



# FINAL CNS TEST BANK

DOCTOR 2020

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# Anatomy

« اللهم ارزقني قوة الحفظ، وسرعة الفهم، وصفاء الذهن، اللهم ألهمني الصواب في الجواب، وبلغني أعلى المراتب في الدين والدنيا والآخرة، واحفظني واصلحني واصلح بي الأمه».

## Lecture 1

1. Which of the following means Collection of axon in the central nervous system:

- a. Ganglion
- b. Nerve
- c. Nucleus
- d. soma
- e. Tract

**Answer:**e

2. The outer layer of connctive tissue that surrounds the nerve is called:

- a. Epineurium
- b. Epithelium
- c. Glial cells
- d. Endoneurium
- e. Perineurium

**Answer:**a

3. The term "Mesencephalon" means:

- a. Pons
- b. Cerebellum
- c. Midbrain
- d. Medulla
- e. Cerebrum

**Answer:**c

4. The Dura matter extends from the level of the foramen magnum to the level of:

- a. L2
- b. S1
- c. S2
- d. S3
- e. S4

**Answer:**c

5. Which of the following anchors spinal cord to coccyx:

- a. Denticulate ligament
- b. filum terminale

- c. Cauda equina
- d. Conus medullaris
- e. None of the above

Answer:b

6. Which following statements concerning the spinal cord is correct:

- a. The spinal cord has a cervical enlargement for the brachial plexus.
- b. The spinal cord possesses spinal nerves that are attached to the cord by anterior and posterior rami.
- c. In the adult, the spinal cord usually ends inferiorly at the lower border of the fourth lumbar vertebra.
- d. The ligamentum denticulatum anchors the spinal cord to the pedicles of the vertebra along each side.
- e. The central canal does not communicate with the fourth ventricle of the brain.

Answer:a

7. In “fight or flight” conditions, the pupil of the eye dilates. The motor impulse that is initiated in the hypothalamus and ultimately causes this pupillary dilation can be best described by which of the following statements:

- a. The impulse will pass through upper and lower motor neurons
- b. No ganglia are present along the course of the impulse
- c. The impulse will pass through a synapse in autonomic nuclei in the brain stem
- d. The impulse will pass through the ventral root of a spinal nerve
- e. The impulse is mainly relayed to neurons in lamina 2 of spinal cord gray Matter

Answer:d

8. Choose the correct statement regarding the meninges and associated spaces:

- a. The dura mater extends to as far as L2
- b. The pia mater gives rise to filum terminale externum
- c. A lumbar puncture needle penetrates all three meningeal layers
- d. Denticulate ligaments attach the outer two meningeal layers to the spinal cord
- e. CSF fills the space between arachnoid and dura mater

Answer:d

9. Select the incorrect statement:

- a. When the fetus is three months old the length of the spinal cord is equal to the length of the vertebral canal
- b. At birth the spinal cord reaches the level of the third lumbar vertebra
- c. The dura mater ends in the second lumbar vertebra
- d. As development proceeds the vertebral column grows faster than the spinal cord
- e. The spinal pia mater extends as the filum terminale

Answer:c

10. Select the wrong statement:

- a. The pia mater is closely adherent to the spinal cord
- b. The denticulate ligaments are thickenings of the dura mater
- c. The arachnoid mater lines the inner surface of the dura mater
- d. The pia mater continues below as the filum terminale
- e. The dura mater ends at the level of the second sacral vertebra

Answer:b

11. The dorsal root ganglion:

- a. Contains somatic motor cell bodies
- b. Contains parasympathetic cell bodies
- c. Is also called the lateral horn
- d. Contains visceral sensory and somatic sensory cell bodies
- e. Is attached to white and gray rami communicantes

Answer:d

12. Choose the true statement:

- a. The arachnoid mater ends at S2
- b. The spinal cord has a cervical enlargement and a lumbosacral enlargement
- c. Cerebrospinal fluid (CSF) is found between the dura mater and arachnoid mater
- d. The bundle of spinal nerve roots in the subarachnoid space caudal to the termination of the spinal cord is called conus medullaris
- e. The spinal cord in children ends at the level of L3

Answer:a

13. Which statement about the spinal cord is false:

- a. The cervical spinal cord has 8 segments
- b. The lumbosacral enlargement of the spinal cord is called the conus medullaris

- c. Cell bodies of somatic motor nerves are located in the ventral horn
- d. There are 5 pairs of sacral spinal nerves
- e. The filum terminale attaches the inferior end of the spinal cord to the coccyx

Answer:b

14. Which of the following statements is true:

- a. Cerebrospinal fluid (CSF) is found in the subdural space
- b. From superficial to deep, the order of the meningeal layers is: dura mater, pia mater and arachnoid mater
- c. The cauda equina is composed of ventral roots only
- d. Cerebrospinal fluid can be drawn from the sacral hiatus because the dural sac extends all the way down the coccyx
- e. Ventral and dorsal roots come together in the intervertebral foramina to form the spinal nerves which then subsequently branch into ventral and dorsal rami

Answer:e

15. Regarding the spinal cord, which of the following is false:

- a. Cell bodies of sympathetic neurons lie in the lateral horn of the spinal gray matter from T1-L2
- b. In the typical adult the terminal end of the spinal cord lies within the vertebral canal at the level of vertebrae L1/L2
- c. Denticulate ligaments are lateral extensions of the arachnoid mater
- d. There are 31 segments of the spinal cord
- e. Dorsal root ganglia are outside the spinal cord

Answer:c

16. Tracing an impulse from the brain to the effector organ, which of the following is NOT part of the motor pathway that will ultimately end in parasympathetic stimulation of the parotid gland:

- a. Motor nuclei in the hypothalamus
- b. Autonomic nuclei in the lateral horn gray matter
- c. A synapse outside the CNS
- d. A preganglionic neuron whose cell body is within the CNS
- e. A cranial nerve

Answer:b

## Lecture 2

17. Which of the following fibers carries the sensation of fast pain:

- a. A alpha fibers
- b. A beta fibers
- c. A delta fibers
- d. C fibers
- e. None of the above

Answer: c

18. Choose the wrong statement:

- a. Gamma fibers activate the muscle fibers indirectly
- b. Secondary afferent is found around nuclear chain
- c. Primary afferent is found around nuclear bag
- d. Knee jerk is an example on static stretch reflex
- e. Nuclear Bag Fibers are supplied by dynamic Gamma

Answer: d

19. Wrong about disk on L4 root:

- a. It affects knee jerk
- b. Sensory is affected in anteromedial leg aspect
- c. It is the most common disk
- d. Extension of the knee is affected because quadriceps femoris

Answer: c

20. Which of the following is the most common direction of Disc herniation:

- a. Posteromedial direction
- b. Anteromedial direction
- c. Superior direction
- d. Anterolateral direction
- e. Posterolateral direction

Answer: e

21. If the knee jerk is lost, which of the following roots is most likely affected

- a. L3
- b. L4
- c. S1

- d. S2
- e. L5

Answer:b

22.Regarding disc herniation , all of the following are true EXCEPT:

- a. If the disc between L4 / L5 is herniated sensory changes will likely occur at the medial border of leg
- b. S1 spinal nerve is tested by asking the patient to stand on his tiptoes
- c. If the spinal nerve L4 is compressed by a herniated disc knee jerk will be lost
- d. If the spinal nerve S1 is compressed by a herniated disc gastrocnemius muscle will be weakened
- e. It may cause low back pain radiating to the gluteal region and the back of their thigh

Answer:a

23. A patient presents with lower back pain that radiates to the back of his thigh. He is unable to stand on his heels and reports abnormal sensations across the anterolateral aspect of his leg. MRI scans confirm the diagnosis of a herniated disc. The most likely affected nerve root emerges from the vertebral column directly:

- A. under vertebra L4
- B. above vertebra L4
- C. above vertebra L5
- D. above vertebra S1
- E. A and C

Answer:d

24. A 40 years old worker suffered from lower back pain in the gluteal region, physical examination revealed a sensory defect in the anterolateral aspect of his leg. Also, the patient can't stand on his heels. The patient has a herniated disc in what region:

Answer: L5

Question number 4 in embryology Also can be from this lecture.go to it 😊

## Lecture 3

25.Wrong about lateral spinothalamic:



- a. It is early crossed by anterior white commissure
- b. Has wide spread cortical region
- c. Synapse in ventral posteromedial nucleus of the thalamus
- d. Related to pain and temperature

