2008 **First Paper** **Full Marks 50**

Use separate answer script for each group

Attempt all questions. Draw suitable diagrams wherever necessary. The figures in the margin indicate full marks.

Group-A

1. Answer the following ***(any one)*** :

(a) During routine investigations, ultrasonography of whole abdomen of an adult healthy individual revealed incidence of Horse-Shoe shaped Kidney. Explain the case from your knowledge of Embryology. Discuss briefly the Development of kidney. Add a note on its Clinical Anatomy with Congenital Anomalies. 2+5+5

(b) An anxious lady complains to her doctor that right scrotal sac of her new-born male baby is found empty. The case is diagnosed as one of the anomalies of descent of Testis. Write a brief note on descent of Testis. Discuss various anomalies of descent. Explain how descent of female gonad differs from that of male. 5+5+2

Group-B

2. Answer the following ***(any two)*** :

(a) Following a street accident, a young man developes fracture of mid-shaft of Humerus. Discuss the distribution of the nerve, related to this part of the bone, while it passes through the arm. Add a note on its lesion while it is in relation to the spiral groove of the bone. 4+3

(b) An athlete while running, experienced severe cramps in his right thigh and was diagnosed as a case of Pulled- hamstrings. State the characteristics of Hamstrings. Mention the origin, insertion, nerve supply and actions of this group muscles. 3+4

(c) Bouts of haematemesis, following Cirrhosis of Liver of a patient was diagnosed to be due to obstruction of Portal Venous System. Explain the case from your knowledge of Anatomy. Give a brief account of the Portal Vein with a note on Porto-caval anastomosis. 2+5

Group-C

3. Write short notes on ***(any four)*** : 4×3

(a) Intervertebral Disc.
(b) Placenta previa.
(c) Relation of Head of Pancreas.
(d) Carpal Tunnel Syndrome.
(e) Deltoid Ligament of Ankle.

Group-D

4. Write brief explatory notes on the following statements using your knowledge of Anatomy/Embryology : 4×3

(a) Metastasis from Carcinoma of infero-medical quadrant of breast may take place in pelvic cavity.

(b) Peroneus longus, while acting alone, has role on both transverse as well as longitudinal arches of foot.

(c) Rupture of membranous part of urethra may cause extravassation of urine in anterior abdominal wall.

(d) Incidence of Inguinal Hernia in normal healthy individual is prevented by Shutter mechanism.

2008 **Second Paper** **Full Marks 50**

Use separate answer script for each group

Attempt all questions. Draw suitable diagrams wherever necessary.
The figures in the margin indicate full marks.

Group-A

1. Answer the following ***(any one)*** :
   (a) Following operation on Thyroid Gland, a patient developed hoarseness of voice. Give a brief note on muscles acting on vocal cord and state from your knowledge of Anatomy, what happened wrong with the patient. Discuss briefly the important relations and arterial supply as well as venous drainage of the Thyroid Gland. Mention what precautions, based on anatomical knowledge, are to be taken by a surgeon during operation on thyroid gland. 4+6+2
   (b) A patient suffering from Parotid Tumor with malignant change gets complication of Bell's Paralysis. Mention the anatomical changes that occurred in Bell's paralysis in this case. Discuss briefly the important relations, structures in the interior and nerve supply of the Parotid Gland. 4+8

Group-B

2. Answer the following ***(any two)*** :
   (a) A child, aged 8 years, with features of breathlessness on exertion and cyanosis since birth was diagnosed to be the case of Fallot's Tetralogy. Explain the disorder from your knowledge of Embryology. Write a note on development and blood supply of Inter ventricular septum. 3+4
   (b) A patient with Argyll Robertson's Pupil presents persistence of accommodation reflex, but loss of light reflex. Discuss briefly the accommodation reflex pathway. State how can you justify the specific neurological deficit in this case. 5+2
   (c) Neglected infection in Dangerous area of face of a patient led to Cavernous Sinus Thrombosis. State the reasons, from your knowledge of Anatomy. Mention the communication and anatomical basis of complications arising from structures related to the thrombosed sinus. 2+5

Group-C

3. Write short notes ***(any four)*** : 4×3
   (a) Constrictions of Oesophagus. (b) Blood-Brain Barrier. (c) Iris. (d) Middle meatus of nose. (e) Inferior Constrictor muscle of Pharynx.

Group-D

4. Write brief explanatory notes on the following statements using your knowledge of Anatomy/Embryology : 4×3
   (a) Right recurrent laryngeal nerve hooks round right subclavian artery, whereas the left does round the ligamentum arteriosum.
   (b) Visual defect due to occlusion of Posterior cerebral artery does not have effect on macular vision.
   (c) Layer of loose connective tissue is called "Dangerous layer of scalp."
   (d) Recurrent throat infection in a child, if neglected, may lead to Mastoiditis.

2008 **First Paper** **Full Marks 50**

Use separate answer script for each group

Attempt all questions. Draw suitable diagrams wherever necessary.
The figures in the margin indicate full marks.

