Rajiv Gandhi University of Health Sciences, Karnataka

I Year B.Sc. Allied Health Sciences Degree Examination - 04-May-2026

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. Describe the Dorsum of Tongue. Name its extrinsic muscles.
2. Describe the arterial supply of superolateral surface of cerebral hemisphere.
3. Describe the formation, course and termination of portal vein.
4. Name the major salivary glands. Describe the histology of submandibular salivary gland.
5. Describe the arch of aorta and give its branches.
6. Describe the surfaces, borders and blood supply of stomach.
7. Describe the interior of right atrium of heart.
8. Describe the surfaces, borders and anterior relations of left kidney.
9. Describe the location and histology of spleen.
10. Describe the parts and supports of uterus.

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

11. Tympanic membrane
12. Uterine tube
13. Histology of compact bone
14. Spermatogenesis
15. Stomach bed
16. Bronchopulmonary segments of left lung
17. Transitional epithelium
18. Porta hepatis
19. Epiglottis
20. Blood supply of thyroid gland
21. Histology of ureter
22. Broad ligaments of uterus

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

23. Name the quadriceps muscles.
24. Name any two branches of external carotid artery.
25. Name any two intrinsic muscles of larynx.
26. Name the muscles of mastication.
27. Name the paranasal air sinuses.
28. Name the cranial nerves attached to Medulla oblongata.
29. Name the parts of Pancreas.

Rajiv Gandhi University of Health Sciences, Karnataka

I Year B.Sc. Allied Health Sciences Degree Examination - 04-May-2026

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 urinary system and describe the gross anatomy of kidney in detail.
2. Describe the position, external features and blood supply of heart in detail.

   OR

   Name the parts of central nervous system. Describe the functional areas of cerebrum.

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

3. Spermatogenesis.
4. Portal vein
5. Thoracic duct.

   OR

   Draw a neat labelled diagram of a neuron.
6. Extraocular muscles and their nerve supply.
7. Great saphenous vein - formation, termination and tributaries.
8. Histology of lymph node.
9. Classification of epithelial tissue.
10. Parts and blood supply of stomach.

    OR

    Lateral wall of nose.
11. Difference between small and large intestine.
12. Parts and blood supply of thyroid gland.

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

13. Name the tarsal bones.
14. Histology of compact bone.
15. Name the branches of abdominal aorta.

    OR

    Name the cranial nerves in order.
16. Name the parts of pharynx.
17. Name the paranasal air sinuses.
18. Name the structure at the hilum of lung
19. Name the layers of thin skin.
20. Name any three endocrine glands.

    OR

    Median cubital vein.
21. Name the parts of fallopian tube.
22. Name the structure passing through major openings of diaphragm.

Rajiv Gandhi University of Health Sciences, Karnataka

I Year B.Sc. Allied Health Sciences Degree Examination – 06-May-2026

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. Enumerate movements of small intestine. Describe any two
2. Describe neuro-endocrine reflex of oxytocin
3. State landsteiners law of blood grouping. Add a note on erythroblastosis foetalis
4. Describe action of parathyroid hormone
5. Draw ECG and explain electrocardiogram with waves and the cause of each wave
6. Define a reflex. Draw the reflex arc. Discuss any three properties of reflex
7. With a neat labelled diagram, explain the defaecation reflex
8. Secondary sexual characters in females
9. Neural regulation of respiration
10. Explain Renin angiotensin aldosterone mechanism

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

11. Define oxygen dissociation curve. Add a note on factors affecting curve
12. Give normal values – a) RBC b) WBC c) Platelets
13. Define a) Intra pleural pressure b) Intra alveolar pressure c) Transpulmonary pressure
14. Difference between diabetes mellitus and diabetes insipidus
15. Define and classify immunity
16. Define jaundice. Name three types of jaundice
17. Define cardiac output. Give normal value
18. Function of cerebellum
19. Function of hormone ADH
20. Stages of spermatogenesis
21. Trace the taste pathway
22. Write any three functions of cerebrospinal fluid

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

23. Define GFR. Give normal value
24. Function of saliva
25. Contraceptive methods in female
26. What is hyaline distress syndrome?
27. Define blood pressure. Give its normal value
28. Define hypoxia. Classify types of hypoxia
29. Draw neat labelled diagram of neuron

