Rajiv Gandhi University of Health Sciences, Karnataka

MBBS Phase – I (CBME) Degree Examination - 16-Jan-2026

Time: Three Hours **Max. Marks: 100**

ANATOMY – PAPER - I (RS-4, RS-5 & RS-6)
Q.P. CODE: 1020
(QP Contains two pages)

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

LONG ESSAYS **2 x 10 = 20 Marks**

1. A 72-year-old male is admitted to the hospital with complaints of severe chest pain radiating to his left arm. ECG examination provides evidence of significant myocardial infarction of the posterior wall of the Right ventricle. Explain why the pain radiated to left arm in this condition? Describe the external features, interior and blood supply of Right ventricle of the heart.
2. Explain the attachments, nerve supply and actions of extraocular muscles of eyeball

SHORT ESSAYS **8 x 5 = 40 Marks**

3. A 40-year-old patient is diagnosed with breast cancer, and further investigations reveal that the cancer has spread to the lymph nodes located in the axilla. Describe the location, afferent and efferent lymphatics and area of drainage of Axillary lymph nodes
4. Describe the Elbow joint under the subheadings of type of joint, bones forming, ligaments, movements and muscles causing them
5. Describe the mediastinal surfaces of Right and Left lung
6. Describe the parts and relations of Thyroid gland. Explain why thyroid swellings move with deglutition
7. Describe the parts and blood supply of Internal Capsule. Add a note on its applied anatomy
8. Describe the formation and fate of Somites
9. Compare and contrast microscopic structure of skeletal and cardiac muscle
10. Describe the boundaries and recesses of Third ventricle

SHORT ANSWERS **10 x 3 = 30 Marks**

11. Explain the formation and termination of Cephalic vein
12. List the boundaries and contents of Quadrangular space
13. Draw a neat labelled diagram of Bicuspid valve complex
14. Mention any two atypical features of Axis and any two ligaments attached to it.
15. Explain the formation of carotid sheath and enumerate its contents
16. Mention the blood supply and nerve supply of larynx above and below vocal cords
17. Classify the white matter of cerebrum with examples
18. Classify Cartilaginous joints with examples
19. Differentiate capillaries and sinusoids with examples
20. Classify the intraembryonic mesoderm. List one derivative from each of the subdivision

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Multiple Choice Questions **10 x 1 = 10 Marks**

21 i) Which of the following two structures are likely to be injured in fracture of midshaft of humerus
- **A. Radial nerve and Profunda Brachial artery**
- B. Musculocutaneous nerve and Anterior circumflex humeral artery
- C. Axillary nerve and posterior circumflex humeral artery
- D. Suprascapular nerve and Suprascapular artery

21 ii) Metamorphosis of spermatids to spermatozoa is known as
- A. Spermatocytosis
- B. Spermiogenesis
- C. Mitosis
- D. Meiosis

21 iii) What does simple columnar epithelial tissue refer to? Tissue with _____
- A. A single layer of cells whose length is more than width
- B. A single layer of cells whose length, breadth and depth are about the same size.
- C. Several layers of cells, all of the same type.
- D. Several layers of cells but without a basement membrane.

21 iv) Which plane of the body divides it into dorsal and ventral regions?
- A. Transverse
- B. Axial
- C. Coronal
- D. Sagittal

21 v) Which of the following may compress the esophagus?
- A. Arch of aorta
- B. Right main bronchus
- C. Left vagus nerve
- D. Right brachiocephalic vein

22 i) Which of the following list best describes the pathway of tears from the lacrimal glands to the nasal cavity?
- A. Lacrimal ducts . . .lacrimal canaliculi . . . Lacrimal sac . . Nasolacrimal duct
- B. Lacrimal ducts . . .lacrimal sac . . .lacrimal canaliculi . .nasolacrimal duct
- C. Lacrimal canaliculi . . .lacrimal ducts . . . Lacrimal sac . . . Nasolacrimal duct
- D. Lacrimal canaliculi . . . lacrimal sac . . .lacrimal ducts . . .nasolacrimal duct

