Rajiv Gandhi University of Health Sciences, Karnataka

I Year B.Sc. (Allied Health Sciences) Degree Examination - Mar 2013

BIOCHEMISTRY (RS-2)

Time: Three Hours Max. Marks: 80 Marks

(MLT, O.T. Technology, Cardiac Care Technology, Perfusion Technology, Neuro Sciences Technology, Renal Dialysis Technology, Respiratory Care Technology, Medical Imaging Technology & Radiotherapy Technology)

Q.P. CODE: 1228

Your answers should be specific to the questions asked
Draw neat labeled diagrams wherever necessary

LONG ESSAY (Any Two) 2 x 10 = 20 Marks

1. Basic principles and estimation of electrolytes, with sodium regulation and water balance
2. What is chemical balance? Describe types of chemical balance and it's uses
3. Write a note on centrifuge.

SHORT ESSAY (Any Six) 6 x 5 = 30 Marks

4. Water of crystallization
5. Liver function tests
6. Metabolic Alkalosis
7. Arrehenius concept of acids and bases
8. Nutritional importance of proteins
9. Basal metabolic rate
10. Specimen collection
11. Fat soluble vitamins

SHORT ANWERS (Any Ten) 10 x 3 = 30 Marks

12. Pre analytical variables
13. Molecular weight
14. Bicarbonate buffer
15. Borosilicate glass and significance
16. Calorific value
17. Benedict's test
18. Accuracy
19. Indicator
20. Urinary calculus
21. Bicarbonate buffer
22. Dessicator
23. Dalton's theory

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Rajiv Gandhi University of Health Sciences, Karnataka

I Year B.Sc. (Allied Health Sciences) Degree Examination - Mar 2013

Time: Three Hours Max. Marks: 80 Marks

PHYSIOLOGY – RS-2

(MLT, O.T. Technology, Cardiac Care Technology, Perfusion Technology, Neuro Sciences Technology, Renal Dialysis Technology, Respiratory Care Technology, Medical Imaging Technology & Radiotherapy Technology)

Q.P. CODE: 1227

Your answers should be specific to the questions asked
Draw neat labeled diagrams wherever necessary

LONG ESSAYS (Answer any Two) 2 x 10 = 20 Marks

1. Explain the mechanism of negative feed-back mechanism in hormonal regulation using an example.
2. Write the composition of plasma describe the functions of plasma proteins.
3. Define synapse. Draw a labeled structure of the synapse and discuss any three properties.

SHORT ESSAYS (Answer any Six) 6 x 5 = 30 Marks

4. Discuss the action of insulin on the target cells.
5. Describe the chemical regulation of respiration.
6. Define immunity. Briefly describe the types of immunity
7. Discuss how water is reabsorbed in different parts of renal tubules.
8. Enumerate the functions of hypothalamus.
9. Tabulate the differences between I and II heart sounds.
10. Explain the counter-current mechanism of kidney.
11. Explain the types of blood transfusion.

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

12. What is MCV? Give its normal value.
13. Functions of the hormone ADH.
14. Define chronaxie and rheobase.
15. List the functions of RBC.
16. Define a sarcomere with the help of a diagram.
17. Define reflex action.
18. Draw a labeled diagram of the pyramidal pathway.
19. What is EEG? Mention its normal waves.
20. Trace the pathway for pain sensation.
21. Draw labeled diagrams of Eosinophil. Specify its functions.
22. Functions of CSF.
23. Draw the label the ECG waves and give the cause for each.

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Rajiv Gandhi University of Health Sciences, Karnataka

I Year B.Sc. (Allied Health Sciences) Degree Examination - Mar 2013

Time: Three Hours | Max. Marks: 80 Marks

PATHOLOGY (RS-2)

(Clinical Pathology & Heamatology & Blood Banking)

(MLT, O.T. Technology, Cardiac Care Technology, Perfusion Technology, Neuro Sciences Technology, Renal Dialysis Technology, Respiratory Care Technology, Medical Imaging Technology & Radiotherapy Technology)

Q.P. CODE: 1229

Your answers should be specific to the questions asked
Draw neat labeled diagrams wherever necessary

LONG ESSAY (Any Two) 2 x 10 = 20 Marks

1. Name the various anticoagulants used in hematology. List the advantages, disadvantages and mode of actions of each of them.
2. What is fixative? Write about the features of an ideal fixative. Name two commonly used fixatives and lists their mode of actions, advantages and disadvantages.
3. Name the various methods of collection of urine. Explain in detail the microscopic examination of urine.