Answer:c

25.Which of the following represents the function of Posterior White Column-Medial Lemniscal Pathway:

- a. Temperature
- b. Pain
- c. Conscious Proprioception
- d. Crude touch
- e. Unconscious Proprioception

Answer:c

27.Which of the following represents the location second order neuron of the lateral spinothalamic tract:

- a. Thalamus
- b. Substantia gelatinosa of spinal cord
- c. Dorsal root ganglia
- d. Medulla
- e. Nucleus Gracilis

Answer:b

28.Which of the following structures is responsible for the interpretation of the emotional aspect of Pain:

- a. Occipital lobe
- b. Cingulate gyrus
- c. Insula
- d. Midbrain
- e. Reticular formation

Answer:b

29-Lamina 3 and 4 of grey matter of spinal cord contains:

- a. Intermedio-medial nucleus
- b. Intermedio-lateral nucleus
- c. Nucleus proprius

- d. Substantia gelatinosa
- e. Dorsal nucleus of Clark's

Answer:c

30. During a neurological examination, a patient cannot tell with his eyes closed whether the neurologist flexed or extended his toe, there is likely damage to:

- a. The anterolateral spinothalamic system pathway.
- b. The precentral gyrus of the cerebral cortex.
- c. The ventral (anterior) of the spinal cord.
- d. The dorsal column medial lemniscal pathway.
- e. Central canal of the spinal cord enlargement (syringomyelia)

Answer:d

31. Regarding posterior white column medial lemniscal pathway, choose the WRONG statement:

- a. Sensory fibers used in this system are faster than those used in the anterolateral system (ALS)
- b. Fasciculus cuneatus transmits information coming from areas inferior to T6
- c. Lesion of this tract will result in loss of discriminative touch below the level of the lesion on the ipsilateral side of the body
- d. This system employs most receptors except free nerve endings
- e. Nucleus gracilis and nucleus cuneatus represent the location of the cell body of the second order neurons

Answer:b

32. In the dorsal horn–medial lemniscal pathway, the cell bodies of the first, second, and third order neurons are located in, respectively:

- a. Dorsal column, nucleus gracilis or cuneatus, thalamus
- b. Dorsal horn, hindbrain, forebrain
- c. Dorsal horn, medulla oblongata, prosencephalon
- d. Dorsal root ganglia, rhombencephalon, telencephalon
- e. Dorsal root ganglia, brain stem, diencephalon

Answer:e

33. Consider the sensory pathways for the following two sensations:

- (1) Discriminative touch sensations from the left foot
- (2) Heat sensations from the right leg

Choose the correct statement:

- A. Pathways for both sensations ascend in the right half of the spinal cord
- b. Both pathways include a synapse in nucleus gracilis
- c. The first sensation is transmitted to the right frontal lobe, while the second is transmitted to the left frontal lobe
- d. A right hemisection in the spinal cord at the level of the C4 segment would spare (preserve) both sensations
- e. Both pathways include a synapse in substantia gelatinosa

Answer:d

34. All of the following statements apply to first order neurons that transmit discriminative tactile sensations from the arm EXCEPT:

- a. In the spinal cord, they ascend in the dorsal white column
- b. They synapse with 2nd order neurons in nucleus cuneatus
- c. They form internal arcuate fibers as they decussate
- d. They are pseudounipolar neurons
- e. None of the above

Answer:c

35. A 29 year old patient was investigated at the neurology clinic, and it was noted that she lacks the 'two point discrimination' ability in her left hand. What is the most likely cause of such a presentation:

- a. Fasciculus cuneatus lesion on the right side of the spinal cord at the level of C2.
- b. Dorsal column lesion on the right side of the spinal cord at the level of C5.
- c. Medial lemniscus lesion in the right side of the pons.
- d. Fasciculus gracilis lesion in the right side of the medulla.
- e. Spinothalamic lesion on the right side of the spinal cord.

Answer:c

36. Select the correct statement regarding the medial lemniscus:

- A. It begins in the spinal cord
- b. It is formed of the lateral and anterior spinothalamic tracts
- c. It is concerned with proprioception (muscle-joint sense)
- d. It ends in the sensory area of the cortex
- e. It lies lateral to the spinal lemniscus

Answer:c

37. the internal arcuate fibers arise from the:

- a. gracile and cuneate nuclei.
- b..solitary nucleus.
- c.accessory cuneate nucleus.
- d.nucleus dorsalis of Clarke.
- e.spinal trigeminal nucleus.

**Answer:**a

38. the dorsolateral tract of Lissauer carries:

- a. pain and temperature.
- b.Simple touch.
- c.Discriminative touch.
- d.Conscious proprioception.
- e. Unconscious proprioception.

**Answer:**a

39. One of the following structures is important to recognize the position of the lower limbs:

- a.the medial lemniscus.
- b.the dorsal spinocerebellar tract.
- c.the spinothalamic tract.
- d.the ventral spinocerebellar tract.
- e. the gracile tract.

**Answer:**e

40. regarding lateral spinothalamic tract. choose the wrong statement:

**Answer:**lesion of the ascending tract lose the sensation ipsilateral.

## Lecture 4

41. Wrong about fast pain:

- a. It is less related to emotion than slow pain
- b. Transmitted by A- alpha
- c. Synapse in lamina 1+5
- d. Mostly from superficial structures and well localized

**Answer:**b

42. Which of the following tracts provides afferent information for spinovisual reflexes:

- a. Anterior spinothalamic
- b. Lateral spinothalamic
- c. Posterior spinocerebellar
- d. Anterior spinocerebellar
- e. Spinotectal

Answer:e

43. Second order neuron of Posterior spinocerebellar tract will enter cerebellum through:

- a. Superior cerebellar peduncle
- b. Middle cerebellar peduncle
- c. Inferior cerebellar peduncle
- d. Crus cerebri
- e. None of the above

Answer:c

44. Regarding slow pain , all of the following are true EXCEPT:

- a. Slow pain is mostly arises from superficial structures
- b. Slow pain due to gallstones can be felt up in the shoulders
- c. It is transmitted by c fibers
- d. Cingulate gyrus brings about an emotional response to slow pain
- e. First order neuron synapses with second order neuron in Lamina I and II

Answer:a

45. Which of the following statements concerning the white columns of the spinal cord is correct:

- a. The posterior spinocerebellar tract is situated in the posterior white column.
- b. The anterior spinothalamic tract is found in the anterior white column.
- c. The lateral spinothalamic tract is found in the anterior white column.
- d. The fasciculus gracilis is found in the lateral white column.
- e. The rubrospinal tract is found in the anterior white column.

Answer:b

46. One of the following statements relate sensations with the appropriate nervous pathways:

- a. Two-point tactile discrimination travels in the lateral spinothalamic tract.
- b. Pain travels in the anterior spinothalamic tract.
- c. Unconscious muscle joint sense travels in the anterior spinocerebellar tract.
- d. Pressure travels in the posterior spinothalamic tract.
- e. Vibration travels in the posterior spinocerebellar tract.

Answer: c

47. Which of the following statements regarding the gating theory of pain is correct:

- a. Stimulation of small non-pain-conducting fibers in a peripheral nerve may reduce pain sensitivity.
- b. Massage applied to the skin over a painful joint may reduce pain sensitivity.
- c. Stimulation of delta A- and C-type fibers in a posterior root of a spinal nerve may decrease pain sensitivity.
- d. Degeneration of large non-pain-conducting fibers in a peripheral nerve decreases pain sensitivity.
- e. Inhibition of pain conduction in the spinal cord does not involve connector neurons.

Answer: b

48. Which of the following applies to both the anterolateral pathway and dorsal column-medial lemniscal pathway:

- A. Decussation occurs before reaching the brain stem
- B. First synapse occurs in dorsal root ganglia
- C. Main sensory receptors are free nerve endings
- D. Contralateral loss of sensation occurs as a result of a hemisection above the level of the medulla
- E. Two of the above

Answer: d

49. Which of the following tracts provides afferent information for spinovisual reflexes:

- a. Anterior spinothalamic
- b. Lateral spinothalamic
- c. Posterior spinocerebellar

- d. Anterior spinocerebellar
- e. Spinotectal

Answer:e

50. the pathway that descends from brain stem to the spinal cord to excite pain inhibitory interneurons secretes:

- a. endorphin
- b. enkephalin
- c. serotonin
- d. substance p

Answer:c

51. Which of the following statements concerning the nucleus of termination of the tracts listed below is correct:

- a. The posterior white column tracts terminate in the inferior colliculus.
- b. The spinoreticular tract terminates on the neurons of the hippocampus.
- c. The spinotectal tract terminates in the inferior colliculus.
- d. The anterior spinothalamic tract terminates in the ventral posterolateral nucleus of the thalamus.
- e. The anterior spinocerebellar tract terminates in the dentate nucleus of the cerebellum.