Rajiv Gandhi University of Health Sciences, Karnataka

I Year B.Sc. Allied Health Sciences Degree Examination - 06-May-2026

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. With the labelled diagram of the neuromuscular junction of the skeletal muscle, list the steps of transmission of electrical impulse across it
2. Define blood pressure with its normal value. With a diagram, explain the long-term regulation of the arterial blood pressure

   OR

   Define menarche and menopause. With the help of the diagram, describe the phases of the menstrual cycle with its hormonal basis

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

3. Classify white blood cells. Draw the structure of neutrophil and write its function
4. What is a Sarcomere? Draw diagrams to compare the Sarcomere at rest and during muscle contraction
5. Define cardiac output with its normal value. Explain any two factors which regulate it

   OR

   What is deglutition? Describe the second stage of deglutition
6. Classify hypoxia. Give a cause for each type of hypoxia
7. What is cross matching of blood? Mention three dangers of mismatched blood transfusion
8. With the help of a urinary bladder innervation, describe the micturition reflex
9. Describe the milk ejection reflex (Neuroendocrine reflex) mediated by oxytocin
10. Define synapse. Describe any three properties of the same

    OR

    Draw the diagrams to show how the image formation is altered in myopia. How is it corrected?
11. What is spermatogenesis? Explain the stages of spermatogenesis. Write the role of any one factor which regulates it
12. Draw the dorsal column pathway. Name two sensations carried by the tract

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

13. Define active and passive transport with an example for each
14. What are anticoagulants? Give an example of an in-vivo and invitro anticoagulant
15. List three differences between I and II heart sound

    OR

    Draw and label the structure of a neuron. What is meant by salutatory conduction and its significance?
16. Define vital capacity. Give its normal value
17. Write the composition and two functions of saliva
18. What is artificial kidney? What is the indication for it?
19. Write three differences between diabetes insipidus and diabetes mellitus

20. What is deafness? What are the types of deafness?

OR

Tabulate the differences between isotonic and isometric muscle contraction. Give an example for each

21. Name three contraceptive methods in female
22. Draw and label the components of a reflex arc

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Rajiv Gandhi University of Health Sciences, Karnataka

I Year B.Sc. Allied Health Sciences Degree Examination - 08-May-2026

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. Describe the sources, daily requirement, biochemical functions and deficiency manifestations of thiamine.

2. Explain glycogenolysis and add a note on the regulation. Discuss the enzyme deficiency and clinical features of Von-Gierke's disease and McArdle's disease.

   Or

   Discuss the steps of urea cycle. Give the energetic and add a note on the regulation of the cycle.

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

3. What are enzymes? Classify them giving suitable examples.

4. Saturated and unsaturated fatty acids - definition, sources and examples.

5. Define peptides. How are they formed? Discuss the functions of any three biologically important peptides.

   Or

   List the major substrates for gluconeogenesis. How is glucose synthesized from lactate?

6. What is pellagra? Describe the causes and symptoms.

7. Define anaerobic glycolysis and discuss its significance. Explain the formation of lactate from puruvate.

8. Define Monosaccharides. Classify them based on carbon atoms and functional groups giving suitable examples.

9. Explain the causes, biochemical manifestations, clinical symptoms and treatment of two extreme forms of protein energy malnutrition.

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

    Or

    Glycolysis

11. Write the general structure of an amino acid. Classify amino acids based on polarity giving suitable examples.

12. What are dietary fibres? Give an account of their beneficial role and the adverse effects.

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

13. Give the stepwise procedure for preparing 100ml of 1 NH_2SO_4.

14. Define alkalosis. What are the causes and biochemical findings in metabolic alkalosis?

15. Regulation of blood glucose.
    Or
    Digestion of proteins.

16. Name different tests used to assess kidney function.

17. Emulsification of lipids.

18. Structure and function of rRNA.

19. Define variable valency. Explain variable valency of two compounds.

20. Causes and disorders of iron toxicity.
    Or
    Role of carnitine in the oxidation of fatty acids.

21. Radioactive isotopes.

22. Derive Henderson-Hasselbalch's equation.

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Rajiv Gandhi University of Health Sciences, Karnataka