SHORT ESSAY (Any Six) 6 x 5 = 30 Marks

4. Tests to detect completion of decalcification
5. Steps to hasten tissue processing
6. Describe briefly paraffin impregnation in processing a tissue sample.
7. Tests for blood in urine
8. CSF findings in tuberculosis meningitis
9. Prothrombin time
10. Blood grouping and Rh typing
11. Estimation of ESR

SHORT ANWERS (Any Ten) 10 x 3 = 30 Marks

12. Leukhart's "L" block.
13. Decalcifying agents
14. Chyluria
15. Bence-Jones protein
16. Methods of Hb estimation
17. Causes of polyuria
18. Name four abnormal forms of spermatozoa.
19. Name two bile stained ova in stool.
20. Types of mountants
21. Name the instruments used in grossing.
22. Bouins fixative
23. Types of microtomes

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Rajiv Gandhi University of Health Sciences, Karnataka

Time: Three Hours | Max. Marks: 80 Marks

MICROBIOLOGY (RS-2)

(MLT, O.T. Technology, Cardiac Care Technology, Perfusion Technology, Neuro Sciences Technology, Renal Dialysis Technology, Respiratory Care Technology, Medical Imaging Technology & Radiotherapy Technology)

Q.P. CODE: 1230

Your answers should be specific to the questions asked
Draw neat labeled diagrams wherever necessary

LONG ESSAY (Any Two) 2 x 10 = 20 Marks

1. List the antigen antibody reactions. Discuss precipitation reactions in detail.
2. List the aetiological agents of human malaria. Discuss the laboratory diagnosis of falciparum malaria in detail
3. Define sterilization. Discuss in detail the principle, design, operation and monitoring of the autoclave.

SHORT ESSAY (Any Six) 6 x 5 = 30 Marks

4. Pasteurization
5. Laboratory diagnosis of gonorrhoea
6. CAMP test
7. Cultivation of viruses
8. Opportunistic fungal infections
9. Malignant pustule
10. Laboratory diagnosis of cholera
11. Hepatitis B virus

SHORT ANWERS (Any Ten) 10 x 3 = 30 Marks

12. Enriched Media with examples
13. Slide culture for fungus
14. Disposal of sharps
15. L Forms
16. Collection of Blood for culture
17. Catalase test
18. List three tapeworms infecting humans
19. Cysticercus cellulosae
20. WIDAL test
21. List three agents causing nosocomial infections
22. Stormy clot reactions
23. Mantoux test

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Rajiv Gandhi University of Health Sciences, Karnataka

I Year B.Sc. (Allied Health Sciences) Degree Examination - Aug 2013

Time: Three Hours | Max. Marks: 80 Marks

ANATOMY
(Including Histology)- RS-2

(MLT, O.T. Technology, Cardiac Care Technology, Perfusion Technology, Neuro Sciences Technology, Renal Dialysis Technology, Respiratory Care Technology, Medical Imaging Technology & Radiotherapy Technology)

Q.P. CODE: 1226

Your answers should be specific to the questions asked
Draw neat labeled diagrams wherever necessary

LONG ESSAY — 2 x 10 = 20 Marks

1. Name the parts of respiratory system. Describe the lung
2. Classify the types of bones with examples. Give the histology of compact bone with a diagram of transverse section

SHORT ESSAY (Answer any six) — 6 x 5 = 30 Marks

3. Give the blood supply of brain
4. Draw a diagram of histology of lymph node
5. Name the sensory organs. Describe the eye ball
6. Describe liver in brief
7. Describe the nephron
8. Draw a neuron
9. Vocal cords
10. Large intestine