Answer:d

52. What's correct about dorsal spinocerebellar tract:

- a. contains 2nd order neurons from Clark's nucleus that originate from the lower limbs
- b. contains neurons that originate from the upper limbs
- c. contains neurons that originate from the
- d. none of the above

Answer:a

53. Wrong statement:

- a. the higher centers control muscle tone mainly via the alpha motor neurons
- b. muscle spindles inactivate as a result of muscle contraction and shortening

answer:b

54. The posterior horn of the spinal cord contains the following nuclei except:

- a. Nucleus dorsalis

- b. Gracile
- c. Proprius
- d. Substantia gelatinosa
- e. Afferent visceral

Answer:b

## Lecture 5

55. Wrong about Extrapyramidal tracts:

- a. Medullary reticulospinal is in lateral white column
- b. Vestibulospinal tracts are uncrossed
- c. Rubrospinal tract isn't tonically active

Answer:c

56. Which of the following tracts has descending autonomic fibers providing a pathway by which the hypothalamus can control the sympathetic and sacral parasympathetic outflow:

- a. Rubrospinal tracts
- b. Tectospinal tracts
- c. Vestibulospinal tracts
- d. Anterior corticospinal tract
- e. Reticulospinal tracts

Answer:e

57. Regarding the Lateral corticospinal tract, choose the WRONG statement:

- a. This tract is a pyramidal tract
- b. In the midbrain they pass through the middle three fifths of the basis pedunculi of the midbrain
- c. This tract passes through the basilar part of pons
- d. Their function is subconscious regulation of balance and muscle tone
- e. This tract decussates to the opposite side in the lower part of medulla

Answer:d

58. The majority of fibers of the Lateral corticospinal tract synapse:

- a. Thoracic region
- b. Cervical region



- c. Coccygeal region
- d. Lumbar region
- e. Sacral region

**Answer:**b

59.Regarding Anterior corticospinal tract, choose the WRONG statement:

- a. It acts on the proximal (axial) muscles
- b. It passes through the basilar part of the pons
- c. In the midbrain they pass through the middle three fifths of the basis pedunculi of the midbrain
- d. 55% of its fibers synapse in the upper cervical region
- e. Its fibers will descend on the same (ipsilateral) side of the cord

**Answer:**d

60.Regarding Extraparamidal tracts, choose the WRONG statement:

- a. Vestibulospinal tract facilitates the activity of antigravity muscles
- b. Pontine reticulospinal tract descend uncrossed into the spinal cord
- c. Rubrospinal tract is part of the lateral motor system
- d. Tectospinal tract descends in the anterior white column close to anterior median fissure
- e. Medullary reticulospinal tracts is tonically active

**Answer:**e

61. Which of the following tracts has descending autonomic fiber providing a pathway by which the hypothalamus can control the sympathetic sacral parasympathetic outflow:

- a. Rubrospinal tracts
- b. Tectospinal tracts
- c. Vestibulospinal tracts
- d. Anterior corticospinal tract
- e. Reticulospinal tracts

**Answer:**e

62.Regarding Rubrospinal tract, choose the WRONG statement:

- a. Located in the anterior white column
- b. It is crossed
- c. Facilitate the activity of flexors

- d. Its fibers descend from red nucleus
- e. Inhibit the activity of extensors

Answer:a

63. Regarding Pontine reticulospinal tract, choose the WRONG statement:

- a. Its fibers descend from reticular formation of the pons
- b. It is tonically active
- c. It is normally under inhibition from cortex
- d. Located in the anterior white column
- e. It activate the axial and proximal limb flexors

Answer:e

64. Which of the following tracts is responsible for reflex movement of head and neck in response to visual stimuli:

- a. Rubrospinal tracts
- b. Vestibulospinal tracts
- c. Anterior spinothalamic
- d. Reticulospinal tracts
- e. Tectospinal tracts

Answer:e

65. The cerebral area which is responsible for production of fine movements of hand is located:

- a. In the superior temporal gyrus
- b. Behind the central sulcus
- c. On the medial surface of the brain
- d. In the occipital lobe
- e. In front of the central sulcus

Answer:e

66. Regarding Premotor area, All of the following are true EXCEPT:

- a. Lesions of this area alone produce more severe paralysis than destruction of primary motor area
- b. It receives numerous inputs from the sensory cortex, the thalamus and the basal ganglia
- c. It uses cues for the selection of appropriate action
- d. It is involved in controlling coarse postural movements

e. It is located anterior to the primary motor area

**Answer:**a

67. Regarding Corticospinal tracts choose the WRONG statement:

- a. The vast majority of fibers will decussates to the opposite side in the lower part of medulla forming the lateral corticospinal tract
- b. In the midbrain they pass through the middle three fifths of the basis pedunculi of the midbrain
- c. It passes through the basilar part of the pons
- d. The anterior corticospinal tract acts on the proximal (axial) muscles
- e. 55% of lateral corticospinal tract fibers synapse in the thoracic region

**Answer:**e

68. Regarding Extrapyramidal tracts, choose the WRONG statement:

- a. Vestibulospinal tract facilitates the activity of antigravity muscles
- b. Rubrospinal tract mainly supply the distal extensors muscles with little effect on the proximal muscles
- c. Tectospinal tract is responsible for reflex movement of head & neck in response to visual stimuli
- d. Medullary reticulospinal tracts runs in the lateral white column
- e. Pontine reticulospinal tract is tonically active

**Answer:**b

69. Which of the following statements regarding the course taken by the tracts is Correct:

- a. The rubrospinal tract crosses the midline of the neuroaxis in the medulla oblongata.
- b. The tectospinal tract (most of the nerve fibers) crosses the midline in the posterior commissure.
- c. The vestibulospinal tract crosses the midline in the midbrain.
- d. The lateral corticospinal tract has crossed the midline in the medulla oblongata.
- e. The anterior corticospinal tract crosses the midline in the midbrain.

**Answer:**d

70. Which of the following regions of white matter would not contain corticospinal fibers:

- a. Pyramid of medulla oblongata
- b. Lateral white column of the spinal cord
- c. Cerebral peduncle of the midbrain
- d. Anterior limb of the internal capsule
- e. Corona radiata

Answer:d

71. Choose the incorrect pair of (tract – level of decussation):

- A. Lateral corticospinal tract – medulla
- B. Tract for pain sensation from the arm – spinal cord
- C. Rubrospinal tract – brain stem
- D. Pontine reticulospinal tract – spinal cord
- E. Posterior spinocerebellar tract – No decussation

Answer:d

72. Numbered below are various descending motor tracts:

- 1. Lateral cortico spinal tract
- 2. Rubrospinal tract
- 3. Vestibulospinal tract
- 4. Medullary reticulospinal tract

Choose the correct statement:

- A. 1 and 2 cross the midline in the brain stem
- B. Cell bodies of tract 2 are located in the superior colliculus
- C. 3 and 4 both help maintain an upright position
- D. 3 and 4 descend in the anterior white column
- E. 1,2,3 and 4 all descend in the lateral white column

Answer:a

73. Which statement about tracts and fibers in the brain is false:

- a. The pyramidal tracts carry fibers from the precentral gyri
- b. The somatic sensory tracts synapse in the thalamus
- c. Primary and secondary cortical areas are connected by association fibers
- d. The optic tracts synapse in the lateral geniculate nuclei
- e. The anterior commissure connect the two halves of the mesencephalon

Answer:e

74. Which of the following regions of white matter would NOT contain corticospinal fibers:

- a. Pyramid of medulla oblongata
- b. Lateral white column of spinal cord
- c. Cerebral peduncle of midbrain
- d. Anterior limb of internal capsule

Answer:d

75. which of the following tracts controls reflex movement of the head in response to visual stimuli:

- a. Vestibulospinal tract.
- b. Rubrospinal tract.
- c. Reticulospinal tract.
- d. Olivospinal tract.
- e. Tectospinal tract.

