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**Mid-Term Assignment**

**Course Title: Human Physiology II**

**Rad 2nd semester section A**

**Instructor: Dr. M .Shahzeb khan (PT)**

**Marks: 30**

**Note:**

* **Attempt all questions, all questions carry equal marks.**
* **Answer Briefly and to the point, avoid un-necessary details**

**Q1:** (A) A post stroke patient come to clinic, during examination you found that patient is unable to speak nor understand, what you are talking (Global Aphasia), in such case which lobes of brain could be involved?

Explain that lobes and write down its function.

(B) A post stroke patient come to clinic, during examination you found that patient have difficulty in walking including problem with balance and also have tremor. Which part of brain could be involved in this patient? Explain that part and write down its function.

**Q 2:** (A) During assessment of post stroke patient, you found that patient have sensory loss over skin of forehead, eye lids and nose as well as teeth of upper jaw, moreover also have motor loss in mylohyoid muscle and in anterior belly of digastric. Which cranial nerve involve in this patient?

Write down function and its different component.

(B) Post stroke patient come to clinic, during assessment you found that patient have lost general and taste sensation in posterior 1/3 of tongue. Which cranial nerve involve?

Write down its function and components.

**Q3:** (A) What is accommodation in eye and explain its relation with lens of eye?

(B) How stimulus of light goes through eye ball and reach up to Brain? Explain in detail

**Answer No 01**

**Part A**

If a post stroke patient come to clinic during examination you found that patient is unable to speak nor understand that we came to know that there are two lobes of brain are involved which are frontal lobes and temporal lobes

**Frontal lobe:-**

The frontal lobe is the part of the brain that control the cognitive skills in human.

The frontal lobe is the largest in four major lobes of the brain in mammals.

**Functions of frontal lobes:-**

1. Frontal lobe control the personality of the person.
2. Responsible for the judgment .
3. Control abstract reasoning.
4. Control language expression.
5. Control social behaviour.
6. Control voluntary movement.

**Brocca's Area:-** language expression received by this area.

**Temporal lobe:-**

The temporal lobes sit behind the ears and and are the 2nd largest lobe in four major lobes of the cerebral cortex in the brain of the mammals .

**Functions of temporal lobes:-**

1. Control Language comprehension .
2. Control storage and recall of memories.
3. Limbic system control your emotions.
4. Control hearing.

**Wernick's area:-**

language perception received by this area.

**Part B :-**

If post stroke patient come to clinic during examination you found that patient have difficulty in walking including problem with balance and also have tremor.we came to know that the cerebellum part of brain is involved in this patient.

**Cerebellum:-**

Cerebellum is the 2nd largest part of the brain because it is usually smaller than cerebrum.

**Location:-**

The cerebellum is the area at the back and bottom of the brain behind the brainstem.

**Function of cerebellum:-**

1. Control movement coordination.
2. Control balance equilibrium.
3. Postural control.
4. Control muscles tone (normalize it)

[[1]](#endnote-1)

1. **Answer No : 02**

   **Part A :-**

   If assessment of post stroke patient you found that patient have sensory loss over skin of forehead eye lid and nose as well as teeth of upper jaw, moreover also have motor loss in mylohyoid muscle and in anterior belly of digastric we came to know that Trigeminal cranial nerve is involved in this patient.

   **Trigeminal nerve:-**

   Trigeminal nerve is the fifth cranial nerve . It also the largest cranial nerve . Responsible for sensation in the face and motor functions.

   **Intermediate:**

   Trigeminal nerve is responsible for both sensory and motor functions.

   **Components:-**

   Trigeminal nerve has 3 components.

   Ophthalmic nerve

   Maxillary nerve

   Mandibular nerve

   **Ophthalmic nerve :**

   It is sensory nerve .

   **Functions**

   Supply to forehead, scarf head.

   Supply to eye lid .

   Supply to upper part of nose.

   **Maxillary nerve:**

   It is also sensory nerve

   **Functions**

   Supply to skin of maxilla

   Supply to upper jaw of teeth .

   **Mandibular nerve :**

   It is both sensory and motor nerve

   **Functions:-**

   **Functions of sensory supply**

   Supply skin over mandibular

   Supply to cheeks skin

   Supply to 2/3 part of interior tongue

   Mandibular pain , and temperature sensation carried by trigeminal.

   **Functions of motor supply :**

   Supply to muscles of mastication ( temporalis,masseter medial ptergoid and lateral)

   Supply to anterior belly of digastric

   Supply to mylohyoid muscles.

   **Part B**

   If post stroke patient come to clinic during assessment you found that patient have loss general and taste sensation in posterior 1/3 tongue that we came to know glossopharengeal cranial nerve is involved in this patient .

   **Glossopharengeal nerve :-**

   Glossopharengeal nerve is both sensory and motor nerve .

   **Functions of sensory supply:**

   Sensory supply 1/3 posterior of tongue

   **Functions of motor supply:**

   Motor supply to stylophyrengeal muscles ( these muscles help in swallowing)

   Supply to parotid glands

   **Components:**

   Lingual

   Tonsillar

   Tympanic nerve

   Nerve to carotid sinuses

   Stylopharyngeal nerve

   **Answer No 03**

   **Part A :**

   **Accommodation:**

   In simple terms the accommodation means the ability of the eye from distance to near objects .so this focusing of eye on distance object sis called accommodation.

   In this process the eye change it's optical power to maintain a clear image as its distance various.

   **Relation with lens of eye :**

   This process is achieved by the lens changing its shape. Without changing of length the eye can't focus .

   **For nearby objects:**

   For nearby object the lens become rounded and large in size.

   **For far away object:**

   For far away object the lens become flattened and small in size.

   **Part B :**

   The lights rays enter the eye through pupil. The pupil transmit the rays to cornea behind the pupil there is a lens which is similar to the camera lens. Lens and cornea adjust the focal length.

   Then visual receptions occur at retina where photoreceptors cells called cones and rods give an image colour and shadow .

   This image transducted into neural impulse and then transferred through the optic near to the brain .

   The left hemisphere of brain control the right half of the body and vice versa right eye nerve is control by left optic lobe and left eye nerve is by right optical lobes

   **The end**

   [↑](#endnote-ref-1)