

## M.B.B.S. FIRST PROFESSIONAL EXAMINATION, FEBRUARY-2021

## HUMAN ANATOMY

## PAPER - FIRST

[Time allotted: Three hours]

SET - A

[Max Marks: 100]

Q. 1. Multiple choice questions (attempt all MCQs in the allotted first 20 minutes in the OMR sheet) (1 x 20 = 20)

1. Buccinator muscle:
  - a. Is supplied by mandibular nerve
  - b. Is a derivative of 2nd arch mesoderm
  - c. Lies superficial to the masseter
  - d. Is pierced by the submandibular duct
2. The following nerve is related in the floor of the orbit:
  - a. Oculomotor
  - b. Trochlear
  - c. Abducent
  - d. Infraorbital
3. The following layer/s of cervical fascia is deficient in the posterior triangle:
  - a. Investing
  - b. Pretracheal
  - c. Prevertebral
  - d. Investing and pretracheal
4. Lateral wall of the pyriform fossa is formed by:
  - a. Thyrohyoid membrane
  - b. Cricothyroid
  - c. Aryepiglottic fold
  - d. Lateral glossoepiglottic fold
5. Ansa cervicalis contains the following spinal segments:
  - a. C1 only
  - b. C2 & C3 only
  - c. C1 & C2 only
  - d. C1, C2 & C3 segments
6. The following is/are the receptors for maintaining equilibrium:
  - a. Organ of Corti
  - b. Macula and crista
  - c. Spiral ganglion
  - d. Inferior colliculus
7. Safety muscle of tongue is:
  - a. Genioglossus
  - b. Styloglossus
  - c. Palatoglossus
  - d. Hyoglossus
- Postganglionic secretomotor fibres reach the sublingual salivary gland via the following nerve:
  - a. Hypoglossal
  - b. Chorda tympani
  - c. Auriculotemporal
  - d. Lingual
- Proprioceptive fibres from facial muscles reach:
  - a. Motor nucleus of V nerve
  - b. Motor nucleus of VII nerve
  - c. Mesencephalic nucleus of V nerve
  - d. Spinal nucleus of V nerve
- Paracentral lobule is supplied by:
  - a. Anterior cerebral artery
  - b. Middle cerebral artery
  - c. Posterior cerebral artery
  - d. Vertebral artery
11. Mossy fibres are present in:
  - a. Motor areas of cerebral cortex
  - b. Sensory areas of cerebral cortex
  - c. Cerebellum
  - d. Spinal cord
12. Genu of internal capsule gives passage to corticospinal fibres for:
  - a. Head and neck
  - b. Upper limb
  - c. Trunk
  - d. Lower limb
13. Broadman's area nos 44 & 45 contains:
  - a. Sensory speech area
  - b. Motor speech area
  - c. Auditory area
  - d. Visual area
14. Inferior colliculus of midbrain is:
  - a. Higher centre for vision
  - b. Higher centre for hearing
  - c. Lower centre for vision
  - d. Lower centre for hearing
15. Axillary nerve:
  - a. Has a root value of C6 & C7
  - b. Originates from Erb's point
  - c. Paralysis causes flattening of shoulder
  - d. Is a content of lower triangular space
16. First carpometacarpal joint is a:
  - a. Ellipsoid joint
  - b. Saddle joint
  - c. Hinge joint
  - d. Pivot joint
17. Anterior horn cells of spinal cord is an example of:
  - a. Unipolar neuron
  - b. Pseudounipolar neuron
  - c. Bipolar neuron
  - d. Multipolar neuron
18. Joints between bodies of vertebrae is of the following variety:
  - a. Syndesmoses
  - b. Primary cartilaginous joint
  - c. Secondary cartilaginous joint
  - d. Plane synovial joint
19. Apical ligament of dens is a derivative of:
  - a. Primitive streak
  - b. Neural crest cells
  - c. Notochord
  - d. Allantois
20. Bilaminar embryonic disc is formed by the end of:
  - a. 1st week
  - b. 2nd week
  - c. 3rd week
  - d. 4th week