Answer:e

76. which of the following statements regarding the role of brainstem in control of motor function is true:

- a. Pontine reticulospinal tract excites limb muscles.
- b. Pontine reticulospinal tract inhibits axial muscles.
- c. Vestibulospinal tract inhibits antigravity muscles.
- d. Medullary reticulospinal tract inhibits pontine reticulospinal tract.
- e. Pontine reticulospinal tract is located in the lateral column of the spinal cord.

Answer:d

77. Select the incorrect statement:

- a. The crossed pyramidal tract lies in the lateral white matter of the spinal cord
- b. The fibers of the uncrossed pyramidal tract lie in the anterior white matter of the spinal cord
- c. The cortico-spinal tract lies in the anterior limb of the internal capsule
- d. The uncrossed pyramidal tract constitutes about 10-20% of the fibers of the original pyramidal tract when it lies in the pyramid
- e. The pyramidal decussation lies in the lower part of the medulla

Answer:c

78. regarding pyramidal tract choose the wrong statement:

**Answer:**that control axial muscle crosses the midline in the lower part of the medulla oblongata

79. The cause of spasticity in spinal cord lesions is loss of:

**Answer:**Medullary reticulospinal tract

80. Wrong about motor cortex:

**Answer:**Connected to ipsilateral body

## Lecture 6

81. Wrong about central cord syndrome:

- a. May be caused by hyperextension of the neck
- b. Occlusion in anterior spinal artery
- c. Lower limbs are more affected than upper
- d. Bilateral ALS+ some autonomic loss

**Answer:**c

82. Choose the wrong sentence about decerebrate and decorticate:

- a. Both will cause extension of Lower limb
- b. Decerebrate will cause extension of upper limb
- c. Decerebrate have better prognosis
- d. Decorticate will cause flexion of upper limb

**Answer:**c

83. Wrong about Brown sequard syndrome:

- a. Causes loss of ALS above the lesion
- b. Causes loss of PCML IPSI lateral at the same level and below
- c. Affects motor(cause motorw eakness) IPSilateral

**Answer:**a

84. The initial resistance observed in the Clasp knife reaction is due to:

- a. Exaggerated stretch reflex
- b. Lost stretch reflex
- c. ExaggeratedGolgitendonreflex

- d. Lost Golgi tendon reflex
- e. None of the above

Answer:a

85. All of the following are symptoms of upper motor neuron lesions EXCEPT:

- a. Hyperreflexia
- b. Hypertonia
- c. Wasting/ Atrophy of muscle.
- d. Clasp knife reaction
- e. Clonus

Answer:c

86. Regarding Central Cord Syndrome, choose the WRONG statement:

- a. Bladder dysfunction
- b. Can cause two point discrimination loss
- c. Can cause bilateral weakness of the extremities
- d. Occur due to occlusion of the anterior spinal artery
- e. May result from hyperextension of the neck

Answer:b

87. Regarding Syringomyelia affecting C4 to C5 levels, choose the WRONG statement:

- a. If it extends to include one anterior horn, it will cause an ipsilateral weakness of the upper extremity
- b. Discriminative touch will be affected
- c. Symptoms of syringomyelia occur due to the damage of fibers crossing in the anterior white commissure in both directions
- d. It occurs due to cavitation of the central region of the spinal cord
- e. Loss of pain and thermal sensation will include both shoulders and extend down to nipple level

Answer:b

88. All of the following are characteristics of lower motor neuron lesion EXCEPT:

- a. Flaccid paralysis
- b. Hypertonia
- c. Clasp knife reaction

- d. Hyporeflexia
- e. Muscle atrophy

Answer:c

89. A left hemisection at the level of the C4 spinal segment (Brown- Séquard syndrome) is associated with which of the following:

- A. Loss of discriminative touch in the right lower limb
- B. Damage to the lateral corticospinal tract originating from the right frontal lobe
- C. Paralysis of facial muscles on the right side
- D. Loss of pain and temperature sensations from the left lower limb
- E. None of the above

Answer:b

90. All of the following are associated with Brown-Sequard syndrome EXCEPT:

- a. Ipsilateral loss of proprioception and sense of vibration below the level of the lesion.
- b. Ipsilateral spastic paralysis below the level of the lesion.
- c. Contralateral anesthesia.
- d. Ipsilateral loss of all touch sensations below the level of the lesion.
- e. Loss of all modalities of sensation and flaccid paralysis at the level of the lesion.

Answer:d

91. A patient with a traumatic lesion of the left half of the spinal cord at the level of the eighth cervical segment might present with:

- a. Loss of pain and temperature sensations on the left side below the level of the lesion
- b. Loss of position sense of the right leg
- c. Right hemiplegia
- d. Left positive Babinski sign
- e. Right-sided lower motor paralysis in the segment of the lesion and muscular atrophy

Answer:d

92. 13 years old visited neurologic Clinic his main complaint was Loss of temperature Sense, which Cause him many skin burns during his work in the university Cafeteria physical examination reveal Sensory defect on both upper limbs and shoulder no motor were detected This patient most likely suffered from:

Answer: Syringomyelia.



93. Wrong combination:

**Answer:** Activation of gamma motor neuron leads to - faster muscle contraction

## Lecture 7

94. Which of the following modalities are transmitted to the spinal nucleus of trigeminal nerve:

- a. Conscious Proprioception
- b. Unconscious Proprioception
- c. Pain and temperature
- d. Two point discrimination
- e. None of the above

**Answer:** c

95. Which of the following cavities can be seen at the level of pyramidal decussation:

- a. Cerebral aqueduct
- b. Third ventricle
- c. Upper part of the fourth ventricle
- d. Central canal
- e. Lower part of the fourth ventricle

**Answer:** d

96. Which of the following structures receives taste fibres:

- a. Hypoglossal nucleus
- b. Vestibular nuclei (medial and inferior)
- c. Nucleus ambiguus
- d. Dorsal nucleus of vagus
- e. Solitary nucleus (nucleus of tractus solitarius)

**Answer:** e

97. All of the following structures lie beneath the floor of 4th ventricle EXCEPT:

- a. Dorsal nucleus of vagus
- b. Hypoglossal nucleus
- c. Nucleus ambiguus
- d. Vestibular nuclei (medial and inferior)
- e. Solitary nucleus

**Answer:** c

98. Which of the following structures is composed of ascending fibers from the vestibular nuclei to the motor nuclei of the third, fourth and sixth cranial Nerves:

- a. Medial lemniscus
- b. Fasciculus gracilis
- c. Lateral lemniscus
- d. Medial longitudinal fasciculus
- e. Fasciculus cuneatus

Answer:d

99. All of the following regarding UMNL signs are correct EXCEPT:

- a. Three characteristic features that occur in an UMNL are due to the same mechanism.
- b. Positive Babinski's sign is physiological in a one year old child.
- c. Absence of certain flexion reflexes.
- d. Hyperreflexia with or without positive Babinski's sign is an indicator of UMNL.
- e. Clonus is associated with increased gamma discharge

Answer:d

100. Concerning the medulla oblongata:

- a. The abducent nerve emerges between its pyramid and pons
- b. Rootlets of hypoglossal nerve emerges between the pyramid and olive
- c. Damage to the anterior spinal artery leads to the medial medullary syndrome
- d. Its closed part is at its lower end
- e. All of the above

answer:e

101. The following nuclei are contained in the medulla oblongata except:

- a. Spinal nucleus of the trigeminal nerve )
- b. Dorsal vagus
- c. Inferior olivary
- d. Substantia gelatinosa
- e. Hypoglossal

answer:d

102. Regarding cross section of the level of olive, choose the wrong statement:

- a. Inferior cerebellar peduncle occupies the posterolateral corner of the section .
- b. Sensory nucleus that receives taste from the posterior 1/3 of the tongue located in the anterior of the tectospinal tract .

