

M.B.B.S. FIRST PROFESSIONAL EXAMINATION, SEPTEMBER-2025**ANATOMY
PAPER - FIRST****[Time allotted: Three hours]****SET - A****[Max Marks: 100]****Q. 1. Multiple choice questions (Darken the single best response in OMR sheet. Time allotted 20 minutes) (20 x 01 = 20)**

1. A patient with a deep laceration under the chin is found to have difficulty in depressing the mandible. Which nerves are likely damaged if both bellies of the digastric muscle are involved?
 - a. Glossopharyngeal & mandibular nerves
 - b. Lingual & mandibular nerves
 - c. Glossopharyngeal & maxillary nerves
 - d. Mandibular & facial nerves
2. After tonsillectomy, a patient complains of loss of taste and general sensation from the posterior third of the tongue. Which nerve is most likely injured?
 - a. Superior laryngeal nerve
 - b. Recurrent laryngeal nerve
 - c. Glossopharyngeal nerve
 - d. Mandibular nerve
3. In a case of orbital trauma, a nerve that lies outside the common tendinous ring in the superior orbital fissure remains intact. Which one is it?
 - a. Oculomotor nerve
 - b. Trochlear nerve
 - c. Abducent nerve
 - d. Nasociliary nerve
4. A dental student is studying branches of the mandibular nerve. Which of the following is NOT from its posterior division?
 - a. Buccal nerve
 - b. Auriculotemporal nerve
 - c. Lingual nerve
 - d. Inferior alveolar nerve
5. A child has a blocked nasolacrimal duct. The opening of this duct is found in which nasal meatus?
 - a. Superior meatus
 - b. Supreme meatus
 - c. Inferior meatus
 - d. Middle meatus
6. A radiologist identifies a vascular remnant derived from the second pharyngeal arch. Which of the following structures is it?
 - a. Hyoid & stapedial arteries
 - b. Maxillary artery
 - c. Internal carotid artery
 - d. Ductus arteriosus
7. A surgeon removes a parathyroid tumor. Histological analysis shows it came from the superior parathyroid gland. Which pouch gives rise to it?
 - a. 1st pharyngeal pouch
 - b. 2nd pharyngeal pouch
 - c. 3rd pharyngeal pouch
 - d. 4th pharyngeal pouch
8. An embryology student studies the development of the upper lip. The central depression (philtrum) is derived from which structure?
 - a. Globular process
 - b. Maxillary process
 - c. Mandibular process
 - d. Palatine process
9. MRI of a patient's brain reveals a lesion in the most lateral cerebellar nucleus. Which nucleus is affected?
 - a. Fastigial
 - b. Emboliform
 - c. Dentate
 - d. Globose
10. A stroke patient presents with expressive aphasia. CT shows infarction in Broca's area. Which artery is most likely blocked?
 - a. Anterior cerebral artery
 - b. Middle cerebral artery
 - c. Posterior cerebral artery
 - d. Basilar artery
11. A patient with spinal cord injury cannot perceive pain and temperature below a certain level. Which tract is most likely affected?
 - a. Spinocerebellar tracts
 - b. Posterior column pathways
 - c. Lateral Spinothalamic tracts
 - d. Corticospinal tracts
12. An infarct of the genu of internal capsule will most likely affect corticospinal fibers for which part?
 - a. Upper limb
 - b. Trunk
 - c. Lower limb
 - d. Head & Neck
13. An MRI scan shows that the filum terminale ends at a particular vertebral level. What is this level?
 - a. Ventral aspect of second sacral vertebra
 - b. Lower border of first lumbar vertebra
 - c. Lower border of third sacral vertebra
 - d. Dorsal aspect of 1st coccygeal vertebra
14. A pituitary tumor extends laterally into the cavernous sinus. Which of the following nerves is NOT related to the lateral wall?
 - a. Oculomotor
 - b. Trochlear
 - c. Trigeminal
 - d. Abducent
15. A nerve block is performed targeting the posterior cord of the brachial plexus. Which of these nerves will be affected?
 - a. Musculocutaneous nerve
 - b. Ulnar nerve
 - c. Nerve to latissimus dorsi
 - d. Median nerve
16. A forearm muscle shows normal function after a median nerve injury. Which muscle is most likely spared?
 - a. Flexor carpi radialis
 - b. Flexor carpi ulnaris
 - c. Pronator teres
 - d. Palmaris longus
17. X-ray of a long bone shows an epiphyseal center that transmits load. Identify the pressure epiphysis.
 - a. Coracoid process of scapula
 - b. Radial tuberosity
 - c. Head of radius
 - d. Fabella
18. A unique fascicular arrangement was found in a chest muscle on dissection. Spiral/twisted fasciculi are characteristic of which muscle?
 - a. Deltoid
 - b. 1st & 2nd lumbricals
 - c. Pectoralis major
 - d. 3rd & 4th lumbricals
19. A zygote is studied under IVF conditions. On which day does implantation normally occur?
 - a. 4th day
 - b. 6th day
 - c. 8th day
 - d. 9th day
20. A chorionic villus sample is obtained to check for fetal development. Which component is absent in secondary villi?
 - a. Cytotrophoblast
 - b. Syncytiotrophoblast
 - c. Mesoderm
 - d. Fetal blood vessels

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Note: Attempt all questions in sequence.
Draw suitable diagrams (wherever necessary)

- Q. 2. Give reasons:** (5 x 2 = 10)
- Lesions of surgical neck of humerus may lead to difficulty in shoulder abduction
 - Posterior cricoarytenoid is known as safety muscle of larynx
 - Region of upper lip & lower nose is known as dangerous area of face
 - Oculomotor nerve palsies present with a fixed and dilated pupil
 - Lumbar puncture is done at the level of Intervertebral disc between L3 & L4
- Q. 3. Problem based question:** (1+3+3+3 = 10)
- A 46 year old female presented to the OPD with a midline swelling in the neck for the last two years. On examination it was found that the swelling moved with deglutition. TSH level were found to be elevated. The swelling was diagnosed to be a thyroid swelling.
- Why did the swelling move with deglutition?
 - Draw a well labeled diagram showing arterial supply of thyroid gland.
 - Write about development of thyroid gland.
 - Draw a well labeled diagram showing microstructure (histology) of thyroid gland.
- Q. 4. Write briefly on:** (4 x 6 = 24)
- Development of Tongue & correlation with nerve supply
 - Lumbrical muscles of hand
 - Circulation of cerebrospinal fluid
 - Principles of effective patient- doctor communication
- Q. 5. Structured questions:**
- (i) Describe the pharynx under the following headings: (3+3+4= 10)
- Labeled diagram showing structures passing between constrictor muscles
 - A note on Pyriform fossa
 - Enumeration of muscular derivatives of all pharyngeal arches
- (ii) Describe the shoulder joint under the following headings: (3+3+4= 10)
- Table showing movements & muscles responsible
 - Diagram showing relations
 - Note on Rotator cuff
- Q. 6. Answer as indicated:** (4 x 4 = 16)
- Draw a well labeled diagram showing floor of fourth ventricle
 - Enumerate the branches of external carotid artery
 - Enumerate the neural crest derivatives
 - Classify fibrous joints with examples of each type
