Rajiv Gandhi University of Health Sciences, Karnataka

I Year B.Sc. Allied Health Sciences Degree Examination – 16-July-2021

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. Lateral wall of nose.
2. Parotid salivary gland.
3. Functional areas of cerebrum.
4. Stratified epithelium.
5. Structure of compact bone.
6. Fallopian tube.
7. Inner ear.
8. Pituitary gland.
9. Second party of duodenum.
10. Structure of testis.

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

11. Parts of long bone.
12. Position of appendix
13. Structure of neuron.
14. Synovial Joint-Features.
15. Left atrium.
16. Name the branches of femoral artery.
17. Spermiogenesis.
18. Branches of facial nerve.
19. Typical spinal nerve.
20. Para-nasal air sinuses.
21. Parts of small intestine.
22. Name the dural venous sinuses.

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

23. Name the ear ossicles.
24. Name any four muscles of forearm.
25. Parts of stomach.
26. Name the peduncles of cerebellum.
27. Name the parts of lacrimal apparatus.
28. Name the parts of pharynx.
29. Name the endocrine glands.

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Rajiv Gandhi University of Health Sciences, Karnataka

I Year B.Sc. Allied Health Sciences Degree Examination – 19-Jul-2021

Time: Three Hours Max. Marks: 80 Marks

PHYSIOLOGY (RS-3)

(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. Trace the pathways for fine touch
2. Explain the stages of erythropoiesis.
3. Functions of saliva
4. Explain the process of spermatogenesis.
5. Discuss the property of excitability in a cardiac muscle.
6. Define Sarcomere. Explain its role in contraction cycle.
7. Describe the features of oxygen dissociation curve with the help of a graph.
8. Explain the counter current mechanism.
9. Enumerate the functions of parathyroid hormone.
10. What is receptor? Discuss any three properties of receptor.

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

11. Placental hormones
12. Enumerate the properties of cardiac muscle. Define all or none law.
13. Features of diabetes mellitus
14. Define immunity and mention types of immunity.
15. Enumerate the phases of deglutition.
16. Draw the structure of a basophil and a Monocyte. Mention their function.
17. Functions of CSF
18. Van den Berg's test for jaundice
19. Saltatory conduction
20. Astigmatism
21. Functions of platelets

22. Action of sympathetic and parasympathetic neurons a) Pupil and b) Heart

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

23. Functions of ADH
24. Functions of haemoglobin
25. Draw an ECG. Mention the cause of each wave.
26. Haemophilia
27. Hypoxia and types of hypoxia
28. Cross – matching of blood
29. Define intrapulmonary pressure. Give its normal value.

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Rajiv Gandhi University of Health Sciences, Karnataka

I Year B.Sc. Allied Health Sciences Degree Examination – 22-Jul-2021

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. pH meter
2. Definition and classification of SI units with example
3. Water distillation apparatus
4. Define centrifuge. Write the principle of Centrifugation technique.
5. Derive Henderson-Hasselbalch equation and write its importance.
6. Principle of colorimetry and components of a colorimeter.
7. Define and classify salts with examples.
8. Care, cleaning and maintenance of glass wares
9. Preparation of 1N HCl
10. Laboratory hazards – briefly explain.

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

11. Significance of borosilicate glass
12. Cuvette and its uses
13. Pipettes
14. Standard solution
15. Define nucleotides with examples.
16. What are buffers? Write examples.
17. Monopan balance
18. Define (a) Test tube (b) Folin-Wu tube (c) Bunsen burner
19. Reflux condenser
20. SI unit
21. Acid base indicators
22. Functions of Carbohydrates

TO THE POINT ANSWERS (ATTEMPT ANY FIVE) 5 x 2 = 10 Ma

23. Responsibilities of health care personnel
24. Define molarity and normality.
25. Define (a) Valency (b) Molecular weight.
26. Calculate the molecular weight and equivalent weight of H_2SO_4.
27. Uses of Burette and Petri dish
28. What is the normal pH of blood and its importance?
29. Components of first aid kit

Rajiv Gandhi University of Health Sciences, Karnataka

I Year B.Sc. Allied Health Sciences Degree Examination – 26-Jul-2021

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. Write the principles of Sahli's method of Hemoglobin estimation. List its advantages and disadvantages.
2. Microscopic examination of urine.
3. Define fixation and classify fixatives with examples.
4. Describe the steps of decalcification using acid decalcifiers.
5. Describe the steps involved in processing of tissues for histopathology.
6. Importance of record keeping in a laboratory.
7. Describe Westergren's method of measuring Erythrocyte Sedimentation Rate (ESR) and give its normal range.
8. Physical examination of Cerebrospinal Fluid (CSF).
9. Biomedical waste management.
10. Compatibility testing for blood transfusion.