Answer:b

## Lecture 8

103. Wrong about pons at level of facial colliculus:

- a. Vestibular nucleus is medial to abducent nucleus at this level
- b. Facial nucleus is posterior to the lateral part of the medial lemniscus
- c. Spinal nucleus of trigeminal is anteromedial to Inferior Cerebellar Peduncle

Answer:a

104. Choose the wrong about parasympathetic:

- a. Parotid is supplied by nerve from Superior salivary
- b. Lacrimal is supplied from nerve from superior lacrimal nucleus

Answer:a

105. Regarding Internal structure of pons, which of the following is located anterior to trapezoid body:

- a. Tectum
- b. facial colliculus
- c. Tapetum
- d. Tegmentum
- e. Basal part

Answer:e

106. Which of the following is considered as part of the acoustic pathway:

- a. Facial nucleus
- b. Trigeminal lemniscus
- c. Spinal lemniscus
- d. Lateral lemniscus
- e. Medial lemniscus

Answer:d

107. Which of the following represents the location of the Facial nucleus

- a. Lateral to the spinal nucleus
- b. Posterior to the lateral part of the medial lemniscus
- c. Lateral to the abducent nucleus

d. Beneath the floor of the fourth ventricle

**Answer:**b

108. Which one of the following cranial nerves is arising from interpeduncular fossa:

- a. Optic
- b. Olfactory
- c. Trigeminal
- d. Oculomotor
- e. Trochlear

**Answer:**d

109. Which one of the following cranial nerve nuclei is not present in the pons:

- a. Main sensory nucleus of trigeminal
- b. Motor nucleus of trigeminal
- c. Superior salivary nucleus of facial
- d. Nucleus ambiguus
- e. Abducent motor nucleus

**Answer:**d

110. Which of the following cranial nerves emerges from the posterior aspect of the brain stem:

- a. Vestibulocochlear
- b. Facial
- c. Trochlear
- d. Abducent
- e. Trigeminal

**Answer:**c

111. Which of the following connects inferior Colliculus with medial geniculate body:

- a. Medial longitudinal fasciculus
- b. Lateral lemniscus
- c. Medial lemniscus
- d. Inferior brachium
- e. Superior brachium

**Answer:**d

112. Which of the following brain stem nuclei supplies parasympathetic stimulation to the submandibular gland:

- a. Solitary nucleus
- b. Edinger-Westphal nucleus
- c. Superior salivatory nucleus
- d. Dorsal vagal nucleus
- e. Inferior salivatory nucleus

**Answer:**c

113. Which of the following represents the cavity found in a cross section of Midbrain:

- a. Cerebral aqueduct
- b. Cerebral canal
- c. Fourth ventricle
- d. Foramen of Monro
- e. Foramen of Luschka

**Answer:**a

114. Regarding a transverse section through the caudal part of pons, all of the following are true EXCEPT:

- a. Medial longitudinal fasciculus is located beneath the floor of the fourth ventricle
- b. Basal part of pons is located anterior to trapezoid body
- c. Facial nucleus is located anterior to the lateral part of the medial lemniscus
- d. Spinal nucleus of trigeminal is located on the anteromedial aspect of inferior cerebellar peduncle
- e. Medial vestibular nucleus is located lateral to the abducent nucleus

**Answer:**c

115. The superior brachium connects the superior colliculus with the:

- a. Hypothalamus
- b. Uncus
- c. Mamillary body
- d. Lateral geniculate body

**Answer:**d

116. most of the fibers of the lateral lemniscus arise from the:

- a. cochlear nuclei.
- b. solitary nucleus.
- c. vestibular nuclei.
- d. spinal trigeminal nucleus.
- e. inferior colliculus

**Answer:**a

117. Lesion in the tegmentum of the pons may damage the following, EXCEPT the:

- a. corticopontine fibers:
- b. Spinal lemniscus.
- c. Trigeminal lemniscus.
- d. Medial lemniscus.
- e. Facial motor nucleus.

**Answer:**a

118. regarding transverse section through caudal part at the pons, which of the following can be seen:

**Answer:** sensory nucleus that receive pain and temperature from the face .

## Lecture 9

119. Wrong about midbrain at the level of superior colliculus:

- a. Pretectal nucleus is at the lateral part of the superior colliculus
- b. Lateral lemniscus is posterior to substantia nigra
- c. Medial longitudinal fasciculus is anterolateral to oculomotor nucleus

**Answer:**b

120. Wrong about glossopharyngeal nerve:

- a. Preganglionic Parasympathetic fibers synapse in Otic ganglia
- b. Sensory to the carotid sinus come from tractus solitarius
- c. Fiber from stylopharyngeus muscle synapse directly beneath the floor of 4th ventricle
- d. Supply middle ear general sensation from spinal nucleus of trigeminal

**Answer:**c

121. Anterolateral aspect Regarding a transverse section through the inferior colliculus of midbrain, choose the WRONG statement:

- a. Temporo-pontine fibers are located anterior to substantia nigra
- b. Mesencephalic nucleus of trigeminal nerve is located lateral to cerebral aqueduct
- c. Medial longitudinal fasciculus is located posterolateral to the motor nucleus of trochlear nerve
- d. Decussation of superior cerebellar peduncles is anterior to the cerebral aqueduct
- e. Medial Cerebellar peduncle and spinal lemnisci are located posterior to substantia nigra

Answer:c

122. Which of the following structures lies in the midbrain:

- a. In Optic chiasma
- b. Fascial colliculus
- c. Substantia nigra
- d. Basilar groove
- e. Pyramidal eminence

Answer:c

123. Which of the following diseases is caused by the death of neurons in the substantia nigra:

- a. Alzheimer's disease
- b. Schizophrenia
- c. Parkinson disease
- d. Multiple sclerosis
- e. Huntington disease

Answer:c

124. Which of the following represents the location Corticospinal fibers in cross section of a midbrain:

- a. Substantia nigra
- b. Red nucleus
- c. Tectum
- d. Crus cerebri

e. Tegmentum

Answer:d

125.damage to spinal nucleus on the left side will produce:

- a- loss of pain sensation ipsilaterally
- b- loss of pain sensation contralaterally
- c- loss of pain and touch contralaterally
- d- loss of touch only ipsilaterally
- e- loss of touch only contralaterally

Answer:a

126.Choose the incorrect pair of (neuron – location of cell body):

- a. Upper motor neuron of corticonuclear tract – frontal lobe
- b. Preganglionic parasympathetic neuron in oculomotor nerve – hindbrain
- c. 3rd order neuron in discriminative touch pathway – thalamus
- d. 1st order sensory neuron – dorsal root ganglia
- e. 2nd order neuron in the dorsal column pathway – medulla oblongata

Answer:b

127.Which of the following statement is (are) correct concerning the third cranial nerve nuclei:

- a.The oculomotor nucleus is situated in the central gray matter
- b. The parasympathetic part of the oculomotor nucleus is called the Edinger-Westphal nucleus
- c.The fibers from the oculomotor nucleus pass through the red nucleus
- d.The oculomotor nucleus lies just posterior to the medial longitudinal fasciculus
- e.All of the above

Answer:e

128.Which of the following statement is incorrect concerning the internal structure of the midbrain:

- a.The tectum is the part posterior to the cerebral aqueduct
- b.The crus cerebri on each side lies anterior to the substantia nigra
- c. The tegmentum lies posterior to the substantia nigra
- d.The central gray matter encircles the red nuclei

Answer:d

129.Concerning the mid brain:



- a. It lies below the diencephalon
- b. It occupies the notch (hiatus) of the tentorium cerebelli
- c. It has roots of nerves concerned with innervation of the eye muscles
- d. All of the above is correct
- e. None of the above is correct

Answer:d

130.Wrong about trigeminal nerve:

Answer:Innervates stapedius muscle

## Lecture 10

131.Regarding reticular formation, which of the following contains intermediate-size neurons:

- a. Superior column
- b. Lateral column
- c. Inferior column
- d. Medial column
- e. Median column

Answer:e

132Tracing an impulse from the brain to the effector organ, which of the following is NOT part of the motor pathway that will ultimately end in parasympathetic stimulation of the parotid gland:

- a. Motor nuclei in the hypothalamus
- b. Autonomic nuclei in the lateral horn gray matter
- c. A synapse outside the CNS
- d. A preganglionic neuron whose cell body is within the CNS
- e. A cranial nerve

answer:b

133.the principle trigeminal nucleus receives:

- a.the pain fibers of the trigeminal nerve.
- b. the temperature fibers of the trigeminal nerve.
- c. the taste fibers of the facial nerve.
- d.the discriminative touch fibers of the trigeminal nerve.
- e. the proprioceptive fibers of the trigeminal nerve.

