Rajiv Gandhi University of Health Sciences, Karnataka

I Year B.Sc. Allied Health Sciences Degree Examination - May 2016

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 Right Atrium of Heart.
2. Describe the borders surfaces and posterior relations of left Kidney.
3. Name the parts of Large Intestine. Describe Vermiform Appendix.
4. Describe the Arterial supply of Stomach. Name the structures forming Stomach bed.
5. Describe the medial surface of Right Lung.
6. Describe the parts, location and microscopic anatomy of Pancreas.
7. Classify the Epithelium with examples for Simple Epithelia.
8. Name the extrinsic muscles of the Eyeball. Give their actions.
9. Describe the parts and blood supply of Thyroid gland.
10. Describe the location and blood supply of Duodenum.

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

11. Trachea
12. Histology of Hyaline cartilage
13. Name the bone cells.
14. Corpus Callosum
15. Falx cerebri
16. Fertilization
17. Vocal cords
18. Histology of Submandibular gland
19. Brachial plexus
20. Hilum of spleen
21. Histology of large artery
22. Coeliac trunk

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

23. Name any two branches of Femoral Artery.
24. Name any two muscles of Soft Palate.
25. Name the parts of Uterus.
26. Name the Hamstring muscles.
27. Name the ear ossicles.
28. Name the parts of Gall bladder.
29. Name the branches of Arch of Aorta.

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PHYSIOLOGY

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

1. Describe body temperature regulation.
2. Give three differences between hepatic bile and gall bladder bile and give an account for these differences.
3. How do you classify immune defence system? Describe each of it giving one example.
4. What is Erythroblastosis foetalis? Explain how it is causes. Describe the physiological basis of its management.
5. Define isotonic and isometric contraction. Give examples
6. Draw a neat diagram of Cortico spinal tract and label it. Enumerate its functions.
7. Draw a diagram to show phases of ventricular action potential.
8. Describe the role of vitamin D in calcium homeostasis.
9. Briefly describe the functions of proximal convoluted tubules of the kidney.
10. Write briefly the mechanics of ventilation.

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

11. What are the basic functions of the inner and outer hair cells in the organ of Corti?
12. Draw and label a diagram of ECG recording in lead II. Give the normal value of the P-R interval.
13. Describe the role of erythropoietin and vitamin B_{12} in the RBC production.
14. List the types of transport across cell membrane and explain active transport with example.
15. Write any four functions of Kidney.
16. What is purpura? Give any two causes of purpura.
17. Name the hormones that influence urine formation and where do they act?
18. Draw a labeled diagram of the pathway for taste.
19. Name any two hormones essential for normal lactation. Specify their roles in lactation.
20. Draw a diagram to show Bohr's effect.
21. Functions of saliva
22. Draw and label the visual pathway.

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Draw neat, labeled diagrams wherever necessary

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

1. Endoplasmic reticulum
2. Deltoid muscle
3. Systemic and pulmonary circulation
4. Ovulation
5. Vermiform appendix
6. Superficial palmar arch
7. Inguinal canal
8. Visceral (Inferior) surface of liver
9. Mediastinal surface of left lung
10. Lateral wall of nose

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

11. Draw neat labelled diagram of Neuron.
12. Name the ventricles of brain.
13. Name the carpal bones.
14. Classify glands according to their mode of secretion.
15. Enumerate the bones of vertebral column.
16. Name the superficial branches of femoral artery.
17. Extra ocular muscles
18. Draw neat labelled diagram of histology of serous salivary gland.
19. Mention the subdivisions of pharynx.
20. Name the cranial nerves in order.
21. Characteristics of synovial joint
22. Name the cartilages of larynx.

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I Year B.Sc. Allied Health Sciences Degree Examination – May 2016

Time: Three Hours Max. Marks: 80 Marks

BIOCHEMISTRY

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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. Different types of pipettes and their uses
2. Laboratory balances – types, uses and care
3. Care and cleaning of glass wares in the laboratory
4. Principle and applications of colorimetry
5. What is percent solution? How to prepare 0.9% NaCl? Explain how to prepare 0.1% NaCl from 0.9% NaCl stock solution prepared.
6. Principle and components of pH meter
7. Define and classify SI units with examples.
8. Laboratory safety measures
9. Define normality. Explain preparation of 0.1N NaOH.
10. Write Henderson-Hasselbalch equation and its applications.

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

11. Write uses of (i) Water bath (ii) Oven (iii) Incubator.
12. What are buffers? Give two examples.
13. Define (a) Test tube (b) Centrifuge tube (c) Burette.
14. What are hygroscopic substances? Give two examples.
15. Principle of centrifugation technique
16. Name any three glassware used in laboratory with uses.
17. Precautionary measures to be taken while handling chemical balance
18. Flasks in the laboratory
19. Care and maintenance of (i) pH meter (ii) Refrigerator (iii) Centrifuge
20. What is standard solution? How to prepare 1% glucose standard solution?
21. Define buffers. Add a note on fluid buffers
22. Convert 1N NaOH into percent solution.

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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. Mention the steps in processing for routine paraffin sections.
2. Mention the methods used for estimation of ESR, normal values and the factors influencing it.
3. Anticoagulants used in the laboratory
4. Mention the different methods used to measure hemoglobin and describe Sahli's method.
5. CSF analysis
6. Mention three anticoagulants used in the laboratory with their mode of action.
7. What is the principle of Romanowsky stains and give four examples?
8. Bleeding time
9. Mention methods of doing PCV with normal values.
10. Haematoxylin stain

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

11. Decalcification
12. Honing and stropping
13. Care of laboratory glassware
14. Use of computers in pathology
15. What is the normal absolute eosinophil count and give two causes for eosinophilia?
16. Cross-matching of blood
17. Mention three mountants.
18. Crystals in urine
19. Clearing agents
20. Tests for glucose in urine
21. Mention normal differential leucocyte count.
22. Describe an ideal fixative.

