Syllabus Laboratorium Anatomy

Neurobehaviour and Special Senses (PART 2)

A Sequences

I. Introduction : 40 min
II. Pre Test : 10 min
III. Activity Lab : 90 min
- Discussion 90 min

IV. Post Test : 10 min

B Topic

1. Brain Stem
2. Cranial Nerves
3. Cerebellum
4. Autonomic system

C Venue

Lab Anatomy C4.1 Jatinangor (Medical Faculty Universitas Padjadjaran

D Equipment Anatomy Model

CNS &PNS	1. Model potongan otak (sagital) – basah 2. Model otak -kering 3. Model skeleton cranial base 4. Model potongan otak (coronal)- basah

E Pre-requisite

Before following the activity in laboratorium NBSS, the students must prepare :

- Content lab in manual book (pre and post test will be taken from the manual, if scorring pre test ≤50, can not allowed the activity lab)
- Bring your text book, reference book e.q Anatomy atlas, e-book etc. (minimal 1 group 1 atlas).
- Bring your pencil colours (min 3 colours)

F	**Activity Lab**

1. Students will be divided into 4 small groups
2. Introduction will be given in the large group (40 min)
3. Discussion in the small group (90 minute)

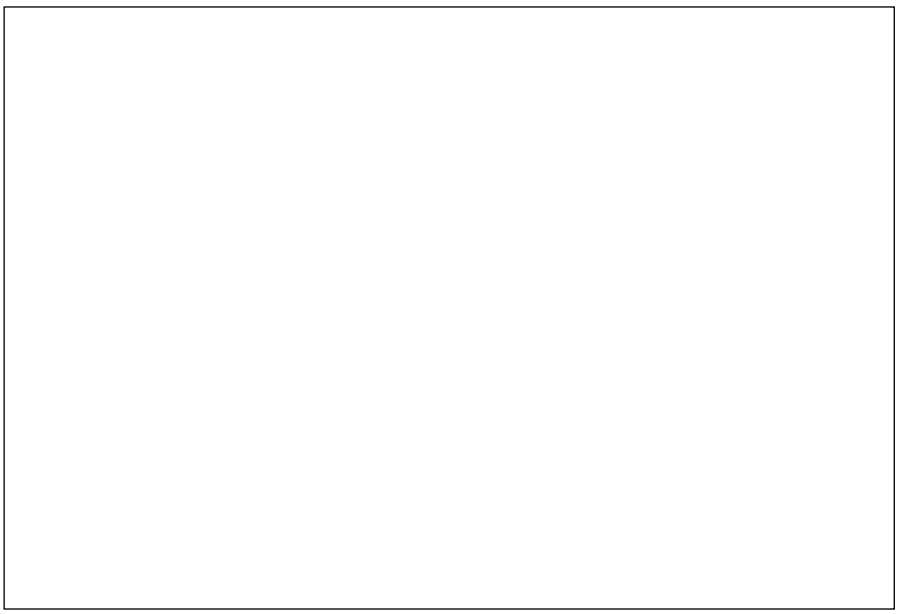
I. Brain stem & Cranial Nerve	
1. Find picture external structures of the structure below ! - Anterior view : Mid brain, pons, medulla oblongata Anterior median fissure Pyramid Decussation of pyramids Olive Cranial nerve	

2. Find picture external structures of the structure below !
   - Posterior view :
     Gracilis & cuneatus tubercle
     Posterior median sulcus
     Floor of fourth ventricle
     Peduncles : sup, mid, inf

- Draw in schematic picture transverse section of Mid Brain :

- Draw in schematic picture transverse section of Pons :