Answer:d

134.The following cranial nerves have parasympathetic functions except:

- a. X
- b.IX
- c. VII
- d.V
- e.III

**Answer:**d

135.The cranial nerve does not contain parasympathetic nuclei:

- a. 3<sup>rd</sup>
- b. 7<sup>th</sup>
- c. 9<sup>th</sup>
- d. 10<sup>th</sup>
- e. 11<sup>th</sup>

**Answer:**e

136.The antereolateral sulcus of the medulla between pyramid & olive transmit:

- a. Hypoglossal nerve
- b. Spinal accessory nerve
- c. 9<sup>th</sup>, 10<sup>th</sup> and 11<sup>th</sup> cranial nerves
- d. All of the above
- e. None of the above

**Answer:**a

137.Wrong about glossopharyngeal injury:

**Answer:**Dysphagia and nervous type dysphagia

138.Wrong about hypoglossal nerve:

**Answer:**Supplies tongue with SVE(special visceral efferent) fibers

139.Wrong about oculomotor lesion:

**Answer:**Mild ptosis

## Lecture 11

140. Brain lesion causes loss of pain and temperature in left side of the body and right side of face with hoarseness, name the region of the lesion:

- a. Medial medullary lesion
- B- lateral medullary lesion
- C. Millard Gubler
- D- Benedikt syndrome
- E. Weber syndrome

Answer:b

141. Tonsillar herniation cause all of the following except:

- A. Hypertension
- b- increase in intracranial pressure
- C. Hyperventilation
- D- Dilation of pupil
- E. Decreasing level of consciousness

Answer:d

142. Regarding Foville syndrome, Choose the wrong statement:

- a. It causes Ipsilateral dilatation of pupil
- b. It causes contralateral hemiparesis
- c. It occurs due to occlusion of the paramedial branches of basilar artery
- d. It causes variable contralateral sensory loss
- e. It causes ipsilateral abducens nerve paralysis

Answer:a

143. All of the following are symptoms of Wallenberg syndrome EXCEPT:

- a. Contralateral loss of pain and temperature sensation from the body
- b. Ipsilateral loss of pain and temperature sensation from the face
- c. Vertigo and nystagmus
- d. Hoarseness and dysphagia
- e. Loss of taste from the contralateral half of the tongue

Answer:e

144. Anterior inferior cerebellar artery is branch from:

- a. Basilar artery
- b. Anterior spinal artery
- c. Posterior cerebral artery
- d. Vertebral artery
- e. Posterior spinal artery

**Answer:**a

145. Occlusion of Anterior spinal artery may cause:

- a. Foville syndrome
- b. Benedikt syndrome
- c. Millard-Gubler syndrome
- d. Wallenberg syndrome
- e. Dejerine syndrome

**Answer:**e

146. The union of the two vertebral arteries forms:

- a. Posterior spinal artery
- b. Basilar artery
- c. Anterior spinal artery
- d. Vertebral artery
- e. Posterior cerebral artery

**Answer:**b

147. All of the following are branches of basilar artery EXCEPT:

- a. Labyrinthine artery
- b. Posterior inferior cerebellar artery
- c. Anterior inferior cerebellar artery
- d. Pontine arteries
- e. Superior cerebellar artery

**Answer:**b

148. All of the following are symptoms of the Syndrome of the midpontine base EXCEPT:

- a. Ataxia
- b. Ipsilateral paralysis of the masticatory muscles

- c. Ipsilateral loss of pain and thermal sense
- d. Contralateral dilatation of pupil
- e. Contralateral hemiparesis

Answer:d

149. A 65-year-old man with a history of hypertension and smoking brought to neurology clinic. The neurologic examination reveals loss of pain and temperature sensation from the right side of the body, loss of pain and temperature sensation from the left side of the face, loss of taste from the left half of the tongue and hoarseness, which of the following arteries is likely affected in this patient?

- a. Posterior inferior cerebellar artery
- b. Anterior inferior cerebellar artery
- c. Anterior cerebral artery
- d. Middle cerebral artery
- e. Anterior spinal artery

Answer:a

150. All of the following are associated with problems in the brain stem EXCEPT:

- a. Dysphagia
- b. Visual deficits
- c. Respiratory problems
- d. Dysphasia
- e. Altered equilibrium

Answer:d

151. Which of the following does not match between an artery and its branch:

- a. Internal carotid/ posterior communicating

- b. Basilar/ posterior inferior cerebellar
- c. Vertebral/ anterior spinal
- d. Anterior cerebral/ anterior communicating
- e. Ophthalmic/ anterior ethmoidal

Answer:b

152. The medial medullary syndrome includes:

- a. Contralateral hemiplegia
- b. Ipsilateral paralysis of the tongue
- c. Contralateral loss of the deep sensations .
- d. All of the above
- e. None of the above

Answer:d

153. The medial medullary syndrome is caused by damage of the:

- a. corticospinal, corticobulbar and corticopontine fibers.
- b. corticospinal tract and oculomotor nerve.
- c. corticospinal tract, medial lemniscus and hypoglossal nerve.
- d. corticospinal tract and abducens nerve.
- e. crus cerebri and oculomotor nerve.

Answer:c

154. Paralysis of the right upper and lower limbs with paralysis of the left lateral rectus muscle suggest lesion in the:

- a. right medulla.
- b. left medulla.
- c. right pons.
- d. left pons.
- e. right crus cerebri.

Answer:d

155. An MRI of vessels. Showed occlusion of vessels the medial portion of the midbrain Right side involving oculomotor nerve and cross cerebra this patient is mostly like not suffering of which of the following:

- a. deviation the tongue to the left side when is protruded
- b. paralysis of extremities on the left side.
- c. loss of pain and thermal Sensation on the Right Thermal side of the face.

- d. dilatation of the pupil:
- e. Weakness of lower facial muscle.

**Answer:**c

156. A woman who had lost cold and hot differentiation from the right half of her face, and the left half of her body, with left nystagmus. The lesion is mostly in:

**Answer:**Right medulla

157. 65 years old man with a history of hypertension and smoking go to neurologic clinic, the neurologic examination reveals loss of pain and temperature Sensation from the right side of the body, loss of pain and temperature from the left side of the face .which of the following he suffering from:

**Answer:**Lateral medullary syndrome (Wallenberg syndrome)



# ANATOMY LAB

1. The pointed area contains mainly :

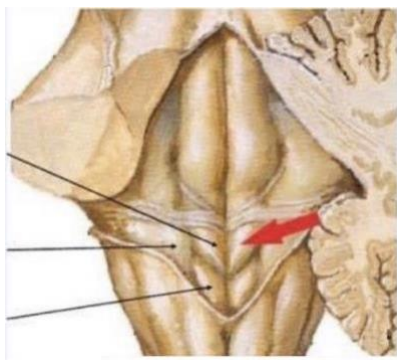
- a. Right pyramid
- b. Proprioceptive fibers from right side of body
- c. Corticospinal fibers that control right side of body
- d. Proprioceptive fibers from left side of body
- e. Corticospinal fibers that control left side of body



Answer:e

2-The pointed structure (red) is :

- a. Hypoglossal triangle
- b. Medial eminence
- c. Facial colliculus
- d. Vagal triangle
- e. Vestibular area



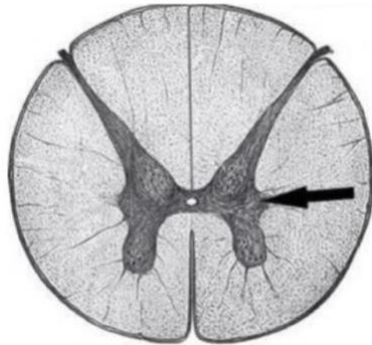
Answer:a

3. The cell bodies in the pointed area are cell:

- a. Post ganglionic parasympathetic neurons
- b. 1st order sensory neurons



- c. Lower motor neurons
- d. Preganglionic sympathetic neurons
- e. Preganglionic parasympathetic neurons



Answer:d

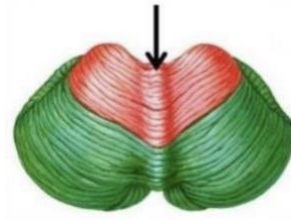
- 4.The pointed structure forms the roof of..... in this particular section :
- a. Posterior horn of the lateral ventricle
  - b. Inferior horn of the lateral ventricle
  - c. Body of the lateral ventricle
  - d. Fourth ventricle
  - e. Anterior horn of the lateral ventricle



Answer:c

- 5.The pointed structure is connected with one of the following deep nuclei :
- a. Fastigial
  - b. Globose
  - c. Emboliform
  - d. Dentate

