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## M.B.B.S OCTOBER 2020 EXAMINATION

Year: 1
Subject Code: 19100181
Subject Name: Human Anatomy

## Instructions:

1. Attempt each section in separate answer books.
2. Figures to the right indicate marks.
3. Draw diagrams wherever necessary.

## SECTION - A

Q. 1 Structured Essay Questions: (No choice)

2x10

1. A 36-year-old female is brought to the hospital by her husband. She has high grade fever, orbital swelling, altered mental status, and severe pain in the eye and upper half of face. She has a history of sinusitis 14 days ago for which she was given antibiotics, but she did not complete the full course and now is presenting with these new symptoms. On examination, there is periorbital edema, ptosis and ocular muscles palsy, all on one side.
a. What is the most likely cranial venous sinus affected? What is this condition known as? (1)
b. Based on these clinical signs, enumerate the nerves affected.
c. Explain the anatomical basis of the above condition.
d. Illustrate the relations of the affected sinus with neat and labeled diagram.
2. A 27-year-old man is injured in a vehicular accident, leading to a fracture of the shaft of the humerus. Later on examination, there is loss of cutaneous sensations in the area of anatomical snuff box, lack of sweating on the back of arm and forearm, and he has wrist drop.
a. Enumerate the neurovascular structures most likely injured in this case.
b. Describe the origin and branches of the affected artery.
c. Describe the origin, root value and course of the affected nerve.
d. Explain the anatomical bases of the above clinical findings.

## Q. 2 Write short notes on : (any Four out of Five)

$4 \times 5$

1. In a Neuroanatomy class, the professor is describing transverse section of the brainstem at the level of inferior olivary nuclear complex. Write the connections and function of this nucleus. Illustrate the different structures located at this level with neat and labeled diagram.
2. A patient has loss of two-point tactile discrimination, vibration and joint position sensations from the right upper and lower extremeties. Which tract(s) is/are most likely to have been injured in the spinal cord? Explain the tract(s) in brief.
3. Enumerate the speech areas in the cerebrum. Write briefly on their location, functions and applied anatomy.
$(1+1+1+2)$
4. An MRI reveals some pathology in the cavity which is situated between interventricular foramen (of Monroe) and cerebral aqueduct (of Sylvius). Which is this cavity? Explain its walls / boundaries.
5. A patient is diagnosed with berry aneurysm affecting one of the arteries participating in the anastomoses situated in the interpeduncular cistern. Describe the formation and functional importance of this anastomotic circle. Add a note on berry aneurysm.

## SECTION - B

## Q. 3 Explain briefly on: (any Three out of Four)

1. Describe the infrahyoid muscles with respect to their origin, insertion, nerve supply and actions.
(1.5+1.5+1.5+1.5)
2. A patient with an injury to chorda tympani nerve only will not have total loss of salivation. Explain the anatomical basis for this.
3. Describe the artery, which has the principal blood supply to the infratemporal region (fossa), with respect to its origin, course, termination and branches.
(1+1.5+0.5+3)
4. Describe briefly on the anatomy of laryngeal cartilages.
Q. 4 Write short notes on: (any Three out of Four)

3x4

1. On examination in a 25 -year-old patient, the medial border of scapula of one side was unduly prominent. What is this condition known as? Write briefly on the muscle affected. (1+3)
2. Describe the Ulnar artery with respect to its origin, course, termination and branches.

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\begin{equation*}
(0.5+1.5+1+1) \tag{2+2}
\end{equation*}
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3. Carcinoma of the mammary gland can metastasize via haematogenous and lymphatic routes. Explain in brief.
4. Classify elbow joint in various ways. Write its applied anatomy in brief.

## SECTION - C

Q. $5 \quad$ Write short notes on: (any Five out of Six)

5x5

1. What are chorionic villi? Describe the stages in the formation of chorionic villi with neat and labeled diagrams.
2. Explain the embryological basis of cleft palate along with its varieties.
3. Compare and contrast pseudostratified epithelium and stratified squamous epithelium with suitable example and diagrams.
4. Describe the miscroscopic anatomy of Cerebellum with neat and labeled diagram.
5. Explain the structure and functional importance of fibrocartilaginous joints with examples.
6. Describe any five modifications of deep fascia with examples.
Q. 6 MCQs: (all compulsory)
7. A tumor is suspected to be embedded in the posterior wall of the tympanic cavity in a 58 -year-old man. If the tumor erodes through this bony wall, which of the following structures will it encounter?
a. Promontory
b. Temporal lobe of brain
c. Mastoid antrum
d. Auditory tube
8. A peritonsillar abscess breaks through into the retropharyngeal space, if inadequately treated. It can be expected to spread into which of the following locations?
a. Posterior triangle of neck
b. Mediastinum
c. Pterygopalatine fossa
d. Carotid triangle
9. A patient has loss of taste sensation over the posterior $1 / 3$ rd of the tongue. Which structure receives this input?
a. Nucleus solitarius
b. Spinal trigeminal nucleus
c. Salivatory nucleus
d. Nucleus ambiguus
10. An occlusion in the right anterior cerebral artery is most likely to affect which of the following functions?
a. Motor function of right hand
b. Sensations in left face
c. Sensations in right foot
d. Motor function of left leg
11. On examination in a patient, it is observed that the area of skin on the lateral side of forearm from the elbow to wrist has loss of sensation. Branch/continuation of which of the following nerves is likely to be injured in this case?
a. Axillary
b. Musculocutaneous
c. Median
d. Radial
