Rajiv Gandhi University of Health Sciences, Karnataka

First year B.Sc. Radiography Degree Examination – Feb/March 2011

Time: Three Hours | Max. Marks: 80 Marks

ANATOMY

Q.P. CODE: 2201

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. What is the difference between the structure of an artery and a vein? Name the parts of aorta and its branches and the areas of their supply
2. Name the cranial nerves in an order and the organs or systems supplied by them
3. Name the glands associated with gastrointestinal tract and describe the liver in detail

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

4. Superficial veins of the leg
5. Structures included in the visual system
6. What is axial skeleton and name the bones included under it?
7. Ureters
8. Large intestine: parts and function
9. Lymph nodes
10. The spinal cord
11. Name the joints of the upper limb and the bones forming them
12. Radial nerve
13. Mandible

SHORT ANSWERS — 10 x 2 = 20 Marks

14. Name the parts of a nephron
15. Name the structures involved in function of smell
16. Where are islets of langerhans found and give their function
17. How the inferior vena cava formed and where does it end?
18. Name the parts of the uterus
19. Name the veins opening in to the right atrium
20. Name the parts of the sternum
21. Structures piercing the diaphragm
22. Name the lymphatic organs of the body and where are they found
23. What is a tendon? Where is it attached and give its function?

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I Year B.Sc. Radiography Degree Examination – Aug / Sep 2011

Time: Three Hours | Max. Marks: 80 Marks

ANATOMY

Q.P. CODE: 2201

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

1. Describe a typical intercostal space
2. Name the ventricles of the brain and describe the circulation of C.S.F
3. Name the endocrine glands. Describe the Pituitary

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

4. Pericardium
5. Hilum of right Lung
6. Name the Dural Venous Sinuses
7. Name 4 derivatives of embryonic endoderm
8. List the muscles of the Tongue and the nerve supply
9. Histology of white fibro-cartilage
10. Names the bones of thoracic cage and their functions
11. Features of a typical Cervical Vertebra
12. List the muscles of Anterior Abdominal Wall
13. Mention the parts of large intestine

SHORT ANSWERS — 10 x 2 = 20 Marks

14. Normal constrictions of Ureter
15. Name the Tarsal bones
16. Growing end of a long bone
17. Two features of small intestine
18. Types of muscle tissue
19. Two features of Portal vein
20. Structures in Porta Hepatis
21. Two differences between Duodenum and Jejunum
22. Name two supinators of the forearm
23. Name the parts of extra hepatic biliary apparatus

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PHYSIOLOGY

Q.P. CODE: 2202

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. Describe the skeletal muscle contraction with suitable diagnosis. Add a note on Myasthenia Gravis
2. Describe the intrinsic mechanism of blood coagulation. Enumerate the various coagulation factors
3. Define Blood Pressure. Explain the short term regulation and physiological variations.

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

4. Lung volumes and capacities
5. Barorecetors
6. Intestinal movements
7. Triple reaction
8. Organ of corti
9. Goiter
10. Pyramidal tracts
11. Visual pathway
12. Menstrual cycle
13. Functions of Hypothalamus

SHORT ANSWERS — 10 x 2 = 20 Marks

14. Types of synapses
15. G F R
16. Spermatogenesis
17. Cretenism
18. Surfactant
19. W B C
20. Asphyxia
21. Heart sounds
22. Draw J G Apparatus
23. Insulin Hormone

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I Year B.Sc. Radiography Degree Examination – Aug / Sep 2011

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PHYSIOLOGY

Q.P. CODE: 2202

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. Define blood pressure. Discuss short term regulation of blood pressure
2. Explain with diagram the structure and functions of Juxtraglomerular apparatus
3. Describe with diagram the various stages of menstrual cycle

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

4. Describe the role of hypothalamus in body temperature regulation
5. Define cardiac cycle. Describe the different events taking place in it.
6. Describe the composition and function of pancreatic juice
7. Give the ionic basis of action potential in a nerve
8. Mention the clinical features of Cushing's syndrome
9. Explain with diagram the different stages of Erythropoiesis
10. Describe briefly the functions of the Middle Ear
11. Define Glomerular Filtration Rate. How is it measured?
12. Draw a spirogram showing various lung volumes and capacities
13. Explain negative feedback control mechanism of hormones giving one example

SHORT ANSWERS — 10 x 2 = 20 Marks

14. Draw a labeled diagram of Sarcomere
15. Define Cardiac output. Give its normal value
16. What is colour blindness?
17. Mention any four types of anemia
18. Advantages of Lumbar puncture
19. What is Diabetes Insipidus?
20. Name four functions of kidney
21. Name the different intestinal movements
22. Define Tetany
23. State Landsteiner's law

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I Year B.Sc. Radiography Degree Examination – Aug / Sep 2011

Time: Three Hours | Max. Marks: 80 Marks

RADIOLOGICAL PHYSICS

Q.P. CODE: 2203

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 about the theory, construction and working of an A. C. transformer. What are the transformer losses and how they can be minimized in a transformed
2. How continuous and characteristics spectrums are produced. Draw a neat diagram of an X-ray tube and briefly explain its working
3. Describe in detail about photoelectric, Compton and pair production interaction methods of x – rays and gamma rays with the medium

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

4. Alpha decay
5. Step down transformer
6. Artificial radioactivity
7. Ray and shock proofing in x – ray unit
8. Factors affecting the quality of x – rays
9. X – ray absorption and transmission in body tissues
10. Photographic film dosimeter
11. Exponential attenuation of x – rays
12. Cooling in x –ray tube
13. Radiation absorbed dose and its unit

SHORT ANSWERS — 10 x 2 = 20 Marks

14. Ionization and Excitation
15. Electron volt
16. Half value layer
17. Mass attenuation co – efficient
18. Mass number of an atom
19. Fluorescence
20. Decay constant
21. Effective dose equivalent
22. Voltmeter
23. Becquerel

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RADIOLOGICAL PHYSICS

Q.P. CODE: 2203

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. Briefly write how x – rays are produced in an x – ray tube and mention their important properties. Draw a neat diagram of an x – ray tube and briefly explain its working
2. Explain in detail how x – rays and gamma rays gets attenuated as they pass through the medium
3. Why transformers are necessary in x – ray circuit. Explain about the theory, construction and working of an A. C. transformer

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

4. Beta decay
5. Step up & step down transformers
6. Artificial radioisotopes and their use in medicine
7. Cooling in x – ray rube
8. Quality and intensity of x – rays
9. Exponential decay
10. X – ray beam hardening
11. Formation of image in the film
12. Characteristic x – rays
13. Radiation exposure and absorbed dose

SHORT ANSWERS 10 x 2 = 20 Marks

14. Turns ratio
15. Mutual induction
16. Half value thickness
17. Inverse square law
18. Mass and atomic number of an atom
19. Phosphorescence
20. Decay constant
21. Roentgen
22. Sivert
23. Thermionic emission

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