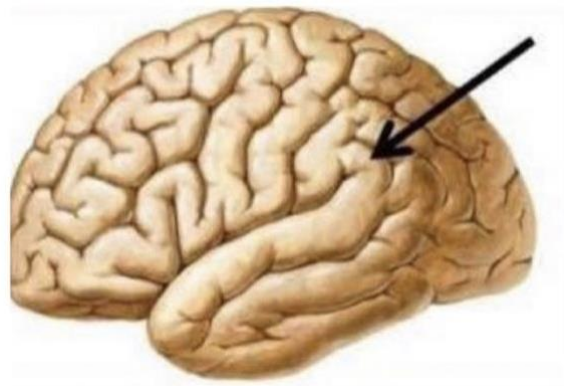
e. Floculonodular



Answer:a

6. Which of the following statements is incorrect about the pointed structure:

- a. Responsible for understanding both written and spoken words
- b. Its lesion produce sensory aphasia
- c. Is connected to inferior frontal gyrus
- d. Responsible for Controlling motor muscles that produce speech
- e. Supplied by the Middle cerebral artery

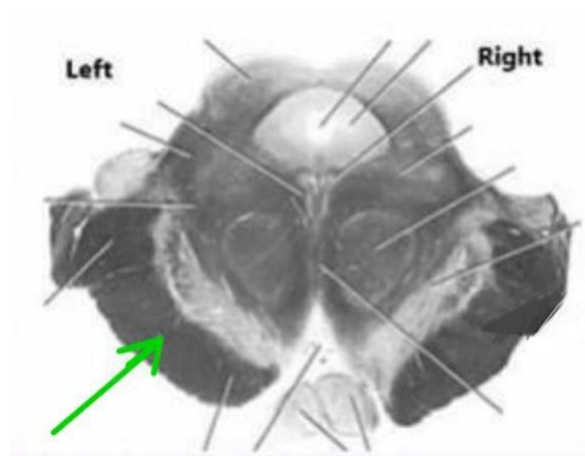


Answer:d

7. The pointed area contains mainly :

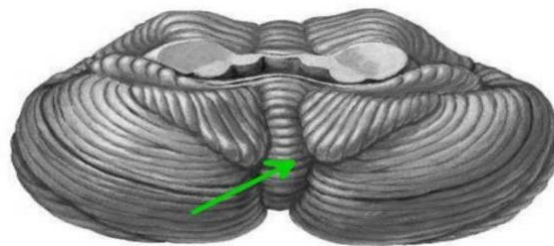
- a. Right pyramid
- b. Proprioceptive fibers from right side of body
- c. Corticospinal fibers that control right side of body
- d. Proprioceptive fibers from left side of body

e. Corticospinal fibers that control left side of body



Answer:C

8. Identify the pointed structure:



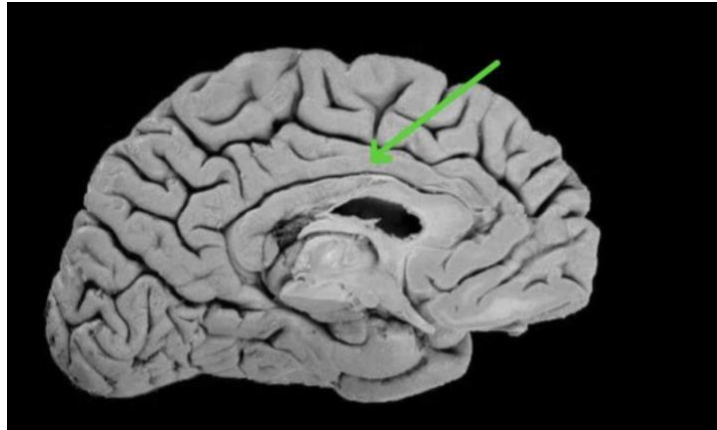
Answer: inferior vermis

9. The pointed structure is situated between:



Answer: The Caudate and Lentiform nucleus

10. What is the function of the pointed gyrus:



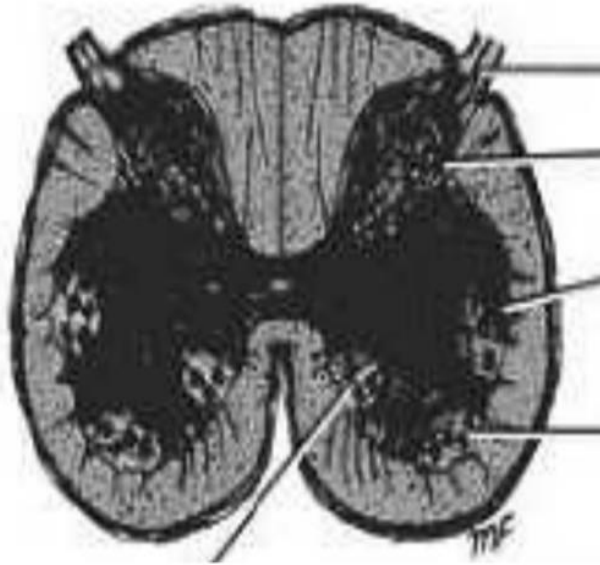
**Answer:** Behavior and emotions

11. Identify the pointed structure:



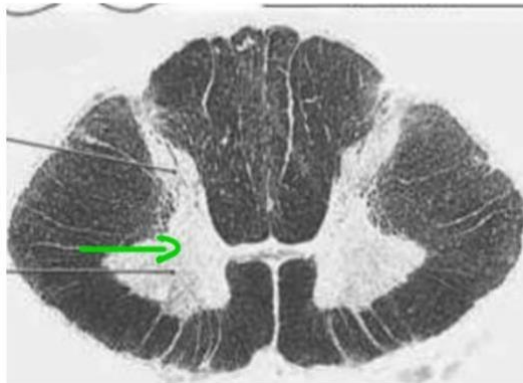
**Answer:** Fornix

12. This cross section taken at level:



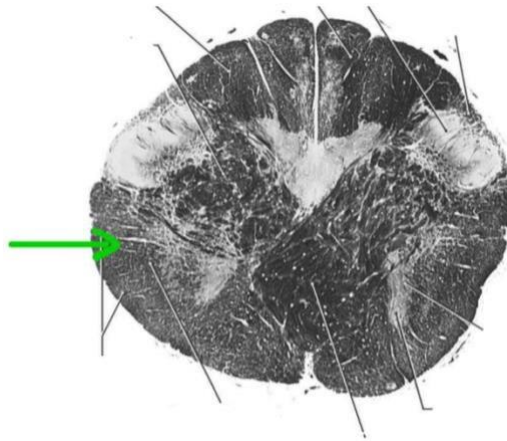
Answer: S3

13. The cell bodies in the pointed area are cell of:



Answer: Lower motor neurons that supply upper extremities

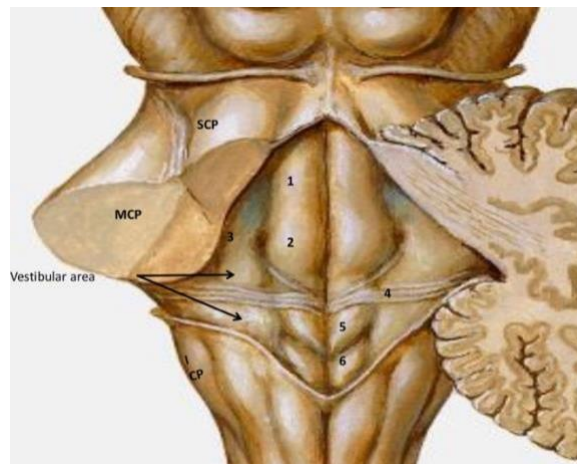
14. The pointed area contains mainly:



**Answer:** Posterior spinocerebellar tract

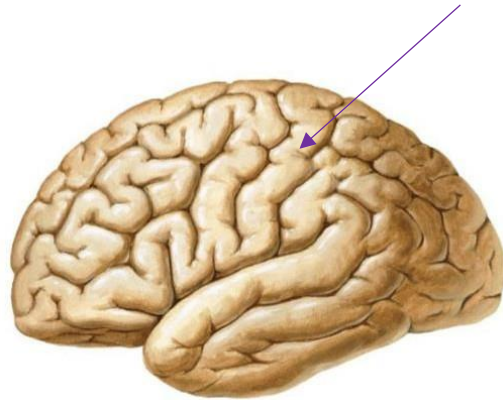
\*\* the coming questions from test bank but without pictures, I set Beautiful pictures for it. don't worry from our lab slides 😊