Group-A

1. (a) What are the Junctional tissues of heart ? How cardiac impulse is generated and transmitted across the heart ? Describe briefly the difference between Cardiac muscle action potential and skeletal muscle action potential. What is idioventricular rhythm ? 2+4+4+2

Or

(b) What is haemopoiesis ? Describe the different stages of development of etythrocytes. Discuss the different factors in the regulation of erythropoiesis. What is reticulocyte crisis and when it occurs ? 1+4+5+2

Group-B

2. Answer the following ***(any two)*** :
   (a) Define and classify hypoxia. Comment on the efficiency of oxygen therapy in different types of hypoxia. 5+2
   (b) List the functions of bile salts. What is the results of complete biliary obstruction ? 4+3
   (c) Describe gastric mucosal barrier. Discuss pathophysiology of Peptic ulcer and its treatment. 3+4

Group-C

3. Write short notes on ***(any four)*** of the following : 4 x 3
   (a) Secondary active transport.
   (b) Molecular mechanism of muscle contraction.
   (c) Rh-incompatibility.
   (d) Ventilation- Perfusion ratio.
   (e) Peripheral resistance.

Group-D

4. Give the physiological explanation of the following : 4 x 3
   (a) Loss of immune functions occur in AIDS.
   (b) Aspirin in low doses prevents intravascular coagulation.
   (c) Common carotid artery occlusion causes increased blood pressure.
   (d) Cheyne-Stokes breathing occurs in voluntary hyperventilation.

2008 **Second Paper** **Full Marks 50**

Use separate answer script for each group.
Attempt all questions. Draw suitable diagrams wherever necessary.
The figures in the margin indicate full marks.

Group-A

1. (a) Name the different components of basal ganglia. What are the functions of basal ganglia ? Outline there connection. What is the physiological basis of hypokinesia in Parkinsonism? 3+3+4+2

Or

(b) What is normal blood calcium level ? Mention the physiological functions of calcium in the body. Discuss briefly how normal blood calcium level in maintained. 1+3+8

Group-B

2. Answer the following ***(any two)*** :
   (a) What is spermatogenesis ? Describe the hormonal control of spermatogenesis. 2+5
   (b) What is the normal pH of urine ? How this normalcy of pH is maintained ? 2+5
   (c) Describe the auditory pathway with a suitable diagram. How will you differentiate between conduction deafness and nerve deafness? 5+2

Group-C

3. Write short notes on ***(any four)*** of the following : 4 x 3
   (a) EEG waves.
   (b) Immunological basis of pregnancy test.
   (c) Creatinine clearance test.
   (d) Decerebrate rigidity.
   (e) Colour blindness.

Group-D

4. Give the physiological explanation of the following : 4 x 3
   (a) Optic tract lesion leads to homonymous hemianopia.
   (b) Speech becomes meaningless if the arcuate fasciculus is damaged.
   (c) Babinski's sign appears after corticospinal tract lesion.
   (d) Food intake is increased in diabetes mellitus.

2008 **First Paper** **Full Marks 50**

Use separate answer script for each group

Attempt all questions. The figures in the margin indicate full marks.

Group-A

1. (a) Enumerate the different physiological buffers. Describe the role of kidney and lungs in maintenance of blood pH. 2+5+5

Or

(b) Explain the oxidative level phosphorylation and substrate level phosphorylation. Give two examples of substrate level phosphorylation. Explain the mitochondrial electron transprot chain. 2+2+8

Group-B

2. Answer any two :
   (a) Describe the primary, secondary and tertiary structure of protein mentioning the forces that stabilise them. 7
   (b) What are isotopes ? What are the uses of isotopes in diagnosis and treatment of disease ? 7
   (c) What are the different types of enzyme inhibitors ? Explain with suitable examples. 7

Group-C

3. Write notes on ***(any four)*** : 4x3
   (a) Isoenzymes. (b) Glutathione. (c) Respiratory acidosis.
   (d) Eicosanoids. (e) Sphingolipids.

Group-D

4. Explain the following statements : 4x3
   (a) Dietary purines are not essential.
   (b) Intake of fish oil is good for health.
   (c) Superoxide dismutase protects aerobic organisms against oxygen toxicity.
   (d) Sodium fluoride is added to blood sampls drawn for blood sugar estimation.

2008 **Second Paper** **Full Marks 50**

Use separate answer script for each group

Attempt all questions. The figures in the margin indicate full marks.

Group-A

1. (a) Describe the process of replication in E.coli with suitable diagram. Mention the differences among E.coli polymerases. 8+4

Or

(b) Explain how normal blood sugar is maintained by various mechanisms. 12

Group-B

2. Answer any two :
   (a) Name the end point of purine catabolism and process of breakdown of purine. 2+5
   (b) What are the metabolic products of tyrosine ? Describe with suitable flow chart, the biosynthesis of catecholamines. 2+5
   (c) Define jaundice. With the help of liver function tests and urine tests how it can be differentiated between hepatocellular and obstructive jaundice? 2+5

Group-C

3. Write notes on ***(any four)*** : 4 x 3
   (a) Ribozyme (b) Folate Trap. (c) Restriction Endonuclease.
   (d) Metabolic role of Glucuronic acid. (e) Wald's visual cycle.

Group-D

4. Explain the following statements : 4 x 3
   (a) The concentration of creatinine in blood reflects the renal function of the individual.
   (b) Choline is a lipotropic agent.
   (c) Fructose leads to formation of more VLDL.
   (d) Alcohol consumption precipitates gout.