# Rajiv Gandhi University of Health Sciences, Karnataka

I Year B.Sc. Allied Health Sciences Degree Examination - MARCH 2018

**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. Broncho pulmonary segments
2. Histology of spleen
3. Stomach bed
4. Nasopharynx
5. Portal vein
6. Cerebro spinal fluid
7. Suprarenal gland
8. Draw the diagram of cross section of spinal cord.
9. Circle of Willis
10. Structures undercover of gluteus maximus

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

11. Name the layers of cornea.
12. Classify simple epithelium with examples.
13. Name all the tarsal bones.
14. Name the extra ocular muscles.
15. Name the branches of brachial artery.
16. Mention the structures present in the Hilum of left lung.
17. Fertilization
18. Name the dural venous sinuses.
19. Draw neat labelled diagram of histology of T.S. of bone.
20. Epiploic foramen
21. Name the muscles of larynx.
22. Name the extrinsic muscles of tongue with its nerve supply.

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

23. Name the salivary glands.
24. Name the coverings of testis.
25. Name the nuclei of cerebellum.
26. Name the coverings of brain.
27. Mention any two examples of ball socket joint.
28. Name the intercostal muscles.
29. Name two muscles of the forearm.

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

1. Describe the waves of normal EEG with diagram. What are sleep spindles?
2. Tabulate the differences between a myelinated and non-myelinated nerve fibres.
3. Chemical regulation of Respiration
4. Name the type of WBC which produces immunoglobins. Enumerate the types of immunoglobins and give their functions.
5. What is direct and indirect Vandenberg test? Mention any 3 diagnostic features of obstructive jaundice.
6. Define (a) Tmax (b) Tubular load (c) Renal threshold (d) Diuretics.
7. Draw the structure of the Retina.
8. Explain the terms: Adrenarche, Pubarche, Thelarche, and Menarche.
9. Name the hormones secreted by the Islets of Langerhans. Describe any three physiological action of insulin.
10. List the steps of spermatogenesis. What are the hormones that affect this process?

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

11. Define cardiac output. Give its normal value.
12. Draw a diagram of the oxygen dissociation curve and label the graph.
13. Describe the stages of development of RBCs with a neat diagram.
14. Lumbar Puncture
15. What are the differences between isotonic and isometric contractions?
16. Briefly describe the functions of Juxta glomerular apparatus.
17. Define compliance of the lungs and give its normal value.
18. Draw a diagram to show the contents of middle ear. Name two main types of deafness.
19. Explain the term water diuresis and osmotic diuresis.
20. Define synapse. Classify types of synapses
21. List the movements of the small intestine.
22. Define urea clearance. What is its normal values?

# Rajiv Gandhi University of Health Sciences, Karnataka

I Year B.Sc. Allied Health Sciences Degree Examination – MARCH - 2018

**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)

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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. Different types of pipettes and their uses
2. Hot air oven
3. Centrifuges
4. Principles and applications of colorimetry
5. Care, cleaning and maintenance of glass wares
6. Define and classify SI units
7. Water distillation apparatus
8. Different types of flasks in laboratory
9. Define Buffers and explain biocarbonate buffer system.
10. Describe the chemical and physical laboratory hazards.

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

11. Borosilicate glass - significance
12. Preparation of 1N $H_2SO_4$
13. Monopan balance
14. Functions of aminoacids
15. Components of first aid kit
16. Define measuring cylinder, water bath and incubator.
17. Reflux condenser
18. Types of Cuvettes and their uses
19. Acid base indicators with example
20. Add a note on nucleotides.
21. Define acids and bases with one example each
22. Saturated and supersaturated solutions

# Rajiv Gandhi University of Health Sciences, Karnataka

I Year B.Sc. Allied Health Sciences Degree Examination – March - 2018

**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 action.
2. Clotting time
3. Red cell indices
4. Freezing microtome
5. Mention the different methods used to measure hemoglobin and write the principle of one them.
6. ESR
7. Quality control in the laboratory
8. Compatibility testing
9. Physical examination of urine
10. Discuss the various methods of urine collection.

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

11. Mention three mountants.
12. Mention the ketone bodies.
13. Types of microtomes
14. Tests for glucose in urine
15. Microscopic examination of body fluids
16. Febrile transfusion reactions
17. Hematoxylins
18. ABO blood group system
19. Describe the structure and function of Neutrophil.
20. Prothrombin time
21. Complications of venepuncture
22. Impregnation

# Rajiv Gandhi University of Health Sciences, Karnataka

I Year B.Sc. Allied Health Sciences Degree Examination - MARCH-2018

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

## Microbiology

(RS 3 – Medical Laboratory Technology, Medical Imaging Technology & Radiotherapy
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## Q.P. CODE: 3155

**(QP contains two pages)**

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Draw neat, labeled diagrams wherever necessary

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

1. Describe the method of sterilization by moist heat above $100^{o}C$.
2. Bacterial spores
3. Briefly explain the laboratory diagnosis of enteric fever.
4. Describe the clinical manifestation of Ancylostoma duodenale.
5. Describe the laboratory diagnosis of Dermatophytosis.
6. Laboratory diagnosis of Human immunodeficiency virus.
7. Bacterial growth curve
8. Acquired immunity
9. Modes of transmission of Hospital Acquired Infection
10. Antimicrobial susceptibility testing

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

11. Selective media
12. Name any three contributions of Louis Pasteur.
13. Gram staining
14. ASLO
15. Laboratory diagnosis of Mucor mycosis.
16. Serological markers of Hepatitis B virus
17. Black water fever
18. Define definitive host. Give two examples.
19. Classification of fungi based on diseases caused.
20. Negri bodies
21. Tuberculin test
22. Laboratory diagnosis of gonorrhea.