**HUMAN ANATOMY**  
**PAPER- FIRST**

2020

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

- Q. 2. Give reasons:** (2 x 5 = 10)
- a. Parotitis causes difficulty in chewing of food.
  - b. Blunt trauma over the front of scalp causes black eye formation.
  - c. Haemorrhage in the Posterior inferior cerebellar artery causes vertigo, nystagmus, ipsilateral loss of pain sensation from the face and loss of gag reflex.
  - d. Infranuclear facial palsy leads to paralysis of the complete half of the face on ipsilateral side.
  - e. Supracondylar fractures of upper limb if inadequately treated leads to Volkman's ischaemic contracture.
- Q. 3. Problem based question:** (2+4+2+2 = 10)
- A 45- year old woman from the hills came to the surgery OPD with complaints of a swelling in the lower part of midline of neck. On examination, the swelling moved with deglutition.
- a. Identify the organ involved. Why does it move with deglutition?
  - b. Write about the blood supply of this organ with applied aspects
  - c. Add a note on its development.
  - d. Draw the microscopic structure of this organ.
- 4. Write briefly on:** (6 x 4 = 24)
- a. Nerve supply of Tongue
  - b. Claw hand
  - c. Arterial supply of Spinal cord
  - d. Principles of communication and its improvement
- 5. Structured questions:**
- (i) With the help of a well labelled diagram illustrate the structures related to the walls of the middle ear. Give the applied importance of its major communications. Add a note on the nerve supply of the external auditory meatus with its clinical importance. (5+3+2= 10)
  - (ii) Draw a well labelled diagram to show the relations of the shoulder joint. Enumerate its ligaments. Add a note on the Rotator cuff muscles. Discuss briefly about the dislocation of this joint. (3+2+3+2= 10)
- 6. Answer as indicated:** (4 x 4 = 16)
- a. Draw a well labelled diagram showing histological structure of cerebellum
  - b. Write about blood supply of a long bone
  - c. Write about Cleft lip
  - d. Write about Twinning

[Time allotted: Three hours]