- Draw in schematic picture transverse section of Medulla Oblongata



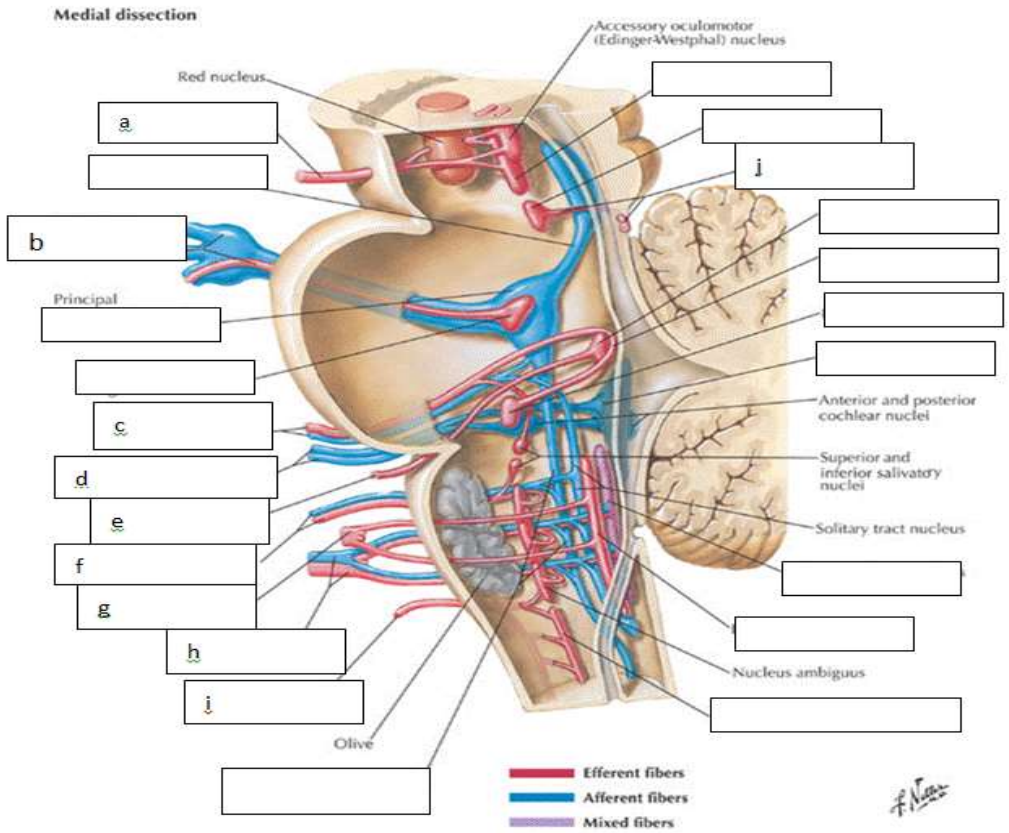
Don't forget to fill the picture with the specific structure of every part of the brain stem

3. Fill the blank :

Cranial Nerve	Cells of origin	Peripheral distribution	Function
I (.....)			
II (.....)			
III (.....)			
IV (.....)			
V (.....)			
VI (.....)			
VII (.....)			
VIII (.....)			

IX (.....)			
X (.....)			
XI (.....)			
XII (.....)			

Cranial Nerve Nuclei in Brainstem: Schema



4. The site of emergence of the cranial nerves

   a. CN III :

   b. CN IV :

   c. CN V :

   d. CN VI; CN VII; CN VIII :

e. CN IX; CN X; CN XI :

f. CN XII :

5. Cross section of Brainstem :

Draw in schematic picture cross section of brainstem, including :

- Tegtum
- Tegmentum
- Base
- Nuclei :Cranial nerves

  Other nuclei :

  Fibers : ascending fibers, descending fibers and fibers which connect to cerebellum, reticular formation

What is the name of another nuclei which located in brain stem ?

What is the name of ascending & descending pathway located in brain stem ?

What is the name of fiber which connected to the cerebellum ?

6. Reticular Formation :

   - Where is the location of Reticular formation ?

   - List the connection of Reticular formation : input (afferent) & output (efferent) connections!

