (RS-3)

(**RS-3** – Medical Laboratory Technology, Medical Imaging Technology and Radiotherapy Technology
RS-2 – Operation Theatre Technology, Cardiac Care Technology, Perfusion Technology, Renal Dialysis Technology, Respiratory Care Technology, Anaesthesia Technology and Neurosciences Technology)

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. Trace the origin, course, termination and functions of pathway for fine touch
2. Explain the ventricular events of cardiac cycle in detail
3. Illustrate the stages of erythropoiesis. Add a note on the factors regulating erythropoiesis
4. Explain the mechanism of coagulation
5. Explain in detail test for pregnancy
6. Explain defecation reflex in detail
7. Explain how body temperature is regulated in a cold climate
8. Define a Sarcomere. Explain excitation contraction coupling in detail
9. Functions of kidneys
10. Explain the neural regulation of respiration with the help of diagram

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

11. Write any three functions of thalamus
12. Write the functions of large intestine
13. Write the functions of surfactants
14. Write three differences between Dwarfism and Cretinism
15. What is Cushing's syndrome?
16. Define shock. Add a note on hypovolemic shock
17. Explain upper motor neuron lesion and lower motor neuron lesion
18. Explain micturition reflex
19. Define hypoxia and any three types
20. Write any three functions of sympathetic nervous system
21. Landsteiner's law of blood grouping
22. Name the placental hormones. Write the functions of each

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

23. What is Hemophilia?
24. What is myasthenia gravis?
25. What is the normal serum calcium level in plasma?
26. Write any two functions of basal ganglia
27. What are the main features of gigantism?
28. What is haemostasis?
29. Write any two functions of skin

Rajiv Gandhi University of Health Sciences, Karnataka

I Year B.Sc. Allied Health Sciences Degree Examination - 27-Oct-2025

Time: Three Hours **Max. Marks: 100 Marks**

PHYSIOLOGY

(**RS-3** – B.Sc Cardiac Care Technology, Perfusion Technology, Renal Dialysis Technology, Respiratory Care Technology, Neuro Sciences Technology, Anesthesia Technology, Operation Theatre Technology, Emergency and Trauma Care Technology)
(**RS-4** – B.Sc Medical Laboratory Technology, Medical Imaging Technology and Radiotherapy Technology)
Anesthesia and Operation Theatre Technology

Q.P. CODE: 3262

(QP contains two pages)

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. Classify white blood cells. Describe their morphological features with diagrams and list their functions.

2. What are the physiological effects of growth hormones? Describe the effects excess and deficiency of growth hormone.

   OR

   Define Blood Pressure. Explain regulation of blood pressure.

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

3. What is the chemical nature of surfactant? Explain its role as pulmonary functions.
4. Describe the endometrial and hormonal changes during menstrual cycle.
5. Discuss the phases of ventricular systole and diastole in cardiac cycle.

   OR

   Trace the pathway for pain sensation.

6. Define GFR. What is the normal value of GFR? What are the factors that influence GFR?
7. Trace the taste pathway.
8. Explain Lymph formation. Enumerate the functions of lymph.
9. Cause and features of Parkinson's disease.
10. Name the hormones secreted by the Islets of Langerhans. Describe any three physiological actions of insulin.

    OR

    Functions of cerebellum.

11. With the help of a diagram, briefly describe the defecation reflex.
12. Describe the body mechanisms by which it adjusts cold environment.

SHORT ANSWER (Question No 15 & 20 choice) **10 x 3 = 30 Marks**

13. Functions of plasma proteins.
14. Enumerate the basis of classification of nerve fibers.
15. Enumerate the functions of bile salts.

    OR

    Define Menopause. List three characteristic features of menopause.

16. Define Shock and enumerate the types of shock.
17. What is Cyanosis? What are its types?
18. **What is referred Pain? Give an example**
19. Describe Cushing's syndrome.
20. Define urea clearance. What is its normal values?

    OR

    Define a Sarcomere with the help of a diagram.

21. Name any two GI hormones. List any one function of each.
22. Name the components of reflex arc.

Rajiv Gandhi University of Health Sciences, Karnataka

I Year B.Sc. Allied Health Sciences Degree Examination – 29-Oct-2025

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

BIOCHEMISTRY

(RS-3 – Medical Laboratory Technology, Medical Imaging Technology and Radiotherapy Technology
RS-2 – 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 balances – types and uses
2. What are monosaccharides? Write the name and structure of important monosaccharides
3. Principles of centrifugation and types of centrifuges
4. What are nucleosides and nucleotides? Give examples
5. Water distillation apparatus
6. Explain physical and chemical hazards
7. Classification of lipids
8. Functions of carbohydrates
9. Functions of Amino acids
10. Write the diagram of incubator and mention it uses in laboratory

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

11. Write the diagram of different flasks used in laboratory
12. First aid kit – components
13. Uses of Petri dish measuring cylinder and desiccators
14. Henderson – Hasselbalch's equation
15. Functions of lipids
16. Preparation of 2N sulfuric acid
17. Essential fatty acids
18. Name aromatic amino acid
19. Applications of radioisotopes
20. pH meter
21. Beer - Lamberts Law and its limitations
22. Reflux condenser

