Rajiv Gandhi University of Health Sciences, Karnataka

I Year B.Sc. Allied Health Sciences Degree Examination – 28.05.2024

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. Describe the sulci and gyri of supero-lateral surface of cerebrum
2. Describe the parts and blood supply of stomach
3. Describe the parts, relations and nerve supply of urinary bladder
4. Describe the portocaval anastomosis
5. Describe the structure of the eyeball with a neat labelled diagram
6. Describe the parts, blood supply and microscopic structure of pancreas
7. Fertilization
8. Describe the features and openings of the right atrium
9. Describe the structure of nephron with a neat labelled diagram
10. Describe the bones forming, ligaments and movements of the knee joint

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

11. Bronchopulmonary segments of lung
12. Name any three muscles of the upper limb
13. Name the parts of the brain stem
14. Name any three endocrine glands with their functions
15. Write any three difference between small and large intestine
16. Name the layers of the scalp and give its clinical importance
17. Name the constrictions of oesophagus
18. Name the contents of Popliteal fossa
19. Name the lobes of the liver
20. Name the bones of lower limb
21. Name the openings of the diaphragm
22. Describe transitional epithelium with suitable examples

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

23. Name the carpal bone
24. Name the parts of a long bone
25. Name the parts of gall bladder
26. Name the major salivary glands
27. Name the ear ossicles
28. Name the parts of sternum
29. Define anatomical position

Rajiv Gandhi University of Health Sciences, Karnataka

I Year B.Sc. Allied Health Sciences Degree Examination – 30-May-2024

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. List the indications for blood transfusion and add a note on precautions to be taken before blood transfusion
2. Discuss the chemical regulation of respiration
3. What is Cushing's syndrome? Describe its clinical features
4. Draw a neat labelled diagram of a neuromuscular junction. Write the steps in transmission of an electrical impulse across it
5. Define puberty. List the various pubertal changes seen in males and females
6. List and explain the various functions of the hypothalamus
7. Describe the composition and regulation of the secretion of gastric juice and its functions
8. Define Hypoxia. Enumerate and define the types of hypoxia
9. Define anemia. Write the morphological classification of anemia with one example for each type
10. Trace the pathway for carrying the sensation of fine touch

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

11. What are diuretics? Give two examples
12. Define function residual capacity. Write its importance
13. Classify Immunity
14. What is the normal heart rate? Define tachycardia and bradycardia
15. Draw a diagram of the juxta glomerulus apparatus and label its parts
16. Draw a neat diagram of a neuron and label its parts
17. Write the functions of basal ganglia
18. List any three common methods of contraception used in females
19. Define stroke volume. Write its normal value
20. Name the bile salts and bile pigments present in the bile
21. Define menarche and menopause
22. List the actions of insulin hormone on carbohydrate metabolism

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

23. Landsteiner's law of blood grouping
24. Write any two functions of receptors
25. Name the contractile proteins of the skeletal muscle
26. Define all or none property of a nerve fibre
27. Write the normal WBC count
28. What is myopia and hypermetropia?
29. Name any two hormones secreted by kidney

Rajiv Gandhi University of Health Sciences, Karnataka

I Year B.Sc. Allied Health Sciences Degree Examination - <<>>

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. Describe the gross anatomy of urinary bladder in detail.
2. Name the parts of the respiratory system. Describe the gross anatomy of lung in detail.
   OR
   Name the parts of central nervous system. Describe the cerebellum in detail.

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

3. Name the extraocular muscles and give their nerve supply.
4. Portal vein – formation, termination and tributaries.
5. Thoracic duct.
   OR
   Constrictions of oesophagus.
6. Median cubital vein.
7. Microstructure of liver.
8. Formation of biliary duct system.
9. Pectoralis major muscle.
10. Microscopic structure of thyroid gland.
    OR
    Lesser omentum.
11. Difference between small and large intestine.
12. Classify epithelium with suitable examples.

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

13. Name the cartilages of larynx.
14. Name the veins opening into right atrium.
15. Name the ear ossicles.
    OR
    Name the folds of duramater.
16. Name the contents of femoral triangle.
17. Name the rotator cuff muscles of the shoulder region.
18. Name the parts of pancreas.
19. Name the paranasal air sinuses.
20. Draw neat labelled diagram of structure of a nephron.
    OR
    Define the anatomical position.
21. Name the appendages of skin.
22. Name the parts of fallopian tube.