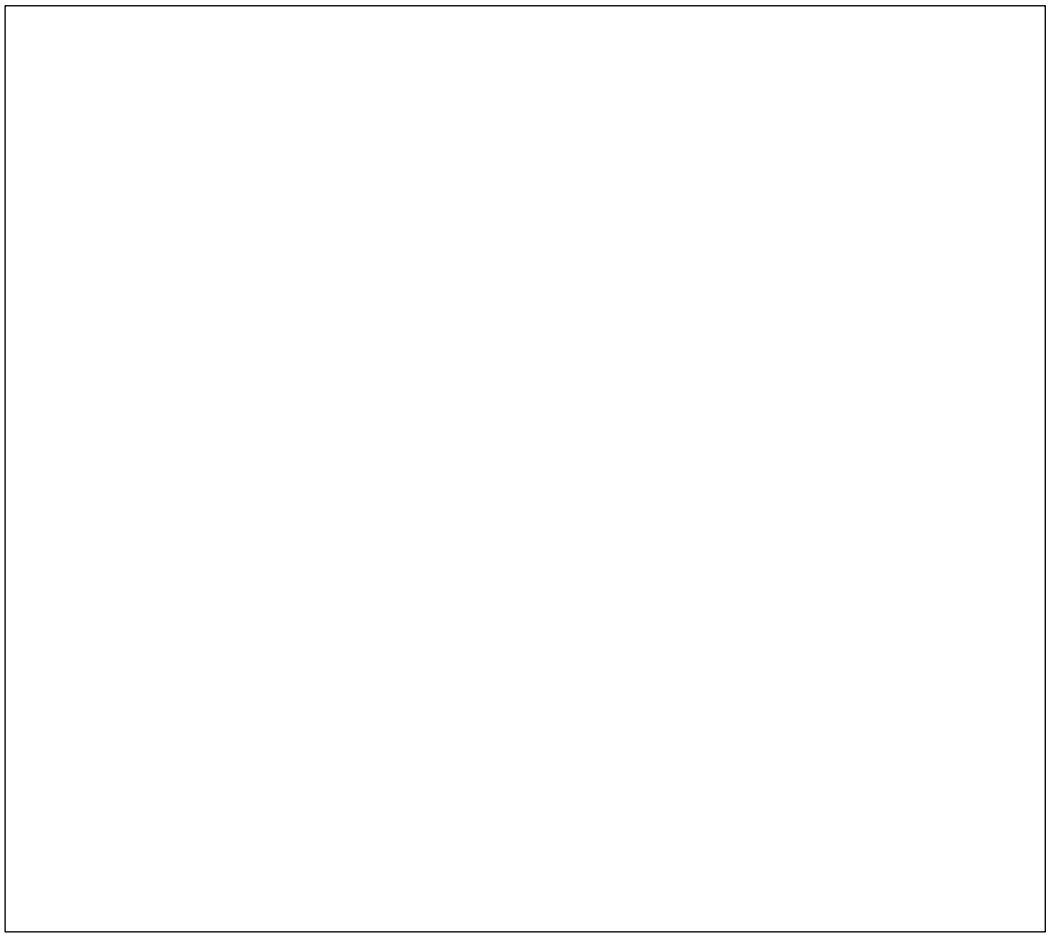
II. Cranial Nerves

Clinical Scenario 1:

A 50-year – old female came to the clinic with the paralysis of the left upper and lower limbs because of stroke. She also had left hemianesthesia and blindness of the left half of the field of vision in both eyes.

Questions :

Explain about visual pathway and visual field . Draw in schematic picture



Clinical scenario 2 :

A 67-year-old male complained a double vision. Neurologic examination revealed inability to close his left eye, inability to wrinkle the left side of his forehead, and no movement of the side of his face when he tried to smile. An internal strabismus of the left eye was noticed. He also can not abduct his left eye.

Questions :

1. The inability to close his left eye, and left-sided facial weakness as described, indicate a lesion in which of the following locations?

2. Explain the component of the nerve

3. Explain about the pathway of the nerve. Drawing with the schematic picture.

4. Explain about the concept of upper and lower motor neuron of that nerve

5. An abnormality in which of the following would cause inability to abduct the left eye?

6. Explain about CN III,IV and VI pathway , relationship with the eyes movement

7. Where is the lesion in this patient?

8. Explain the components of CN V!

9. Explain the CN V pathway

III. Cerebellum
1. Explain anatomic , phylogenetic, and functional subdivision of cerebellum

2. Explain the connection between cerebellum and brain stem

3. Explain the functional histology of cerebellar cortex!

4. Explain the connection afferent and efferent every lobes in cerebellum

Clinical Scenario :

A 56-year-old woman, who was a heavy cigarette smoker for 35 years, is experiencingdifficulties in walking and in using her right arm. Both symptoms became progressively worse during a period of 4 months. Examination shows an intention tremor and dysmetria in her right upper and lower limbs while she performs the finger-to-nose and heel-to-shin tests. In addition, she has difficulty
with heel-to-toe walking and tends to veer toward the right. She is unable to supinate and pronate her right arm repetitively even for a short time.

Questions :
There are 2 major problems , motoric movement and proprioseptive.Can you explain the pathway of the problems