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

23. Bicarbonate buffer
24. Bunsen burner
25. Define valency with example
26. Essential amino acids
27. Significance of borosilicate glass
28. Normal level of arterial blood PO_2 and PCO_2
29. Define test tube and Folin Wu tube

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Rajiv Gandhi University of Health Sciences, Karnataka

I Year B.Sc. Allied Health Sciences Degree Examination – 03-Nov-2025

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. Autoclave
2. Bacterial flagella
3. Bacterial growth curve
4. Electron microscope
5. Antimicrobial susceptibility testing
6. Widal test
7. Standard tests for syphilis
8. Lab diagnosis of parasitic infections
9. Lab diagnosis of hepatitis B viral infection
10. Candidiasis

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

11. Pasteurization
12. Fimbriae
13. Differential media
14. Inspissation
15. Killed vaccines
16. Control of hospital acquired infections
17. Coagulase test
18. Lab diagnosis of Gonorrhoea
19. Name the diarrheagenic E. coli.
20. Quantitative Buffy Coat (QBC)
21. Western Blot test
22. Cryptococcosis – laboratory diagnosis

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

23. Name any two gases used in sterilization.
24. Name any two selective media.
25. Name any two antigen-antibody reactions.
26. Name any two motile bacteria.
27. Draw a neat, labeled diagram of egg of Hookworm.
28. Mucormycosis
29. Name any two acid-fast organisms.

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Rajiv Gandhi University of Health Sciences, Karnataka

I Year B.Sc. Allied Health Sciences Degree Examination - 29-Oct-2025

Time: Three Hours **Max. Marks: 100 Marks**

BIOCHEMISTRY

(**RS-3** – B.Sc Cardiac Care Technology, Perfusion Technology, Renal Dialysis Technology, Respiratory Care Technology, Neuro Sciences Technology, Anesthesia Technology, Operation Theatre Technology, Emergency and Trauma Care Technology)
(**RS-4** – B.Sc Medical Laboratory Technology, Medical Imaging Technology and Radiotherapy Technology)
Anesthesia and Operation Theatre Technology

Q.P. CODE: 3263

(QP contains two pages)

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. Give the recommended daily allowance, dietary sources and functions of calcium. Add a note on regulation of serum calcium level.
2. Discuss in detail beta oxidation of fatty acids.
   OR
   Classify carbohydrates with example. Add a note on structure of starch.

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

3. **What are Phospholipids made up of? List their functions**
4. Functions of proteins with example.
5. Structure of tRNA.
   OR
   Regulation of plasma glucose level during fasting state.
6. Basal metabolic rate.
7. Outline the steps of urea cycle.
8. Sources, RDA and functions of iron.
9. functions and deficiency manifestations of vitamin A.
10. Functions and deficiency manifestation of Niacin.
    OR
    Blood buffers.
11. Creatinine clearance test.
12. Define normality. Explain how to prepare 1N HCl solution.

SHORT ANSWER (Question No 15 & 20 choice) **10 x 3 = 30 Marks**

13. Define balanced diet. Name the energy providing nutrients of balanced diet.
14. Write any three applications of radioactive isotopes.
15. Saturated and supersaturated solutions.
    OR
    Define Essential fatty acids. Give examples.
16. Digestion of disaccharides.
17. Nucleotides present in DNA with their composition.
18. Name the different ketone bodies.
19. Oxidative Deamination reaction.
20. How many ATPs are produced when a molecule of glucose is completely oxidized to carbon dioxide?
    OR
    Define calorific value. Mention calorific value of carbohydrates and fats.
21. Define proenzymes. Give two examples.
22. Role of HCl in digestion.

RGUHS THEORY EXAMINATION OCTOBER-2025

NODAL CENTRE:CAUVERY INSTITUTE OF HEALTH SCIENCES, MYSORE

Date: 29-10-2025 **Session: Morning**

CORRECTIONS

Subject: Biochemistry **QP Code:3263**

Q. No	QUESTION Appeared As	QUESTION CORRECTED As	REASON FOR CORRECTIONS
3	What are Phospholipids made up? List their functions	What are Phospholipids made up of? List their functions	Spelling mistake

Rajiv Gandhi University of Health Sciences, Karnataka

I Year B.Sc. Allied Health Sciences Degree Examination - 31-Oct-2025

Time: Three Hours **Max. Marks: 100 Marks**

PATHOLOGY

(**RS-3** – B.Sc Cardiac Care Technology, Perfusion Technology, Renal Dialysis Technology, Respiratory Care Technology, Neuro Sciences Technology, Anesthesia Technology, Operation Theatre Technology, Emergency and Trauma Care Technology)
(**RS-4** – B.Sc Medical Laboratory Technology, Medical Imaging Technology and Radiotherapy Technology)
Anesthesia and Operation Theatre Technology

Q.P. CODE: 3264

(QP contains two pages)

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. What is Virchow's triad? Discuss the mechanism of thrombus formation and the fate of a thrombus.
2. Explain the methods of collection and preservation of Urine samples. Add a note on steps of urine examination. Write in detail physical examination of urine.
   OR
   What is bleeding time? Discuss the methods of estimating BT with their normal range. List the causes of prolonged BT.

