



**The West Bengal University of Health Sciences**  
**MBBS 1<sup>st</sup> Professional Examination (New Regulation),**  
**February-March 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 was brought to a doctor with the complains of difficulty in sucking and swallowing. It was found that the child had a defect in the palate.
  - i) Explain the different developmental defects of palate from your knowledge of embryology.
  - ii) Describe the composition of soft palate with a diagram.
  - iii) What are the motor and sensory innervations of palate? 5+6+4
- b) An athlete while running experienced severe cramps in his right thigh and was diagnosed as a case of pulled hamstrings.
  - i) Mention the characteristics of hamstrings.
  - ii) Write about the origin, insertion, nerve supply and actions of this group of muscles.
  - iii) Discuss expansions of Semimembranosus muscle.
  - iv) Why all hamstring muscles are not true hamstring? 2+6+4+3
2. a) What is Rima Glottidis and its boundaries? Name the muscles controlling the shape of Rima Glottidis under different physiological functional conditions. What is Singer's nodules? 3+4+3
- b) A 76 year old right-handed hypertensive patient brought to emergency with complain of severe headache, right sided weakness in the arm, leg and face. During examination, physician found that he is suffering from confusion, right sided hemiplegia, difficulty in speaking or understanding of speech and diagnosed as a case of cerebrovascular accident.
  - i) Which artery and which hemisphere is most likely affected in this case?
  - ii) Explain anatomically the reason of difficulty in speaking and understanding of speech.
  - iii) Which part of brain involvement is responsible for right hemiplegia in this case? 2+(3+3)+2
- c) What are the parts of tongue? Give an account of the development of the tongue. What is the nerve supply of the tongue according to development? Name two types of papillae with taste buds on the dorsal surface of the tongue. 2+3+4+1
3. Write a short note on the following: 2x5
  - a) Down's syndrome – its genotype and phenotype.
  - b) Draw and label the microscopic structure of cerebellar cortex.
4. Explain the following statements: 5x4
  - a) Injury to superior gluteal nerve shows positive trendelenberg's sign.
  - b) A patient of pituitary tumor suffers from bitemporal hemianopia.
  - c) After thyroid operation patient develops hoarseness of voice.
  - d) In Argyll Robertson's pupil, light reflex is lost but accommodation reflex persists.
  - e) Optic disc in eye ball is known as blind spot. P.T.O



5. Choose the correct option for each of the following:
- Embryological source of tympanic membrane is all except:
    - Ectoderm of 1<sup>st</sup> pharyngeal cleft.
    - Endoderm of 1<sup>st</sup> pharyngeal pouch.
    - Mesoderm of 1<sup>st</sup> pharyngeal arch.
    - No mesodermal contribution.
  - Nerve piercing the sphenomandibular ligament:
    - Nerve to myelohyoid.
    - Inferior alveolar nerve.
    - Buccal nerve.
    - Lingual nerve.
  - Superior Cerebellar Peduncle contains which of the following fibres?
    - Posterior Spinocerebellar.
    - Olivocerebellar.
    - Vestibulocerebellar.
    - Anterior spinocerebellar.
  - All the dural sinuses are present in the attached margin of the tentorium cerebelli except:
    - Superior petrosal sinus.
    - Right transverse sinus.
    - Inferior petrosal sinus.
    - Left transverse sinus.
  - In a Robertsonian translocation fusion occurs at the:
    - Telomere.
    - Centromere.
    - Histones.
    - Ends of the long arms.
  - A woman reports to the OPD with complains of headache, on examination she has medial squint. The CT scan of brain reveals dilated ventricles. The probable cause of medial squint is due to involvement of which nerve-
    - Occulomotor nerve.
    - Abducent nerve.
    - Trochlear nerve.
    - Ophthalmic nerve.
  - The parasympathetic nerve for the submandibular ganglion is derived from:
    - Chorda tympani nerve.
    - Lingual nerve.
    - Maxillary nerve.
    - Hypoglossal nerve.
  - Tip of the nose is supplied by:
    - Infraorbital nerve.
    - Infratrochlear nerve.
    - Zygomatico facial nerve.
    - External nasal nerve.
  - Which muscle is regarded as Peripheral heart?
    - Flexor digitorum longus.
    - Soleus.
    - Tibialis posterior.
    - Gastrocnemius.
  - Select the correct statement about Karyotyping:
    - Chromosomes are arranged in seven groups, referred to by letter A to G.
    - Chromosomes of group A and F are submetacentric.
    - Chromosomes of group D and G are metacentric.
    - X Chromosome belongs to group G and Y Chromosome belongs to group C.