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

11. Define bleeding time and mention two methods to measure it.
12. What is clearing? Name two clearing agents.
13. Mounting of slides in histopathology.
14. Define mordant and give two examples.
15. Benedict's test.
16. List the instruments used in grossing.
17. Define Packed Cell Volume (PCV) and give its normal range.
18. Collection of sputum samples.
19. Types of microtomes.
20. Blood transfusion reactions.
21. Embedding media in histopathology.
22. Quality control of pre-analytical factors.

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

23. Mention two casts seen in urine.
24. Mention two RBC inclusions.
25. Mention two dehydrating agents.
26. Define Prothrombin time.
27. Mention two ova seen in stool.
28. Mention two preservatives for urine.
29. Anti-coagulants used in blood bank.

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Rajiv Gandhi University of Health Sciences, Karnataka

I Year B.Sc. Allied Health Sciences Degree Examination – 28-Jul-2021

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. Laboratory diagnosis of Cholera.
2. Describe about aerobic culture methods.
3. Explain in detail about moist heat sterilization.
4. Briefly explain the modes of transmission and laboratory diagnosis of nosocomial infection.
5. Explain in detail about compound microscope with a neat labelled diagram.
6. Laboratory diagnosis of Cryptococcus neoformans.
7. Write a note on Gram staining.
8. Laboratory diagnosis of Ascaris lumbricoides.
9. Describe in detail about the morphology and clinical features of E. histolytica.
10. Write briefly about viral cultivation methods.

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

11. Immunization schedule.
12. Write about Mclntosh Fildes jar.
13. Transport media.
14. Atypical mycobacterium.
15. MRSA.
16. VDRL test.
17. Cold sterilization.
18. IgM
19. Widal test.
20. Stoke's method.
21. Serological markers of Hepatitis B
22. Describe Bacterial growth curve.

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

23. Name two gram positive cocci.
24. Name two Parasites causing food poisoning.
25. Name two viruses causing haemorrhagic fever.
26. Name two antigen – antibody reactions.
27. Name two acid fast organisms.
28. Name two fungal stains.
29. Sterilization indicators for hot air oven.

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Rajiv Gandhi University of Health Sciences, Karnataka

I Year B.Sc. Allied Health Sciences Degree Examination - 16-July-2021

Time: Three Hours Max. Marks: 100 Mark

Basic Anatomy including Histology

(RS 4 – B.Sc Medical Laboratory Technology, Medical Imaging Technology & Radiotherapy Technology
RS3 – B.Sc Cardiac Care Technology, Perfusion Technology, Renal Dialysis Technology, Respiratory Ca
Technology, Neuro Sciences Technology, Emergency and Trauma Care Technology,
Anesthesia Technology 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 (Second Question Choice) 2 x 10 = 20 Mar

1. Classify dural venous sinuses. Describe in detail the cavernous sinus
2. Describe the gross features of liver under the following heading-location, external features, relation and blood supply
   OR
   Describe the axillary artery under the following-course, relation, branches and termination

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

3. Pectoralis major muscle
4. Histology of cardiac muscle
5. Ligaments of knee joint
   OR
   External carotid artery
6. Fertilization
7. Spinal cord
8. Broncho pulmonary segments
9. Urinary bladder
10. Inguinal canal
    OR
    Anterior Mediastinum
11. Right atrium
12. Histology of suprarenal gland

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

13. Coverings of brain
14. Spermatic cord
15. Name the carpal bones
    OR
    Name the nerve plexus
16. Name the parts of excretory system

17. Draw the histology of thin skin
18. Name the salivary glands
19. Name the types of epithelium
20. Name the muscles of forearm

OR

Pleura.

