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DISCIPLINE = B.S
RADIOLOGY

SUBJECT = RADIOLOGICAL
AND CROSS-SECTIONAL
ANATOMY :-

RADIOLOGICAL AND CROSS-SECTIONAL ANATOMY :-

* QUESTION No:1 :-

Name the parts of temporal and palatine bone appeared in the inferior view of cranium?

* ANSWER :-

* Parts of temporal bone :-

⇒ The parts of temporal bone that appears in the inferior view of cranium is:

- 1) Zygomatic process
- 2) Mandibular fossa
- 3) External acoustic meatus
- 4) Mastoid process
- 5) Styloid process
- 6) Carotid canal
- 7) Petrous temporal bone
- 8) Jugular fossa
- 9) Mastoid foramen

* Parts of palatine bone :-

⇒ The palatine bone appeared parts in inferior view of cranium are given below:

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- 1) Pterygopalatine fossa
- 2) Pterygoid fossa
- 3) Horizontal plate
- 4) Perpendicular plates
- 5) Hard plate
- 6) Pyramidal process
- 7) Orbital process
- 8) Sphenoid process



* QUESTION 2 :-

What do you know about Circle of Willis?

* ANSWER :-

* Circle of Willis :-

→ The circle of Willis is a circulatory anastomosis that supplies blood to the brain and to the surrounding structures.

→ It is also called:

→ Willis' circle,

→ Loop of Willis

→ Willis polygon

→ And cerebral arterial circle

→ The branches of basilar artery and internal carotid arteries anastomose at the base of brain

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around. the interpenduncular fossa forming a six-sided polygon of arteries called circular arteriosus or circle of willis.

→ The circle of willis lies in the interpenduncular subarachnoid cistem or system and contributes in most of the arterial blood supply to the brain.

* Formation of Circle of Willis :-

*→ The circle of willis is formed :-

1) ANTERIORLY :-

Anteriorly by the anterior communicating and the anterior cerebral arteries.

2) POSTERIORLY :-

Posteriorly by the basilar artery dividing into two posterior cerebral arteries.

3) LATERALLY :-

Laterally on each side by the posterior

(4)

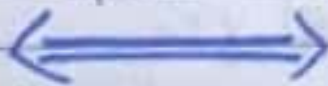
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Communicating artery connecting the internal carotid artery with the posterior cerebral artery.

* Arteries of Circle of Willis :-

- Anterior cerebral artery
- Ophthalmic artery
- Anterior choroidal artery
- Posterior cerebral artery
- Superior cerebellar artery
- Basilar artery
- Anterior inferior cerebellar artery
- Vertebral artery
- Posterior inferior cerebellar artery
- Anterior communicating artery
- Middle cerebral artery
- Posterior communicating artery
- Internal carotid artery
- Pontine arteries
- Anterior spinal artery.



* QUESTION No 3 :-

Write down the arteries of neck ?

* ANSWER :-

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Excellent

Good

Need improvement

* Arteries of neck :-

→ The major artery in the neck is carotid artery or carotid arteries and vertebral arteries.

* Carotid arteries :-

→ Right internal carotid artery
 → Right external carotid artery
 → Right common carotid artery

* External Carotid artery :-

→ External carotid artery have six branches:

- 1) Superior thyroid artery
- 2) Lingual artery
- 3) Facial artery
- 4) Ascending pharyngeal artery
- 5) Occipital artery
- 6) Posterior auricular artery

* Internal Carotid artery :-

The internal carotid arteries do not supply any structures in the neck, entering the cranial cavity via the carotid canal in the petrous part of the temporal bone.

→ Within the cranial cavity the internal carotid artery supplies:

- The brain
- Eyes

- Forehead
- * Vertebral arteries:-
- Right vertebral artery
- Left vertebral artery
- Subclavian arteries (Right and left).
- Basilar arteries
- Brachiocephalic trunk or artery
- * Other arteries of the neck:-
- Inferior thyroid artery
- Ascending cervical artery
- Transverse cervical artery
- Suprascapular artery



- * QUESTION No 4:-
Name the structures appeared in the superior lobe of lung by viewing it medially?

- * ANSWER:-
- * Medial view of right lung Superior or upper lobe:-

→ The structures that appeared in the superior lobe of lung by viewing it medially is:

- 1) Anterior border
- 2) Horizontal fissures

3) Cardiac Impression
 * Medial view of left lung
Upper or Superior lobe :-

→ The structures that appears is given belows-

1) Cardiac impression
 2) Pulmonary ligament
 3) Cardiac notch
 4) Oblique fissure
 5) Lingula



* QUESTION 5:-

What is cross-sectional anatomy? How are cross-sectional images helpful in diagnosing a patient?

* ANSWER :-

* CROSS-SECTIONAL ANATOMY:-

* DEFINITION:-

→ Cross-sections are two-dimensional, axial views of gross anatomical structures seen in transverse planes. They are obtained by taking imaginary slices perpendicular to the main axis of organs, vessels, nerves, bones, soft tissue or

even the entire human body.

→ In modern imaging techniques like ultrasound, magnetic resonance imaging (MRI), computed tomography (CT) are based on cross sectional anatomy.

* Cross-Sectional images helpful in diagnosing a patient.

→ Cross sectional images also helps in the detection of tumour eg that the tumour will pass to bones or effects the bones etc. So it can be easily detect by cross-sectional imaging.

→ Cross-sectional imaging of the nose and paranasal sinus allows one to examine the air passage from the nares to the nasopharynx.

⇒ Axial and coronal computed tomography studies showing the anatomy of the sino-nasal cavity.

⇒ The cross-sectional images are even associated with surface or frontal views of the same structures in order to facilitate visualisation, understand

ing and to form complete mental connections inside your brain.

⇒ Incidental imaging of the sinuses and airway on a routine brain or spine study allows general assessment of the airway that is useful in the overall preoperative assessment of a patient.

→ Cross-sectional imaging defines the anatomic extent of a lesion or determines that whether it arises in the bone or pass to the bone or adjacent soft tissue and helpful in distinguishing benign and malignant characteristics, either it is benign or malignant.

→ The body - cross-sectional division provides CT and MRI studies mainly concerned with the chest, abdomen and pelvis.