Q. 1. Multiple choice questions (attempt all MCQs in the allotted first 20 minutes in the OMR sheet) (1 x 20 = 20)

1. Not a feature of transverse process of the 5<sup>th</sup> lumbar vertebra:
  - a. Short
  - b. Pyramidal shaped
  - c. Extending towards pedicle
  - d. Broad at its end
2. Nerve supply of pyramidalis:
  - a. T9
  - b. T10
  - c. T11
  - d. T12
3. Bulbourethral glands are present in:
  - a. Superficial perineal pouch
  - b. Deep perineal pouch
  - c. Ischioanal fossa
  - d. Pelvic diaphragm
4. True about urorectal septum:
  - a. It is an endodermal extension
  - b. Site where it touches cloacal membrane forms perineal body
  - c. Divides cloaca into vesicourethral canal & allantoic diverticulum
  - d. Median umbilical ligament is its remnant
5. Not a direct branch of coeliac trunk:
  - a. Common hepatic artery
  - b. Splenic artery
  - c. Left gastric artery
  - d. Gastro duodenal artery
6. Fold connecting liver with stomach is:
  - a. Greater omentum
  - b. Lesser omentum
  - c. Gastro phrenic ligament
  - d. Gastro splenic ligament
7. Which artery does not supply suprarenal gland?
  - a. Inferior phrenic artery
  - b. Abdominal aorta
  - c. Renal artery
  - d. Gonadal artery
8. Vertebral level of Inferior Vena cava opening in the thoracoabdominal diaphragm is:
  - a. T6
  - b. T8
  - c. T10
  - d. T11
9. Ligamentum teres hepatis is a remnant of:
  - a. Left umbilical artery
  - b. Right umbilical artery
  - c. Left umbilical vein
  - d. Right umbilical vein
10. Transpyloric plane is present at the level of:
  - a. L1
  - b. L2
  - c. L3
  - d. L4
11. Nerve in anterior wall of femoral sheath:
  - a. Femoral branch of genitofemoral nerve
  - b. Genital branch of genitofemoral nerve
  - c. Ilioinguinal nerve
  - d. Obturator nerve
12. Nerve related around the neck of fibula:
  - a. Sciatic nerve
  - b. Common peroneal nerve
  - c. Tibial nerve
  - d. Deep peroneal nerve
13. Nerve supply of short head of biceps femoris is:
  - a. Common peroneal nerve
  - b. Sciatic nerve
  - c. Tibial nerve
  - d. Deep peroneal nerve
14. Not a contributor to cruciate anastomosis:
  - a. Medial circumflex femoral artery
  - b. Lateral circumflex femoral artery
  - c. Superior gluteal artery
  - d. Inferior gluteal artery
15. Oblique sinus is related with which surface of the heart?
  - a. Anterior surface
  - b. Base
  - c. Diaphragmatic surface
  - d. Sternocostal surface
16. Angle of Louis is present at the level of lower border of:
  - a. T1
  - b. T2
  - c. T3
  - d. T4
17. Trachea begins at the vertebral level of:
  - a. C5
  - b. C6
  - c. C7
  - d. T1
18. Trachea develops from which germ layer:
  - a. Ectoderm
  - b. Mesoderm
  - c. Endoderm
  - d. All three germ layers
19. True about karyotype of Down's syndrome:
  - a. Trisomy of 21<sup>st</sup> chromosome
  - b. Monosomy of 21<sup>st</sup> chromosome
  - c. Tetrosomy of 16<sup>th</sup> chromosome
  - d. Trisomy of 22<sup>nd</sup> chromosome
20. Webbed neck, widely placed nipples & hypogonadism are found in:
  - a. Turner's syndrome
  - b. Klinefilter's syndrome
  - c. Edward's syndrome
  - d. Cri Du Chat syndrome

**HUMAN ANATOMY**  
**PAPER- SECOND**

2020

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



- Q. 2. Give reasons:** (2 x 5 = 10)
- a. External piles are very painful
  - b. Midgut loop herniates at 6-8 weeks of development
  - c. Gastric ulcers usually develop along lesser curvature of the stomach
  - d. Hip pathology may present with pain in knee
  - e. Upper half of manubrium sterni is preferred for sternal puncture
- Q. 3. Problem based question:** (1+1+2+3+3 = 10)
- A young girl, 18 years of age, came to the emergency with a history of abdominal pain, vomiting and fever. The pain started from the umbilical region and later shifted to the right inguinal region. On examination, there was tenderness at Mc Burney's point.
- a. State the most probable diagnosis.
  - b. Mention the cause of initial pain in umbilical region.
  - c. What is Mc Burney's point?
  - d. Why do positions of appendix vary? List various positions of appendix.
  - e. Draw a well labelled diagram showing the microstructure (histology) of the appendix.
- Q. 4. Write briefly on:** (6 x 4 = 24)
- a. Supports of uterus
  - b. Foot drop
  - c. Klinefilter's Syndrome
  - d. Steps to be followed to show respect for human cadavers
- Q. 5. Structured questions:**
- (i) Describe the urinary bladder under the following headings: (3+4+3= 10)
- a. Trigone
  - b. Development
  - c. Ectopia vesicae
- (ii) Write about the right lung under the following headings: (3+4+3= 10)
- a. Diagram showing impressions on mediastinal surface
  - b. Enumeration of bronchopulmonary segments
  - c. Root of right lung
- Q. 6. Answer as indicated:** (4 x 4 = 16)
- a. Draw a well labelled diagram showing Bursae around knee joint
  - b. Tabulate the origin, insertion, nerve supply & actions of hamstring muscles
  - c. Draw a well labelled diagram showing features in the interior of right atrium
  - d. Draw a well labelled diagram showing microstructure of hyaline cartilage