

001/24

The West Bengal University of Health Sciences
MBBS 1st Professional Examination (New Regulation),
November - December 2024

Subject: Anatomy
Paper: II

Full Marks: 100
Time: 3 hours

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

1. a) A child presented with pain and watery discharge from right ear following sore throat.
 - i) What is the route of spread of infection from throat to ear?
 - ii) Describe the anterior wall of middle ear cavity with a labelled diagram.
 - iii) What is tympanic plexus?
 - iv) Describe the lateral wall structures of middle ear with its clinical importance.

1+6+2+6
- b) A young boy presents to the ENT OPD with history of swallowing of fish bone while eating, followed by pain in the tonsillar region and persistent earache.
 - i) Explain the above situation.
 - ii) Describe the nerve involved under the following headings: deep nuclear origin, intracranial course, exit from skull, extracranial course, parasympathetic ganglia in relation to it.
 - iii) Describe the pathway of taste sensation till the gustatory area in the cortex.

3+(2+1+1+3+2)+3
2. a) What are the specialties of the fourth cranial nerve? Draw a flow chart to show the pathway of the nerve. What is Horner's syndrome?

3+5+2
- b) Enumerate the ventricles of the brain. Describe the circulation of the CSF. Mention the components of the blood brain barrier. Write a note on blood CSF barrier.

1+4+2+3
- c) Enumerate the ligaments of Temporo-mandibular joint. Discuss the mechanism of depression movement.

5+5
3. Write short notes on the following:

2x5

 - a) Structure of retina with diagram.
 - b) Mosaicism and chimerism.
4. Explain the following statements:

5x4

 - a) A gradually increasing lateral cystic swelling in the neck not present at birth.
 - b) Patient with pituitary tumor suffers from bitemporal hemianopia.
 - c) Injury to the superior gluteal nerve shows the positive trendelenberg's sign.
 - d) Calcarine sulcus represents limiting, axial as well as complete sulcus.
 - e) Pricking of a furuncle on face leads to cavernous sinus thrombosis and medial squint of eye.
5. Choose the correct option for each of the following:

10x1

 - i) Regarding spinal cord, which one of the following statements is not correct?
 - a) Spinal cord is a continuation of brain and begins from the upper border of 1st cervical vertebra.
 - b) In a child aged less than 2 year, the cord ends at the level of lower border of 3rd lumbar vertebra.
 - c) Lateral horn cells are characteristically present in the cervical and lumbar segments of the spinal cord.

- d) Arterial supply of the spinal cord are from anterior spinal; posterior spinal; and from supplementary radicular arteries entering the cord.
- ii) Regarding posterior inferior cerebellar artery mark the wrong statement:
- a) It is usually a branch of vertebral artery.
 - b) It is commonly a branch of basilar artery.
 - c) It is typically a highly tortuous artery supplying the cerebellum and allied structures.
 - d) It takes part in formation of choroid plexus of the 4th ventricle.
- iii) Superior laryngeal artery and internal laryngeal nerve pass:
- a) Between superior and middle constrictor muscles of pharynx.
 - b) Between middle and inferior constrictor muscles of pharynx.
 - c) Between inferior constrictor muscles of pharynx.
 - d) Between superior constrictor muscles of pharynx and base of the skull.
- iv) The lining epithelium of vocal fold is:
- a) Simple squamous.
 - b) Pseudo-stratified ciliated columnar.
 - c) Stratified squamous non-keratinised.
 - d) Simple cuboidal.
- v) Tip of the nose is supplied by:
- a) Infraorbital nerve.
 - b) Infratrochlear nerve.
 - c) Zygomatico facial nerve.
 - d) External nasal nerve.
- vi) Root value of inferior gluteal nerve:
- a) Dorsal branches of ventral rami of L5, S1, S2.
 - b) Ventral branches of ventral rami of L5, S1, S2.
 - c) Dorsal branches of ventral rami of L4, L5, S1.
 - d) Ventral branches of ventral rami of L4, L5, S1.
- vii) Major transmembrane protein in Zonula Adherens is:
- a) Claudins.
 - b) Integrins.
 - c) E-cadherins.
 - d) Selectins.
- viii) Second pharyngeal pouch gives rise to:
- a) Stapedius.
 - b) Palatine tonsil.
 - c) Auditory tube.
 - d) Thymus.
- ix) Inversion of the foot is performed by which pair of muscles?
- a) Peroneus longus and peroneus brevis.
 - b) Peroneus longus and tibialis posterior.
 - c) Tibialis anterior and tibialis posterior.
 - d) Peroneus brevis and plantaris.
- x) Damage to pre-ganglionic parasympathetic fibres to tympanic plexus will result in:
- a) Diminished mucus in nasal cavity.
 - b) Diminished mucus in soft palate.
 - c) Diminished saliva production by parotid gland.
 - d) Diminished salivation from sublingual gland.