22 ii) An epidural hematoma consists of blood from which vessel?
- A. Vertebral artery
- B. Internal carotid artery
- C. Middle meningeal artery
- D. Cerebral veins

22 iii) Which of the following cells have centrally placed nucleus
- A. Columnar cell
- B. Skeletal Muscle
- C. Adipose cell
- D. Cuboidal cell

22 iv) The meeting point of Coronal and Sagittal suture is known as
- A. Inion
- B. Pterion
- C. Glabella
- D. Bregma

22 v) Which of the following arteries accompanies the Phrenic nerve in Middle mediastinum
- A. Pericardiophrenic artery
- B. Musculophrenic artery
- C. Superior Phrenic artery
- D. Inferior Phrenic artery

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Time: Three Hours **Max. Marks: 100**

ANATOMY – PAPER – I (RS-7)
Q.P. CODE: 5501
(QP Contains Four Pages)

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

LONG ESSAY **1 x 10 = 10 Marks**

1. Describe the median nerve under following headings
   a) Origin & root value
   b) Course & relations
   c) Branches & distribution

REASONING QUESTIONS (Short Answer) **5 x 3 = 15 Marks**

2. Explain the anatomical basis of Triangle of Koch which is considered as important surgical landmark. Explain its boundaries.
3. An eighteen-year old girl developed dizziness and had a fall on sudden rotation of neck. Explain the anatomical basis of carotid sinus and carotid body
4. Explain the anatomical reason why triceps brachii escapes complete paralysis in injury to the radial nerve in the spiral groove. Mention the root value and termination of Radial nerve
5. Explain the anatomical significance of dural folds. Name the dural folds.
6. Explain why a lesion in the Brodmann's area 5 and 7 results in astereognosis.

SHORT NOTES **4 x 5 = 20 Marks**

7. Explain the anatomical basis of ligation of vessels during thyroidectomy. Explain the venous drainage of thyroid gland.
8. Describe the parts and relations of lateral ventricle. Add a note on its applied aspects
9. Describe the pleural recesses. Add a note on its applied aspects.
10. Describe the process of Implantation. Add a note on abnormal sites of implantation.

SHORT NOTES **7 x 5 = 35 Marks**

11. Describe the pericardial sinuses of heart. Mention the nerve supply and blood supply of pericardial sinuses
12. Explain the topographical and functional relations and connections of otic ganglion.
13. Compare and contrast the microscopy of hyaline and elastic cartilage with neat labelled diagram.
14. Explain the boundaries and contents of posterior triangle of neck.
15. **Draw a neat labelled diagram of cross section at the level of eighth thoracic vertebra**
16. Explain the gross features, relations and nerve supply of submandibular salivary gland
17. Explain the role of cadaver as your first teacher.

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MULTIPLE CHOICE QUESTIONS (All scenario based) **20 x 1 = 20 Marks**

18 A 6-year boy fell from chair and injured his limb. He was brought to the casualty and was diagnosed with dislocation of elbow joint

18 (i) What type of joint is this?
- A. Ball and socket type
- B. Condyloid type
- C. Hinge type
- D. Ellipsoid type

18 (ii) On what axis the movement take place
- A. Vertical axis
- B. Transverse axis
- C. Anteroposterior axis
- D. Multiaxial

19 A neurobiologist surgically removes the neural crest in the thoracic region of a chick embryo immediately after closure of the neural tube.

19 (i) Which of the following cell types is most likely to be affected?
- A. Bone cells in the ribs
- B. Goblet cells lining the respiratory tract
- C. Skeletal muscle cells in the thoracic wall
- D. Neurons of sympathetic ganglia

19 (ii) Neural crest cells are a unique population of multipotent, migratory cells that emerge during which of the following processes?
- A. Neurulation
- B. Gastrulation
- C. Formation of embryoblast
- D. Formation of trophoblast

20 A 60-year-old female visited Medicine OPD complaining of dizziness. The consultant asked the intern to record the blood pressure, to rule out hypertension.