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

3. What are Anticoagulants? List the anticoagulants used in the Clinical Laboratory with their mode of action and mention tests for which they are used.
4. Explain the principle and procedure of Prothrombin time. List causes of prolonged PT.
5. Tabulate the Stool examination findings differentiating Amoebic and Bacillary dysentery.
   OR
   List the methods of Hemoglobin estimation. What is normal hemoglobin range in adults?
6. Define ESR. Write the procedure and stages of ESR.
7. Tabulate the Antigens and Antibodies present in the ABO blood groups.
8. Define inflammation. Describe the types, signs and outcomes of inflammation.
9. Explain the types of pathological calcification and give examples.
10. Define necrosis. Discuss the types of tissue necrosis.
    OR
    Discuss the clinical manifestations and Laboratory diagnosis of Systemic Lupus Erythematosus.
11. Enumerate modes of Carcinogenesis with examples.
12. List the differences between Transudate and Exudate.

SHORT ANSWER (Question No 15 & 20 choice) **10 x 3 = 30 Marks**

13. Mention Ketone bodies and the test done to detect them.
14. List any three fluids and their Anatomical sites.
15. What is a vacutainer? Give two advantages of blood collection using vacutainers.
    OR
    List any three casts seen in urine sediment.
16. What is PCV? Give the normal range.
17. Mention sputum findings in bronchial asthma.
18. Mention three types of Emboli.
19. Enumerate any three signs of inflammation.
20. Staging cancer.
    OR
    What is edema? List two causes of edema.

21. Mention the ways of spread of tumors.

22. List three types of shock.

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I Semester B.O.T Degree Examination – 10-Nov-2025

Time: Three Hours **Max. Marks: 100 Marks**

Human Anatomy – I (RS)

Q.P. CODE: 3411

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. Define connective tissue
2. Name the parts of respiratory system
3. Define joints

SHORT ESSAYS (Answer any Ten) **10 x 5 = 50 Marks**

4. Difference between small and large intestine
5. **Histology of thick skin**
6. Explain the parts of fallopian tube
7. blood supply of heart
8. Inguinal canal
9. Development of bone
10. Hyaline cartilage
11. **Supports of uterus**
12. Fertilization
13. **External features of stomach**
14. Development of blood vessels
15. Pericardium

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

16. Name the joints of thorax
17. Name the muscles of respiration
18. Development of skin
19. **Contents of mediastinum**
20. Coverings of kidney
21. Name the parts of gall bladder
22. **Name the openings of right atrium**
23. Applied anatomy of urinary bladder
24. Covering of testis
25. Parts of long bone
26. Pancreatitis
27. **Sternum**

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Rajiv Gandhi University of Health Sciences, Karnataka

I Year B.Sc. Allied Health Sciences Degree Examination - 03-Nov-2025

Time: Three Hours **Max. Marks: 100 Marks**

MICROBIOLOGY

(**RS-3** – B.Sc Cardiac Care Technology, Perfusion Technology, Renal Dialysis Technology, Respiratory Care Technology, Neuro Sciences Technology, Anesthesia Technology, Operation Theatre Technology, Emergency and Trauma Care Technology)
(**RS-4** – B.Sc Medical Laboratory Technology, Medical Imaging Technology and Radiotherapy Technology)
Anesthesia and Operation Theatre Technology

Q.P. CODE: 3265

(QP contains two pages)

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. Draw neat labelled diagram of bacterial cell. Give detailed account of Ultrastructure of bacterial cell.
2. Define enteric fever. Describe the morphology and clinical manifestations caused by S.typhi. add a note on laboratory diagnosis of enteric fever.
   OR
   Draw neat labelled diagram of structure of HIV. Add a note on laboratory diagnosis of HIV.

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

3. Contributions of Robert Koch.
4. Acid fast staining.
5. Filteration.
   OR
   Radiation.
6. Immunization schedule.
7. Atypical Mycobacteria.
8. Laboratory diagnosis of Cholera.
9. Laboratory diagnosis of intestinal amoebiasis.
10. Standard test for Syphilis.
    OR
    Hepatitis E virus.
11. Hepatitis B viral markers.
12. Laboratory diagnosis of Cryptococcosis.

SHORT ANSWER (Question No 15 & 20 choice) **10 x 3 = 30 Marks**

13. Liquid culture.
14. Name any three non-bite stained ova.
15. Name any three uses of filtration.
    OR
    Name any three acid fast bacilli.
16. Name any three gram positive bacteria.
17. Name any three organisms causing hospital acquired infection.
18. Tyndallisation.
19. Draw neat labeled diagram of hot air Oven.
20. Cholera red reaction.
    OR
    Name any three medias for culturing fungi.
21. Define transport media. Give two examples.
22. Pasteurization.