I Year B.Sc. Allied Health Sciences Degree Examination – 13-May-2026

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 flagella
2. Hot air oven
3. Selective media
4. Sterilization by radiation
5. Chemicals used in disinfection
6. Active immunity
7. Prevention and control of Nosocomial infection
8. Leptospira – disease caused and laboratory diagnosis
9. Clinical manifestation of Plasmodium vivax
10. Compound microscope

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

11. Lab diagnosis of Shigellosis
12. Draw a neatly labeled diagram of Embryonated egg. List the uses of its parts for viral culture.
13. Kirby – Bauer disc diffusion method
14. Concentration of stool sample
15. Name three RNA viruses.
16. Tissue culture
17. Cryptococcosis
18. Specimen collection for laboratory diagnosis of urinary tract infection
19. Laboratory diagnosis of Gonorrhoea
20. Ascaris lumbricoides – disease caused
21. KOH mount
22. Hepatitis A virus – clinical manifestation

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

23. Name malarial parasites
24. Draw a neat, labeled diagram of HIV.
25. Bacterial Fimbriae
26. Name four serological reactions.
27. Name four viral vaccines.
28. Name four modes of transmission of infections.
29. Draw a neat, labeled diagram of Mucor.

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Rajiv Gandhi University of Health Sciences, Karnataka

I Year B.Sc. Allied Health Sciences Degree Examination - 11-May-2026

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. Describe collection, preservation and processing of CSF.
2. Describe various methods of haemoglobin estimation.

   OR

   Define Neoplasia. List the differences between benign and malignant neoplasms. Add a note on modes of spread of tumors.

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

3. Physical examination of urine.
4. Anti-coagulants used in haematology.
5. Define Necrosis and list the types with examples.

   OR

   List blood grouping methods. Explain any one.
6. Definition and estimation of ESR.
7. Types of cell injury.
8. Mechanism of thrombus formation.
9. Differences between Exudate and Transudate.
10. Laboratory diagnosis of cancers.

    OR

    Definition and types of shock.
11. Factors affecting wound healing.
12. Define PCV, explain any one method of estimation.

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

13. Name three ova found in feces.
14. Name three preservatives used for urine.
15. Define bleeding and clotting times.

    OR

    List three transfusion reactions.

16. **Name three types of Embolism**
17. Define metaplasia and give an example.
18. Laboratory diagnosis of SLE.
19. Name three malignant neoplasms.
20. Definition and examples of infarction.
    OR
    Fatty change.
21. Cellular constituents of blood.
22. Dystrophic calcification.

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Rajiv Gandhi University of Health Sciences, Karnataka

I Year B.Sc. Allied Health Sciences Degree Examination - 13-May-2026

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. Define disinfection. Name the properties of an ideal disinfectant. Give detailed account of applications of commonly used disinfectants in hospital. Add a note on testing of disinfectants.

2. Name the malarial parasites infecting man. Describe the clinical manifestations of Plasmodium falciparum. Add a note on laboratory diagnosis of malaria.
   OR
   Describe the morphology and clinical manifestations caused by Treponema pallidum. Add a note on laboratory diagnosis of syphilis.

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

3. Draw a neat labeled diagram of compound microscope. Explain the parts and uses.
4. **Gram staining technique**
   Or
   Bacterial growth curve
5. Autoclave.
   OR
   Nosocomial infections.
6. Coagulase test.
7. Non-suppurative complications of streptococcus pyogenes.
8. Morphology of E.histolytica.
9. Prophylaxis of poliomyelitis.
10. Laboratory diagnosis of viral infections.
    OR
    Infections caused by Candida albicans.
11. Coagulase negative staphylococcus.
12. Bacterial cell wall.

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

13. Color coding of biomedical waste.
14. Draw neat labeled diagram of microfilaria.
15. Define vaccine. Name any two bacterial vaccines.
    OR
    Significant bacteriuria.
16. Name any three parasites causing anaemia.
17. Define antibody. Name any three of immunoglobulins.
18. Name the sterilization controls used in hot air oven.
19. Name any three gram negative bacilli.
20. Name any three dermatophytes
    OR
    Edward Jenner.
21. Define biological vector. Give two examples.
22. Name any three Hepatitis Viruses.

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