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MICROBIOLOGY

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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. Gram staining
2. Autoclave
3. Transport media
4. Electron microscope
5. Bacterial growth curve
6. Laboratory diagnosis of Gonorrhoea
7. Give a brief account of Laboratory diagnosis of Typhoid fever
8. Cryptococcosis
9. Laboratory diagnosis of parasitic infections
10. Rabies

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

11. Bacterial flagella
12. Tyndallisation
13. Kirby – Bauer disc diffusion method
14. Name three chemical disinfectants.
15. Name any three causative agents of nosocomial infection.
16. Mantoux test
17. RPR test
18. KOH mount
19. Hepatitis A virus
20. Aspergillosis
21. Difference between fertilized egg and unfertilized egg of Ascaris lumbricoides
22. Name any three Diarrheagenic E.coli.

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I Year B.Sc. Allied Health Sciences Degree Examination – SEP -2016

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PHYSIOLOGY

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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 Erythropoiesis. Describe the stages of Erythropoiesis.
2. Discuss the phases of ventricular systole and diastole in cardiac cycle.
3. Draw a labeled diagram of neuromuscular junction.
4. With the help of a diagram, briefly describe the defaecation reflex.
5. State Landsteiner's law. Enumerate the uses of blood grouping.
6. Define hypoxia. Explain the types of hypoxia?
7. Describe the events of the different phases of menstrual cycle.
8. Discuss the process of counter-current in the medullary interstitium.
9. Trace the posterior column tract of the ascending pathway.
10. Explain the second phase of deglutition.

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

11. Explain the milk-letdown reflex.
12. Any two differences between conditioned reflex and unconditioned reflex
13. Describe Extrinsic mechanism of coagulation.
14. Define cardiac output. Give the normal value.
15. Briefly write on Rods and Cones.
16. Draw the structure of neuron.
17. Functions of testosterone
18. Draw the oxygen dissociation curve.
19. Enumerate the functions of bile salts.
20. Mass Peristaltic movement
21. Functions of cerebrum
22. Contraceptive methods in males

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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. Water distillation apparatus – components, working and uses
2. Hot air oven – components and uses
3. List the different types of weighing balances. Add a note on two-pan laboratory balance. Add a note on precaution while weighing.
4. Safety regulations and measures to be followed in a laboratory
5. Different types of flasks in a lab and its uses.
6. Write the principle, parts and draw the diagram of Colorimeter.
7. List the different types of centrifuges. Add a note on the components and working of a centrifuge.
8. Define normality. Give the formula to calculate normality of concentrated sulphuric acid. How do you prepare 100ml of 1N sulphuric acid?
9. Different types of pipettes and their uses
10. Care, cleaning and maintenance of different plastic wares used in a laboratory.

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

11. Water deionizers and their uses
12. Significance of Borosilicate glass
13. Beer Lambert's law and its limitations
14. Add a note on nucleotides.
15. Define (a) Valency (b) Molarity with one example each.
16. First aid kit
17. Henderson-Hasselbalch equation and its uses
18. Define (a) Tripod stand (b) Cuvette (c) Centrifuge tube.
19. Define (a) Acids, (b) Bases (c) Salts with one example for each.
20. How do you prepare stock standard solution of glucose?
21. Briefly classify carbohydrates.
22. What are normal and double salts? Give two examples.

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Draw neat, labeled diagrams wherever necessary

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

1. Biomedical waste management
2. Red cell indices
3. Describe different embedding techniques.
4. Name different microtomes and describe rotary microtome.
5. Describe physical examination of urine.
6. Describe examination of CSF.
7. Packed cell volume
8. Describe venous collection of blood.
9. Describe ABO system.
10. Describe methods of ESR measurement and anticoagulants used.

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

11. What is a fixative? Write uses of two fixatives.
12. Describe clearing.
13. Describe progressive and regressive staining.
14. Describe care of microscope.
15. Write about different types of waxes.
16. What is glycosuria? Write two tests to detect it.
17. Describe Rh system.
18. Methods of processing body fluids
19. Tests for proteinuria
20. Prothrombin time
21. Major cross match
22. Lab safety measures

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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 Kirby Bauer disc diffusion method in detail.
2. Explain the cell wall structure of bacteria in detail.
3. Briefly explain the mechanism of innate immunity.
4. Explain the principle and procedure of autoclaving.
5. Briefly explain the lab diagnosis of Mycobacterium tuberculosis.
6. Laboratory diagnosis of Cholera
7. Clinical manifestations of Human Immunodeficiency Virus.
8. Diseases caused by Candida albicans.
9. Discuss briefly the enrichment and selective media used in the laboratory.
10. Explain the bacterial growth curve with a labeled diagram.

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

11. Live-attenuated vaccines
12. Causative agents of hospital acquired infections
13. Cryptococcosis
14. Widal test - interpretation
15. Castaneda Biphasic medium
16. Name three bacteria causing Urinary Tract Infection
17. Name any three spore forming bacteria.
18. Rabies – clinical manifestation
19. Name any three fungal stains used in the laboratory.
20. Differentiate fertilized and unfertilized ova of Ascaris lumbricoides.
21. Draw a neat, labeled diagram of Hepatitis B virus.
22. Aspergillosis – laboratory diagnosis