# Rajiv Gandhi University of Health Sciences, Karnataka

I Year B.Sc. Allied Health Sciences Degree Examination – SEP-2017

**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. Describe the Thyroid gland under the following headings – parts, relations and blood supply.
2. Describe the boundaries and contents of femoral triangle.
3. Describe the Pancreas under the following headings – parts, external features and blood supply
4. Describe the Femoral artery under the following headings – origin, termination, course and branches
5. Describe the Parotid gland under the following headings = surfaces, borders, relations and nerve supply.
6. Arch of Aorta

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

23. Name four tarsal bones.
24. Waldeyer's lymphatic ring
25. Name the bone cells.
26. Anatomical position of the body
27. Name the muscles of mastication
28. Name the tributaries of Coronary sinus.
29. Hilum of kidney

7. Classify Dural venous sinuses and add a note on cavernous sinuses.
8. Describe the gross anatomy of Ovary.
9. Describe nerve supply of Tongue.
10. Mediastinal surface of right lung and left lung with diagram

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

11. Histology of thin skin
12. Implantation
13. Greater omentum
14. Salient features of cervical vertebrae
15. Histology of transverse section of Skeletal muscle
16. Histology of Elastic cartilage



17. Pseudostratified epithelium
18. Trigone of bladder
19. Contents of Middle ear cavity
20. Blood supply of stomach
21. Facial artery and its branches
22. Ligaments of the Knee joint

# Rajiv Gandhi University of Health Sciences, Karnataka

I Year B.Sc. Allied Health Sciences Degree Examination – SEP 2017

**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)

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Draw neat, labeled diagrams wherever necessary

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

1. Describe the functions of pancreatic juice.
2. Junctional tissue of the heart
3. Referred pain
4. Trace the visual pathway.
5. Micturition reflex
6. Function of middle ear
7. Milk ejection reflex
8. Explain the stages of Erythropoiesis.
9. Stages of deglutition
10. Rennin-angiotensin mechanism

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

11. Brief note on surfactant
12. Functions of blood
13. Stages of spermatogenesis
14. Describe the phases of gastric secretion.
15. Functions of plasma protein
16. Plot the graph showing the pressure changes during ventilation.
17. Movements of small intestine
18. Functions of kidney
19. Describe any two types of hypoxia.
20. Explain the electrocardiogram (ECG) with waves and intervals.
21. Functions of saliva
22. Errors of refraction

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

23. Heart sounds
24. Name various lung volumes and capacities.
25. Name the components of reflex arc.
26. Define Compliance. Mention a condition in which it is increased.
27. Name four hormones of anterior pituitary gland.
28. Define GFR. Give normal value.
29. Saltatory conduction

# Rajiv Gandhi University of Health Sciences, Karnataka

I Year B.Sc. Allied Health Sciences Degree Examination – SEP-2017

**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. Explain the principle and working of water distillation apparatus with diagram.
2. Write about the general laboratory safety measures while working in a laboratory.
3. Write the principle and working of a pH meter.
4. Write the types of weighing balances and add a note on double pan balance.
5. Define Beer Lambert's law and write its limitations.
6. Define and classify lipids. Add a note on its functions.
7. Define normality. Explain the preparation of a) 0.1N NaoH b) 0.1N HCI from 1N HCI.
8. What is the pH of blood? Name the blood the buffers and explain bicarbonate buffer system for pH regulation.
9. Classify carbohydrates with example and write the functions.
10. Hot air oven – principle, components, uses, care and maintenance

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

11. Significance of borosilicate glass
12. Deep freezers and cold box
13. Define SI units with example.
14. Define essential fatty acids with example.
15. What are solutions? Classify them with suitable examples.
16. Define salts and classify them.
17. Biomedical waste management
18. Applications of radioactive isotopes
19. Components of first aid kit
20. Add a note on biological hazards.
21. Types of pipettes and their uses
22. Write the Principle of centrifugation and write the types of centrifuges.

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

23. Define a) Folin Wu tube b) Test tube
24. Write the use of dessicator.
25. Magnetic stirrer
26. Difference between nucleoside and nucleotide
27. Define valency and give one example.
28. Calculate the molarity of concentrated HCI
29. Indicator with example

# Rajiv Gandhi University of Health Sciences, Karnataka

I Year B.Sc. Allied Health Sciences Degree Examination – SEP-2017

**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 necessaryry

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

1. Define Sterilization. Discuss in detail about sterilization by moist heal above 100° C.
2. Laboratory diagnosis of Ancylostoma duodenale infection
3. Laboratory diagnosis of Cholera
4. Mechanism of Innate immunity
5. Bacterial Flagella
6. Write a note on disease caused by Rabies Virus.
7. Explain in detail about different methods of transmission of infection.
8. Write a note on Antibiotic sensitivity test.
9. Write a note on Dermatophytosis
10. Anaerobic culture methods

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

11. Antistreptolysin O Test
12. Enrichment media
13. Streak culture method
14. Differences between Active immunity and passive immunity (Any three)
15. Serological Markers of Hepatitis B virus
16. KOH mount preparation
17. List the opportunistic infections in AIDS (any three).
18. Morphology of E. histolytica
19. VDRL Test
20. Disease produced by Staphylococcus aureus (any three).
21. Name any 3 contributions of Louis Pasteur
22. Draw a neat labeled diagram HIV

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

23. Name 2 acid fast bacteria
24. Name 2 Indicator media
25. Name 2 parasites causing anaemia
26. Name 2 Antigen – Antibody reactions
27. Name 2 skin antiseptics
28. Name 2 Arboviral infections
29. Name 2 opportunistic mycoses

# Rajiv Gandhi University of Health Sciences, Karnataka

I Year B.Sc. Allied Health Sciences Degree Examination - MAR/APR 2017

**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. Name the parts of thyroid gland. Describe its histology.
2. Describe the blood supply and nerve supply of Nasal septum.
3. Describe the arterial supply of heart.
4. Define the Bronchopulmonary segments. Describe the segments of right lung.
5. Describe the location and histology of Palatine tonsil.
6. Classify the dural venous sinuses. Add a note on superior sagittal sinus.
7. Name all the synovial joints. Give one example for each.
8. Name the parts of pancreas. Give its microscopic anatomy.
9. Describe the parts and ligaments of uterus.
10. Classify the bones according to shape with one example for each.