# Rajiv Gandhi University of Health Sciences, Karnataka

I Year B.Sc. Allied Health Sciences Degree Examination – SEP-2018

**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. Stomach – stomach bed, relations, ligaments and lymphatic drainage
2. Tongue – development, blood supply and nerve supply
3. Histology of lymph node
4. Bronchopulmonary segments
5. Dural venous sinuses
6. Cerebellum – parts, location, blood supply
7. Kidney – coverings, interior, blood supply and applied aspect
8. Fetal circulation
9. Blood supply of heart
10. Structure of animal cell

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

11. Spermatogenesis
12. Classification of synovial joint with examples
13. Microstructure of Parotid salivary gland
14. Sulci and gyri on the supero-lateral surface of cerebrum
15. Parts of eye ball
16. Cartilages of larynx
17. Name the cranial nerves in order.
18. Supports of uterus
19. Circle of Willis
20. Parts and blood supply of gall bladder
21. Classify epithelium with examples.
22. Microstructure of Pituitary gland

# Rajiv Gandhi University of Health Sciences, Karnataka

I Year B.Sc. Allied Health Sciences Degree Examination – SEP-2018

**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. Classify leucocyte and give their normal counts. Enumerate its functions.
2. Neural regulation of respiration
3. Actions of insulin
4. Functions of Bile salts
5. Describe Pupillary light reflex with the help of a diagram.
6. Spermatogenesis
7. Classification of nerve fibers
8. Cause and features of Parkinson's disease
9. Renin-Angiotensin-Aldosterone system
10. Explain Erythropoiesis.

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

11. Properties of synapse
12. Pregnancy test
13. Functions of cortisol
14. Hematocrit value
15. Triple response
16. Define Isotonic and Isometric contraction.
17. Normal ECG – draw, label and describe
18. Functions of Sertoli cells
19. What is Referred pain? Give an example.
20. Functions of cerebellum
21. Functions of liver
22. Explain the role of loop of Henle in concentration of urine.

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

## BIOCHEMISTRY

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

1. Types, uses and care of laboratory balance
2. Laboratory safety measures
3. Hot air oven – components and uses
4. Types and uses of any five commonly used glass wares in biochemistry laboratory. Explain how they are cleaned?
5. Explain the responsibilities of health care personnel.
6. Principle of photometry
7. Define Normality. Write the procedure of preparation of 500 ml of 1N NaOH.
8. Classification of carbohydrates.
9. Define unit of measurement and classify with examples.
10. Explain different types of dilution procedures used in laboratory.

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

11. What are buffers? Give two examples.
12. What is standard solution? How to prepare 5% glucose solution?
13. Water deionizers and their uses
14. First aid kit
15. How to clean plastic wares?
16. Precautions taken while handling pH meter
17. List the functions of amino acids.
18. What are essential amino acids? Give four examples.
19. Preparation and storage of 2% Albumin solution
20. Use, care and maintenance of a) Cyclomixer b) Reflux condenser
21. Mention the uses of a) Deep freezer b) Dessicator c) Incubator
22. Mention any three applications of radio isotopes.

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## PATHOLOGY

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

1. Describe Sahli's method of hemoglobin estimation.
2. Sputum examination
3. Physical examination of urine
4. Name the various anticoagulants used in hematology. Describe their mode of action and uses.
5. Define fixation and classify fixatives.
6. Write assay on how you ensure quality control in your laboratory
7. Crossmatching
8. Describe the categories of biomedical waste and their management.
9. Examination of feces
10. Name the steps involved in tissue processing. Write a note on Dehydration.

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

11. Properties of ideal fixative
12. Honing and stropping
13. Aqueous mounting media
14. Tests for glucose in urine
15. Composition of WBC diluting fluid
16. Hematoxylin and eosin (H and E) staining procedure
17. Rotary microtome
18. Moulds used in embedding
19. Decalcification
20. Define mean corpuscular volume (MCV). What is the normal MCV?
21. Microscopic examination of CSF
22. Bence-Jones protein

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## Microbiology

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

1. Briefly explain innate immunity.
2. Explain the principle and procedure of autoclave.
3. Briefly explain the laboratory diagnosis of Salmonella typhi infection.
4. Clinical manifestations of Entamoeba histolytica.
5. Explain the laboratory diagnosis of dermatophytes.
6. Cultivation of viruses
7. Bacterial flagella
8. Bacterial growth curve
9. Briefly explain the parts of compound microscope with a neat diagram.
10. Name any three fungi causing opportunistic infections. Give a brief account of Cryptococcosis.

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

11. Live vaccines
12. Fimbriae
13. Name three medias used in growth of fungi.
14. Tyndallisation
15. Laboratory diagnosis of Aspergillosis
16. Write a note on prevention of hospital acquired infections.
17. VDRL test
18. Pathogenic lesions caused by Staphylococcus aureus (name any three)
19. Laboratory diagnosis of Poliomyelitis
20. Hepatitis 'B' surface antigen
21. Name any three complications of malaria.
22. Cold sterilization