Rajiv Gandhi University of Health Sciences, Karnataka

I Year B.Sc. Allied Health Sciences Degree Examination - 30-May-2024

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. What is erythropoiesis? With the help of the diagrams, describe the morphological changes that occur at the different stages of erythropoiesis. Name two important factors which regulate it
2. Name the different phases of the gastric secretion in the stomach. Explain the regulation in each phase of secretion
   OR
   Name the visual receptors. Describe the visual pathway with a labelled diagram

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

3. Describe erythroblastosis fetails (Haemolytic disease of newborn)
4. Draw a spirogram. Define the lung volumes and capacities. Write their values
5. What is venous return? Write any three factors which help in the venous return of the heart
   OR
   What are chemoreceptors? Explain the role of peripheral chemoreceptors in the chemical regulation of respiration
6. Draw a labelled diagram of the conducting system of the heart. What is the role of sinoatrial node in the heart?
7. Explain the defecation reflex
8. What is a sensory receptor? Write any three properties of the same
9. Write the cause and list the clinical features of Cushing's syndrome
10. Explain the sliding filament mechanism of skeletal muscle contraction
    OR
    Name the thyroid hormones. Write any three functions of thyroid hormones
11. Write the changes that occur in male and female at puberty
12. Name the primary taste sensation. Draw and describe the pathway for taste sensation

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

13. Enumerate the functions of plasma proteins
14. **Define GFR.Give its normal value.**
15. Define and give the normal value of a) Arterial blood pressure b) Cardiac output
    OR
    What is Gastrin? Write its function
16. What is a pulmonary surfactant? Give the source of the same
17. Write three functions of kidney
18. What is EEG? List the name waves of EEG
19. Define the terms a) Menarche b) Menopause
20. Write three functions of cerebellum
    OR
    What is sleep? Write the features of Rapid Eye Movement (REM) sleep
21. Tabulate three differences between skeletal and cardiac muscle
22. Write any three maternal changes that occur during pregnancy

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Rajiv Gandhi University of Health Sciences, Karnataka

I Year B.Sc. Allied Health Sciences Degree Examination – 03-Jun-2024

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

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 principle, components and working of pH meter.
2. Explain saturated and supersaturated solutions with example.
3. Explain physical and chemical hazards in detail.
4. Classification of carbohydrates with examples.
5. Classify lipids with examples.
6. Laboratory safety measures.
7. Define and classify SI units.
8. Write the principle, components and working of colorimeter.
9. Define nucleotides. Add a note on its composition.
10. Define normality. How do you prepare 100ml of 1N Sulphuric acid.

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

11. Working of an incubator.
12. Nutritional classification of amino acids.
13. First aid kit.
14. How to prepare 1M NaOH solution.
15. Beakers – types and functions.
16. Types of biomedical wastes.
17. Types of centrifuges.
18. Write the uses of test tube, Folin Wu tube and Centrifuge tube.
19. Define a) Acid b) Base with one example each
20. Significance of borosilicate glass
21. Define a) valency b) Molecular weight with one example each
22. Essential fatty acids.

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

23. Uses of measuring cylinders.
24. Bunsen burner.
25. Phospholipids.
26. Magnetic stirrer.
27. Name any three functions of carbohydrates.
28. Define buffers. Give two examples.
29. Define Henderson-Hasselbalch's equation.

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Rajiv Gandhi University of Health Sciences, Karnataka

I Year B.Sc. Allied Health Sciences Degree Examination – 05-Jun-2024

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. Microscopic examination of Cerebrospinal Fluid (CSF).
2. Use and care of microscope.
3. Decalcifying agents.
4. Describe stool examination.
5. Describe the tests for protein in urine.
6. Describe the steps in tissue processing.
7. Screening tests for coagulation.
8. Collection and processing of blood for transfusion.
9. Ensuring safety in the laboratory.
10. Formalin-based fixatives.

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

11. Rotheras test.
12. Filing of slides.
13. List the various body fluids received in the laboratory.
14. Any three uses of Buffy coat.
15. RBC count.
16. Uses of xylene in histopathology.
17. Types of microtome knives.
18. Platelets.
19. Draw and label Wintrobe’s tube and mention two uses.
20. Bence-Jones protein.
21. Tests for occult blood in stool.
22. Kaiserling solution.

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

23. Mention two reducing substances in urine.
24. List the stages of erythrocyte sedimentation rate (ESR)
25. Major crossmatch.
26. Mention two diseases transmitted by blood transfusion.
27. L-moulds.
28. Mention two mordants of Haematoxylin.
29. Mention two types of microtomes.

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Rajiv Gandhi University of Health Sciences, Karnataka

I Year B.Sc. Allied Health Sciences Degree Examination – 07-Jun-2024

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. Write about Bacillary dysentery.
2. Laboratory diagnosis of syphilis.
3. Write about electron microscope with the help of neat labelled diagram.
4. Explain in detail about laboratory diagnosis of Hookworm.
5. Explain the structure of immunoglobulin.
6. Viral cultivation methods.
7. With the neat labelled diagram explain cell wall of bacteria.
8. Blood culture for typhoid.
9. Write a note on laboratory diagnosis of Streptococcus pyogenes.
10. Explain the clinical features and laboratory diagnosis of HIV infection.

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

11. Draw neat labelled diagram of Giardia lamblia.
    Or
    Function and uses of Auto clave.
12. Describe Coagulase Negative Staphylococci
13. Write about BCG
14. List Koch's postulates.
15. Describe germ tube test.
16. Write a note on passive immunity.
17. List three differences between T. solium and T. saginata.
    Or
    Name three Dermatophytes.
18. Write about filteration.
19. Modes of transmission of infection.
20. Briefly explain negative staining.
    Or
    Define transport media give two examples.
21. Write about RCM
22. Write about Halophilic Vibrios.