SHORT ANWERS (Answer any ten) — 10 x 3 = 30 Marks

11. Give the types of muscles. Distinguish between them histologically
12. What is a sesamoid bone? Give one example
13. Name the veins of upper limb
14. Distinguish between pulmonary and systemic circulations
15. Give the dental formula
16. Name the parts of male reproductive system
17. Name the endocrine glands
18. Name the parts of lacrimal apparatus
19. What is spermatogenesis?
20. Name the types of cartilages with examples
21. Name the dural folds
22. Internal jugular vein

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Rajiv Gandhi University of Health Sciences, Karnataka

I Year B.Sc. (Allied Health Sciences) Degree Examination – Aug 2013

Time: Three Hours Max. Marks: 80 Marks

PHYSIOLOGY – RS-2

(MLT, O.T. Technology, Cardiac Care Technology, Perfusion Technology, Neuro Sciences Technology, Renal Dialysis Technology, Respiratory Care Technology, Medical Imaging Technology & Radiotherapy Technology)

Q.P. CODE: 1227

Your answers should be specific to the questions asked
Draw neat labeled diagrams wherever necessary

LONG ESSAYS (Answer any Two) 2 x 10 = 20 Mar

1. Describe the function and regulation of secretion of growth hormone. Explain gigantism.
2. What is erythroblastosis foetalis? Write its features and method of treatment.
3. Trace the taste pathway.

SHORT ESSAYS (Answer any Six) 6 x 5 = 30 Mar

4. Enumerate the functions of liver
5. Describe triple response.
6. Explain the mechanism of Wallerian degeneration.
7. Explain the functions of middle ear.
8. Draw labeled diagrams of a) Eosinophil b) Lymphocytes. Specify their functions.
9. With a labeled diagram describe micturition reflex
10. Describe the composition and functions of saliva
11. Write briefly on the circulation and functions of CSF.

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

12. Define puberty. Enumerate any two features each in males and females.
13. What is the normal heart rate. Define tachycardia and bradycardia.
14. Define PCV and ESR. Give their normal values.
15. Define saltatory conduction with the help of a diagram
16. Write the normal count for RBC, WBC and platelets.
17. Draw a neat labeled diagram of a neuron.
18. Define the terms “transport maximum” and ‘renal threshold’.
19. Enumerate the placental hormones.
20. Define chloride shift
21. Define lung compliance. Give its normal value.
22. Define dead space. List the types of dead space,
23. Define hypoxia. Enumerate the types of hypoxia.

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Rajiv Gandhi University of Health Sciences, Karnataka

I Year B.Sc. (Allied Health Sciences) Degree Examination – Aug 2013

Time: Three Hours Max. Marks: 80 Marks

BIOCHEMISTRY (RS-2)

(MLT, O.T. Technology, Cardiac Care Technology, Perfusion Technology, Neuro Sciences Technology, Renal Dialysis Technology, Respiratory Care Technology, Medical Imaging Technology & Radiotherapy Technology)

Q.P. CODE: 1228

Your answers should be specific to the questions asked

Draw neat, labeled diagrams wherever necessary

LONG ESSAY (Any Two) 2 x 10 = 20 Marks

1. Explain the principle, use, care and maintainance of colorimeter. Draw a neatly labeled diagram of a colorimeter.
2. Define standard solutions Give a detailed account of preparation of stock standard solution of Glucose with pictorial representation.
3. Define SI units. Classify them with suitable examples under each category. Give the conversion factors from conventional unit to SI unit for serum electrolytes.

SHORT ESSAY (Any Six) 6 x 5 = 30 Marks

4. Explain the operation of pH meter. Name the different electrodes of pH meter.
5. Derive Henderson-Hasselbalch equation.
6. Explain the uses of oven, incubator and water bath.
7. What are the differences between glass micropipette and automated pipette? Explain pipetting technique using both pipettes.
8. What are fluid buffers? Explain the role of any one fluid buffer in regulation of blood pH.
9. What are indicators and universal indicators?
10. Draw neatly labeled diagram of two-pan laboratory balance. Add a note on the precautionary measures while weighing chemicals.
11. What is centrifugation? List three rotor heads for centrifuges.