21. Draw the histology of cornea
22. Great saphenous vein

Rajiv Gandhi University of Health Sciences, Karnataka

I Year B.Sc. Allied Health Sciences Degree Examination - 19-Jul-2021

Time: Three Hours Max. Marks: 100 Mark

PHYSIOLOGY (RS-4)

(RS 4 – B.Sc Medical Laboratory Technology, Medical Imaging Technology & Radiotherapy Technolog
RS3 – B.Sc Cardiac Care Technology, Perfusion Technology, Renal Dialysis Technology, Respiratory Ca
Technology, Neuro Sciences Technology, Emergency and Trauma Care Technology,
Anesthesia Technology 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 Mar

1. Define Glomerular filtration rate, give its normal value. Describe any four factors affecting GF Add a note on its regulation.
2. Name the hormones of Anterior Pituitary Gland and explain the actions of Growth Hormone. Add note on Acromegaly.

   OR

   Describe Gastric juice under the following a) Composition b) Functions c) Phases of secretion d) Regulation of secretion.

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

3. Draw a neat labelled diagram of cystometrogram. Add a note on its significance.
4. Define and give normal value of erythrocyte sedimentation rate. Add a note on its significance.
5. Define Reflex action. List any five properties of reflexes. Describe any two of them.

   OR

   Define sensory receptor. List any five properties of sensory receptors. Describe any two of them.
6. Enumerate on functions of Bile. Describe emulsification.
7. Enumerate functions of hormone testosterone. Add a note on its regulation.
8. Draw a neat labelled diagram of spirogram.
9. Describe humoral immunity.
10. Define Cardiac Cycle. Add a note on ventricular systole.

    OR

    Define Heart Rate. Describe any two mechanisms that regulate heart rate.
11. List the types of blood transfusion. Add a note on the criteria in the donor for blood transfusion.
12. Mention cause and three features of a) Myxoedema b) Dwarfism and c) Parkinsonism.

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

13. List any three functions of Basal ganglia.
14. Give three differences between active and passive transport across cell membrane.
15. List any six functions of blood

    OR

    List the mechanisms of heat loss from body to maintain body temperature.
16. List the forms of carbon dioxide transport in blood.

17. List any six functions of kidney.
18. List three functions of middle ear.
19. What is Hemophilia, give its types.
20. List any three differences between upper and lower motor neurons lesions.

    OR

    Name the nerve tracts that carry sensations of a) Pain b) Temperature c) Touch.
21. Give normal value for a) Cardiac output b) Heart rate and c) Blood pressure.
22. Define a) Cyanosis b) Dyspnoea and c) Hypoxia.

Rajiv Gandhi University of Health Sciences, Karnataka

I Year B.Sc. Allied Health Sciences Degree Examination - 22-Jul-2021

Time: Three Hours | Max. Marks: 100 Marks

BIOCHEMISTRY

(RS 4 – B.Sc Medical Laboratory Technology, Medical Imaging Technology & Radiotherapy Technology
RS3 – B.Sc Cardiac Care Technology, Perfusion Technology, Renal Dialysis Technology, Respiratory Care Technology, Neuro Sciences Technology, Emergency and Trauma Care Technology, Anesthesia Technology 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 reactions of TCA cycle. Add a note on energetics.
2. Describe the steps of beta oxidation of fatty acids from palmitic acid to acetyl CoA.
   OR
   Give a detailed account of chemistry, sources, RDA, functions and deficiency disorders of Vitamin D.

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

3. Define and classify lipids. Add a note on its functions.
4. What is percent solution? How to prepare 0.9% NaC1 solution? Explain how to prepare 0.1% NaC1 solution from 0.9% NaC1 stock solution prepared.
5. Structure of DNA.
   OR
   Classification of amino acids with examples.
6. What are the sources of dietary fibres? Discuss the importance of it in nutrition.
7. Describe the digestion and absorption of lipids.
8. Define and classify enzymes with examples.
9. Monosaccharides.
10. Biological functions and deficiency manifestation of Vitamin A.
    OR
    Urea cycle.
11. Write the sources, RDA, functions and disorders of Iron.
12. Define buffer. Explain blood buffer system.