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

23. Name two capsulated bacteria.
24. Name two mosquito borne infections.
25. Name two zoonotic infections.
26. Name two non motile bacteria.
27. Name two species of Shigella.
28. Cold sterilization.
29. Name two gram positive bacilli.

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Rajiv Gandhi University of Health Sciences, Karnataka

I Year B.Sc. Allied Health Sciences Degree Examination - 03-Jun-2024

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. Write the reactions of aerobic glycolysis. Add a note on energetics.
2. Explain chemistry, dietary source, daily requirement, functions and deficiency disorders of Vitamin A.

   OR

   Explain location, subcellular site, reactions and energetics of beta oxidation of Palmitic acid.

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

3. Define Basal metabolic rate. Explain the factors affecting Basal Metabolic Rate.
4. Significance of HMP Shunt pathway.
5. Creatinine clearance test.

   OR

   Classify enzymes with suitable example.
6. Structure of tRNA.
7. Explain Watson Crick model of DNA.
8. Mention normal level of serum calcium. Explain the hormones involved in its regulation.
9. Outline the reactions of urea cycle.
10. Transamination reaction and its importance

    OR

    Classify carbohydrates with example.
11. Phospholipids and their functions.
12. List the functions of proteins with example.

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

13. Define dietary fibres. Mention any two functions.
14. Name the different ketone bodies.
15. Define buffers. Give two examples.

    OR

    Pellagra.
16. What are essential fatty acids? Give examples.
17. What are peptides? Name any two peptides of biological importance with function.
18. Name any three enzymes involved in digestion of disaccharides.
19. Write any three applications of radioactive isotopes.
20. Write Henderson Hasselbalch equation. Mention its applications.

    OR

    How to prepare 1M NaOH solution?
21. What is a standard solution? How to prepare standard solution of glucose?
22. Write normal values (reference range) of:
    a) Serum Urea
    b) Fasting plasma glucose

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c) Serum Sodium

I Year B.Sc. Allied Health Sciences Degree Examination - 05-Jun-2024

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 the physical and microscopic examination of urine.
2. Enumerate various methods of hemoglobin estimation. Explain any one method.
   OR
   Define Necrosis. Describe various types of necrosis with examples.

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

3. Explain sputum examination.
4. Describe the method of CSF collection.
5. Discuss one method of Packed Cell Volume estimation.
   OR
   Describe the microbial agents of carcinogenesis.
6. Discuss estimation of Prothrombin time.
7. Discuss hemolytic transfusion reactions.
8. Explain hyperplasia with examples.
9. Describe Granulomatous inflammation with example.
10. Discuss pathogenesis of Edema.
    OR
    Discuss clinical manifestations of SLE.
11. RH blood grouping system.
12. Anticoagulants used in Hematology lab.

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

13. List three benign tumours.
14. Name types of infarction.
15. List various modes of spread of cancer.
    OR
    List the functions of RBCs.
16. Enumerate signs of inflammation.
17. Give three examples for Metaplasia.
18. List three anticoagulants used in blood bank.
19. Normal values of ESR.
20. Describe morphology of Neutrophil.
    OR
    List tests for protein in urine.
21. Name three sites for blood collection.
22. Name three body fluids.

Rajiv Gandhi University of Health Sciences, Karnataka

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I Year B.Sc. Allied Health Sciences Degree Examination – 07-Jun-2024

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. List methods of moist sterilization. Describe in detail the functioning and uses of Autoclave.
2. Define immunity. Classify immunity. Explain the mechanisms of innate immunity.
   OR
   List viruses transmitted by blood and body fluids. Describe the laboratory diagnosis and methods of prevention of Hepatitis B infection.

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

3. Importance of Handwash in prevention of Health care associated infections.
   Or
   Biomedical waste management
4. **List common disinfectants used in your hospital with their uses. Describe testing of disinfectants.**
5. IgG structure and function.
   OR
   Sources of infections to humans.
6. MRSA – Transmission and prevention.
7. Immunization schedule followed in India.
8. Define antigen. List various antigen-antibody reactions.
9. Lab diagnosis of Pulmonary tuberculosis.
10. Candidiasis.
    OR
    Cryptococcosis.
11. Laboratory diagnosis of hook worm infection.
12. Draw a neat labelled diagram of the bacterial cell and label the parts.

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

13. Name three parasites causing infections of brain.
    Or
    Define transport media. Give two examples.
14. Name three bacteria causing infections of the urinary tract.
15. **Coagulase test**
    Or
    Name three examples for RNA Virus.
16. Name three viral infections transmitted through bite of insects.
17. List three infections caused by Aspergillus.
18. Name three Dermatophytes.
19. List three infections caused by Streptococcus pyogenes.
20. Name three live attenuated viral vaccines.
    OR
    Name three contributions of Louis Pasteur.

21. List three methods of bacterial culture.

22. Diarrhoeagenic E. coli.