SHORT ANWERS (Any Ten) 10 x 3 = 30 Marks

12. Metabolic acidosis
13. Arrehenius concept of acids
14. Uses of (a) conical flask (b) measuring cylinder (c) draining rack
15. What is saturated solution? What are its uses?
16. Define a salt and list different types of salts.
17. What is blood gas analysis?
18. What are different types of bottles used in a clinical laboratory?
19. Cleaning agent for new glassware and stained glassware
20. Define normality. How is 1N sodium chloride prepared?
21. Variable valency
22. Explain serial dilution of a body fluid.
23. Molecular weight of (a) Sodium chloride (b) Hydrochloric acid (c) Sodium fluoride

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Rajiv Gandhi University of Health Sciences, Karnataka

I Year B.Sc. (Allied Health Sciences) Degree Examination - Aug 2013

Time: Three Hours Max. Marks: 80 Marks

PATHOLOGY (RS-2)

(Clinical Pathology & Heamatology & Blood Banking)

(MLT, O.T. Technology, Cardiac Care Technology, Perfusion Technology, Neuro Sciences Technology, Renal Dialysis Technology, Respiratory Care Technology, Medic Imaging Technology & Radiotherapy Technology)

Q.P. CODE: 1229

Your answers should be specific to the questions asked
Draw neat labeled diagrams wherever necessary

LONG ESSAY (Any Two) 2 x 10 = 20 Marks

1. Describe the processing of tissue for routine paraffin sectioning
2. Write a essay in detailed stool examination
3. Explain the steps of H & E staining and their interpretation.

SHORT ESSAY (Any Six) 6 x 5 = 30 Marks

4. How do you prepare decalcifying fluid?
5. What are the various casts found in urine?
6. Synovial fluid analysis
7. Grossing techniques
8. Name the various methods used in estimation of hemoglobin. Describe in detail about cyanmethaemoglobin estimation
9. Urinary casts
10. Various mountants
11. Parts of microscope

SHORT ANWERS (Any Ten) 10 x 3 = 30 Marks

12. Filing slides
13. Name the uses of rectified spirit
14. What is a composition of urinary sediment?
15. Procedure of heat coagulation test
16. Add a note on clotting time
17. What is cross matching?
18. Name two anticoagulants used in blood bank
19. Removal of formalin pigment from sections
20. Mention two bile salts detected in urine
21. What is ideal fixative?
22. Test for sugar in urine
23. PCV tube (Wintrobe's tube)

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MICROBIOLOGY (RS-2)

(MLT, O.T. Technology, Cardiac Care Technology, Perfusion Technology, Neuro Sciences Technology, Renal Dialysis Technology, Respiratory Care Technology, Medic Imaging Technology & Radiotherapy Technology)

Q.P. CODE: 1230

Your answers should be specific to the questions asked
Draw neat labeled diagrams wherever necessary

LONG ESSAY (Any Two) 2 x 10 = 20 Marks

1. Describe the morphology, cultural characteristics and laboratory diagnosis of Mycobacterium tuberculosis.
2. Define Sterilisation. Name the different methods of sterilisation using moist heat. Discuss the principle of autoclave.
3. Describe in detail the life cycle and laboratory diagnosis of E. histolytica.

SHORT ESSAY (Any Six) 6 x 5 = 30 Marks

4. Flagella
5. Classification of microbes
6. Ascaris lumbricoides
7. Laboratory diagnosis of rabies
8. Morphology and diseases caused by Candida
9. National immunization schedule
10. Plasmodium vivax
11. Pasterisation

SHORT ANWERS (Any Ten) 10 x 3 = 30 Marks

12. Gaseous method of sterilisation
13. Antibiotics acting on cell wall
14. Tapeworms of medical importance
15. ASLO test
16. KOH preparation
17. Rheumatoid factor
18. Diagram of the egg of Whipworm
19. Coagulase test
20. Selective media for bacteria
21. Antibiotic disc diffusion test
22. BCG vaccine
23. Diarrhoea causing Escherichia coil

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