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

13. Different types of RNA with their functions.
14. Clinical applications of radioactive isotopes.
15. Normal serum levels of serum electrolytes.
    OR
    Name the different tests to assess the kidney functions.
16. Saturated and Supersaturated solution.
17. Beri Beri.
18. Causes of metabolic acidosis.

19. Isoelectric pH.
20. Name the ketone bodies.
    OR
    Pellagra.
21. Define essential fatty acids with examples.
22. Define valency. Give one example.

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Rajiv Gandhi University of Health Sciences, Karnataka

I Year B.Sc. Allied Health Sciences Degree Examination - 26-Jul-2021

Time: Three Hours Max. Marks: 100

Marks

PATHOLOGY

(RS4 – B.Sc. Medical Laboratory Technology, Medical Imaging Technology & Radiotherapy Technology
RS3 – B.Sc. Cardiac Care Technology, Perfusion Technology, Renal Dialysis Technology, Respiratory Care Technology, Neuro Sciences Technology, Emergency and Trauma Care Technology,
Anesthesia Technology 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 method of collection of Pleural fluid and examination of the same.
2. Define Packed Cell Volume. Explain one method with principle and procedure for the same.
   OR
   List differences between Benign and Malignant Tumours.

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

3. Briefly write a note on collection of CSF.
4. Explain physical examination of Urine.
5. Define ESR. Explain any one method of estimation for the same.
   OR
   Define Atrophy, explain types with example.
6. Explain procedure for estimation of clotting time.
7. Enumerate various methods of blood collection. Explain any one method.
8. Explain the procedure for Forward Blood Grouping method.
9. Sputum examination.
10. Explain healing of wound by primary intention.
    OR
    Discuss clinical manifestations of systemic lupus erythematosus.
11. Define Edema, discuss pathogenesis of the same.
12. Differences between Transudate and Exudate.

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

13. Enumerate the various casts seen in urine.
14. List the Granulocytes seen in blood.
15. Give the normal values of bleeding time and clotting time.
    OR
    Name the clinical symptoms of Cancer.
16. Give examples for Organ specific autoimmune diseases.

17. Give the normal values of Haemoglobin in adults.
18. Enumerate the anticoagulants used in blood bank.
19. List the Haemolytic transfusion reactions.
20. List types Necrosis.
    OR
    Enumerate signs of inflammation.
21. Enumerate various types of shock.
22. Enumerate types of embolism.

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Rajiv Gandhi University of Health Sciences, Karnataka

I Year B.Sc. Allied Health Sciences Degree Examination - 28-Jul-2021

Time: Three Hours Max. Marks: 100

Marks

MICROBIOLOGY

(RS4 – B.Sc. Medical Laboratory Technology, Medical Imaging Technology & Radiotherapy Technology
RS3 – B.Sc. Cardiac Care Technology, Perfusion Technology, Renal Dialysis Technology, Respiratory Care Technology, Neuro Sciences Technology, Emergency and Trauma Care Technology,
Anesthesia Technology 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 sterilization. Classify sterilization. Describe in detail about autoclave.
2. Define UTI. Name the causative agents of UTI. Add a note on laboratory diagnosis of UTI.
   OR
   Describe the morphology of E. histolytica. Add a note on laboratory diagnosis of amaebiasis.

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

3. Koch's postulates.
4. Bacterial Growth curve.
5. Applications of commonly used disinfectants in hospital.
   OR
   Anaerobic Culture methods.
6. Diffusion method of antibiotic sensitivity testing.
7. Diarrhoeagenic E.coli.
8. Laboratory diagnosis of pulmonary tuberculosis.
9. Laboratory diagnosis of Malaria.
10. Prophylaxis of Rabies.
    OR
    Classify fungi based on morphology.
11. Cultivation of viruses.
12. Zygomycosis.

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

13. Stab culture.
14. Name any three differences between fertilized and unfertilized egg of Ascaris lumbricoides.
15. Name any three DNA Viruses.
    OR
    Name any three properties of viruses.
16. Draw a neat labeled diagram of egg of Hook worm.

17. Define antigen. Name any three properties of antigen.
18. Cold sterilization.
19. Draw a neat labeled diagram of bacterial spore.
20. Quellung reaction.

    OR

    Name any three bile stained ova.
21. Define antigen – antibody reaction. Give any two examples of antigen – antibody reaction.
22. Name any three uses of hot air oven.

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