20 (i) The artery used for recording blood pressure is
- A. Profunda brachii artery
- B. Brachial artery.
- C. Radial artery
- D. Ulnar artery

20 (ii) Level of termination of this artery
- A. Styloid process of radius
- B. Head of radius
- C. Neck of radius
- D. Radial tuberosity

21 A man after a Road Traffic Accident had dislocation of right shoulder joint.

21 (i) Which of the following is the most common dislocation of shoulder joint?
- A. Anterior
- B. Posterior
- C. Superior
- D. Inferior

21 (ii) All of the following are rotator cuff muscles of shoulder **EXCEPT**.
- A. Supraspinatus
- B. Infraspinatus
- C. Teres major
- D. Teres minor

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ANATOMY – PAPER – I (RS-7)
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22 A 45-year male complains of difficulty in swallowing.

22 (i) At what vertebral level pharynx continues as oesophagus
- A. C6
- B. T1
- C. C5
- D. C4

22 (ii) Which structure passes between superior and middle constrictor of pharynx
- A. Levator veli palatini
- B. Auditory tube
- C. Glossopharyngeal nerve
- D. Superior laryngeal vessels

23 During dental procedure, local anesthesia is given near the mandibular foramen.

23 (i) Which of the following nerve is targeted for block?
- A. Facial nerve
- B. Lingual nerve
- C. Buccal nerve
- D. Inferior alveolar nerve

23 (ii) The targeted nerve is a branch of which of the following nerve
- A. Anterior division of Mandibular nerve
- B. Posterior division of Mandibular nerve
- C. Main trunk of Mandibular nerve
- D. Maxillary nerve

24 A 35-year-old male is brought to the emergency department after an attempted suicidal hanging. Imaging reveals a fracture-dislocation at the craniovertebral junction.

24 (i) The probable bone fractured is
- A. Transverse process of atlas
- B. Odontoid process of axis
- C. Anterior arch of atlas
- D. Spinous process of axis

24 (ii) Which structure is most directly responsible for the instability of the craniovertebral junction in above fracture
- A. Anterior longitudinal ligament
- B. Ligamentum flavum
- C. Posterior longitudinal ligament
- D. Transverse ligament of the atlas

25 A 40-year old male was brought to Emergency OPD with complaints of slurred speech, food accumulating in the mouth and difficulty in swallowing. During examination, on protruding, tongue was found to deviate to one side. A diagnosis of paralysis of tongue muscles was done.

25 (i) The nerve supplying the muscles of tongue is
- A. Lingual nerve
- B. Glossopharyngeal nerve
- C. Mandibular nerve
- D. Hypoglossal nerve

25 (ii) Safety muscle of the tongue which prevents it from falling back is
- A. Hyoglossus
- B. Genioglossus
- C. Palatoglossus
- D. Styloglossus

26 Following a road traffic accident, a patient had left sided homonymous hemianopia

26 (i) Which of the following structure is injured in the patient?
- A. Right optic nerve
- B. Left optic nerve
- C. Left optic tract
- D. Right optic tract

26 (ii) Which of the following structure forms the part of optic pathway?
- A. Medial geniculate body
- B. Lateral geniculate body
- C. Red nucleus
- D. Inferior colliculus

27 65-year-old man presents with resting tremor, bradykinesia, rigidity, and a shuffling gait. Neurological examination suggests a classic presentation of Parkinson's disease.

27 (i) Which part of the midbrain is primarily degenerated in this patient, leading to Parkinsonian symptoms?
- A. Substantia nigra
- B. Cerebral peduncle
- C. Tectum
- D. Tegmentum

27 (ii) The involved part is made up of deeply pigmented nerve cell which contains
- A. Copper
- B. Nickel
- C. Neuromelanin and Iron
- D. Acetylcholine

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