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

11. Actions of Recti muscles of eye ball
12. Histology of medium sized artery
13. Circle of Willis
14. Cornea
15. Visceral relations of spleen
16. Ovarian follicle
17. Sensory nerve supply of tongue
18. Vermiform appendix
19. Hilum of left lung
20. Microscopic anatomy of suprarenal gland
21. Portosystemic anastomosis
22. Nasopharynx

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

23. Name the parts of brain stem.
24. Name any two extrinsic muscles of tongue.
25. Name the muscles of anterior compartment of leg.
26. Name the carpal bones (any two).
27. Name the terminal branches of common carotid artery.
28. Name the parts of small intestine.
29. Name the structures in the Hilum of left kidney.

# Rajiv Gandhi University of Health Sciences, Karnataka

I Year B.Sc. Allied Health Sciences Degree Examination – APRIL 2017

**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 Blood Transfusion. Discuss the hazards of mismatched blood transfusion.
2. Tabulate the differences between the, I and II heart sounds.
3. Discuss briefly the ionic basis of a nerve action potential.
4. Functions of saliva
5. Define anemia. Classify anemia with examples.
6. Chemical regulation of respiration
7. Explain the process of spermatogenesis.
8. With the help of a diagram, briefly describe the micturition reflex.
9. Functions of hypothalamus
10. Enumerate the actions of the hormone insulin.

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

11. Trace the pathway of pain sensation.
12. Functions of platelets
13. Enumerate the properties of cardiac muscle. Define all or none law.
14. Organ of Corti
15. State Starling's law of force of contraction.
16. Contraceptive methods in females
17. Draw a Spirogram and label it.
18. What is an anti-coagulant? Write the mechanism of action of any one.
19. Functions of saliva
20. Vanden Berg's test for jaundice
21. Placental hormones
22. Functions of CSF

# Rajiv Gandhi University of Health Sciences, Karnataka

I Year B.Sc. Allied Health Sciences Degree Examination – APRIL 2017

**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. Define molarity. Explain how to prepare 1M NaOH solution.
2. Write the components, working and uses of water distillation apparatus.
3. Define and classify lipids. Add a note on functions.
4. Principle, components and uses of pH meter
5. Types, uses and care of laboratory balances
6. Define Beer-Lambert law. Write its limitations.
7. Henderson-Hasselbalch equation and its applications
8. Different types of pipettes and their uses
9. Laboratory safety measures
10. Definition and classification of SI units with example

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

11. Significance of Borosilicate glass
12. Write uses of: (a) Dessicator (b) Standard flask (c) Bunsen burner.
13. What are buffers? Give two examples.
14. Classify aminoacids based on nutritional requirement.
15. Biomedical waste management
16. What are hygroscopic substances? Give two examples.
17. Biological hazards
18. Principle of centrifugation technique
19. Define (a) Test tube (b) Cuvette (c) Folin-Wu tube
20. Care and maintenance of (i) Water bath (ii) Oven (iii) Refrigerator
21. Types of racks and their uses in laboratory
22. What is standard solution? How to prepare 2% glucose standard solution?

# Rajiv Gandhi University of Health Sciences, Karnataka

I Year B.Sc. Allied Health Sciences Degree Examination – APRIL 2017

**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 process of decalcification and various agents used.
2. Examination of cerebrospinal fluid
3. ESR
4. Name the different methods of hemoglobin estimation. Describe Sahli's method in brief.
5. Biomedical waste management
6. Classify fixatives. What are the characters of ideal fixatives?
7. Compatibility testing
8. Microtomes
9. Staining procedure of H & E
10. CSF examination

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

11. Formalin
12. Physical examination of urine
13. Mounting media
14. Describe the process of dehydration.
15. Hemolytic transfusion reaction
16. Methods of blood collection
17. Use and care of microscope
18. Bleeding time
19. Proteinuria
20. Discuss various anticoagulants used in hematology.
21. Microscopic examination of body fluids
22. Hematoxylins

# Rajiv Gandhi University of Health Sciences, Karnataka

I Year B.Sc. Allied Health Sciences Degree Examination – April 2017

**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 working principle and procedure of sterilization by using autoclave.
2. Laboratory diagnosis of Syphilis
3. Laboratory diagnosis of gonococcal infection
4. Immunization schedule followed to immunize the children
5. Bacterial cell wall
6. Write a note on Hepatitis a Virus.
7. Cultivation of Virus
8. Write a note on Aspergillosis.
9. Write a note on differential media.
10. Write a note on nosocomial infections.

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

11. Germ tube test
12. Lawn culture
13. Gram staining
14. Outline the clinical manifestation of polio virus
15. Kirby-Bauer disk diffusion method
16. Cold sterilization
17. Castaneda's biphasic media
18. Disease produced by Streptococcus pyogenes (any three).
19. Viral Capsid
20. Contributions of Louis Pasteur towards microbiology
21. Name 3 selective media used for the cultivation of Salmonella typhi
22. Grading of sputum smears in laboratory diagnosis tuberculosis