15. This place refers to:



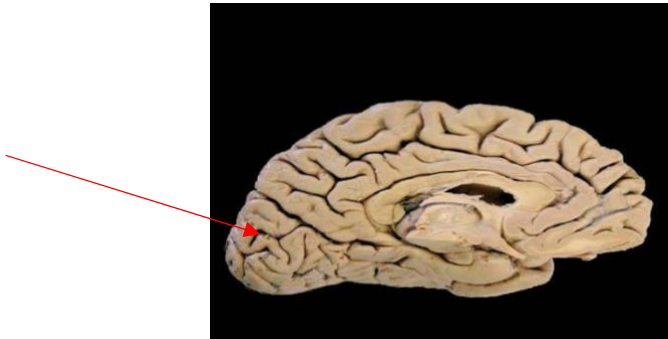
**Answer:** The floor of the fourth ventricle

16. The purple arrow refers to:



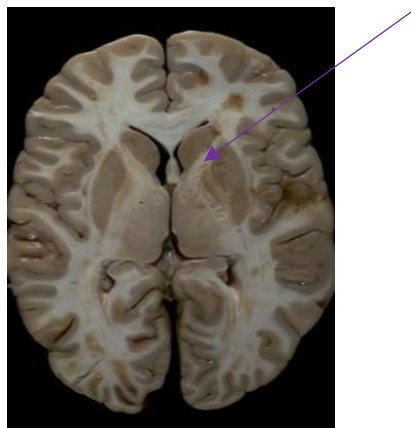
**Answer:**Postcentral gyrus

17.The red arrow refers to:



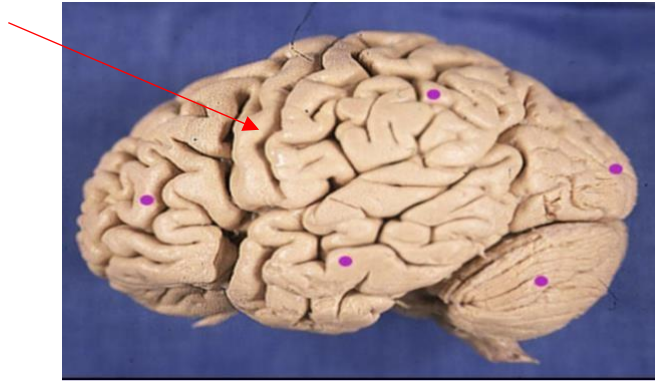
**Answer:**Calcarine sulcus

18.The purple arrow refers to:



**Answer:**Anterior limb of internal capsule

19. Arrow pointing to:

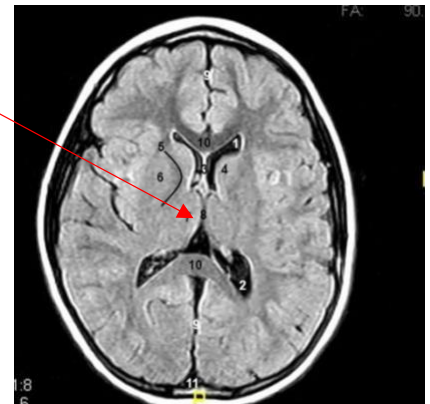
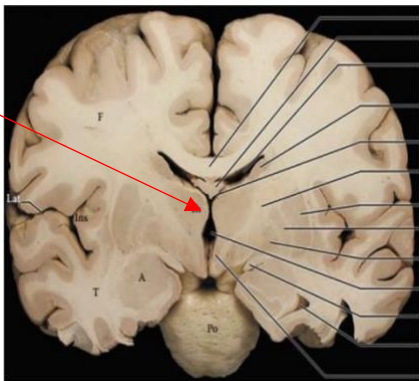


**Answer:**Precentral gyrus

20. Arrow pointing to:

or

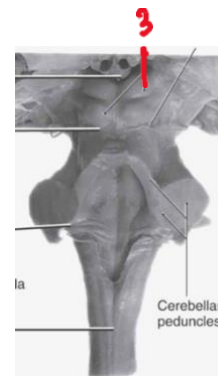
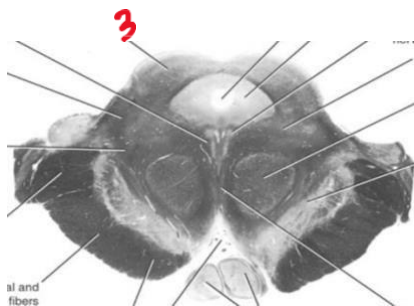
or



**Answer:**thalamus

21. Number 3 refers to:

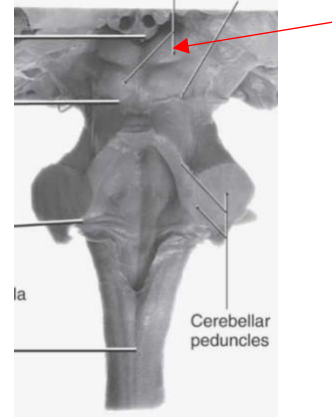
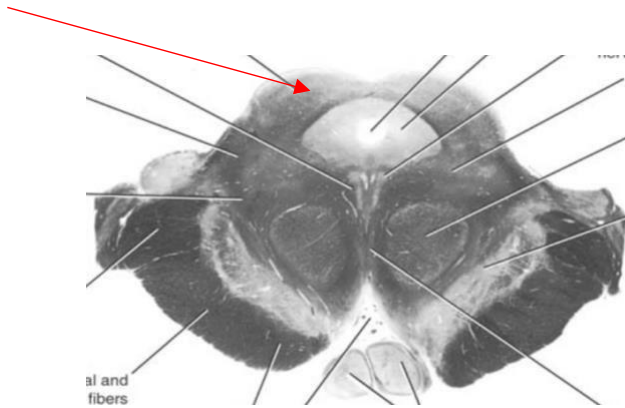
or





**Answer:**Superior colliculus

22. which nerve emerges from here: or



**Answer:**Oculomotor nerve

# EMBRYOLOGY

1. the posterior lobe of the pituitary gland developed from the:

- a. prosencephalon.
- b. diencephalon.
- c. myelencephalon.
- d. rhombencephalon.
- e. neural crest.

**Not required**

**Answer:**b

2. Which match between the structure and part of the brain is false:

- a. Thalamus- diencephalons
- b. Cerebellum- rhombencephalons
- c. Corpus callosum- telencephalon.
- d. Pons- mesencephalon.
- e. Tectum- mesencephalon

Answer:d

3.Which of the following structures is not derived from the alar plate:

- a. Sensory horn of the spinal cord
- b. Crus cerebri
- c. Rhombic lips
- d. Tectum
- e. Sensory nuclei of the medulla oblongata

Not required

Answer:b

4.Damage of the L1 vertebra will destroy: \*

- a. L1 - L2 spinal segments.
- b. L3 - L5 spinal segments.
- c. Sacral spinal segments..
- d. T10 - T11 spinal segments.
- e. T10 - T12 spinal segments.

Not required

Answer:c

5.Which of the following structures is not derived from the procencephalon:

- a. Cerebral cortex
- b. thalamus
- c. midbrain
- d. lateral ventricle
- e. Basal nuclei

Not required

Answer:c

6. rhombencephalon gives rise to:

- a.medulla
- b.midbrain
- c.thalamus
- d.cerebral aqueduct
- e.cerebral cortex

Answer:a

7.one of the following isn't a division of rhombencephalon:

- a.medulla
- b.midbrain

- c. pons
- d. cerebellum
- e. 4th ventricle

Answer: b

8. True about myelomeningocele:

- a. spina bifida is some vertebrae.
- b. absent part of dura and bulging of arachnoid.
- c. commonly associated with neurological symptoms. **Not required**
- d. all of the above

Answer: d

9. false about Meningoencephalocele:

**Not required**

Answer: doesn't involve brain ventricles

Best  
Wishes

# Physiology

Dr Faisal + Labs

## **Dr faisal material:**

### **1- Which of the following statements regarding muscle spindle is FALSE?**

- a. It has no contractile elements at all.
- b. Muscle spindle afferent does not fire if the muscle is actively contracted as extrafusal fiber shortened without intrafusal fiber being shortened.
- c. It is important as a feedback sensor to give information about muscle length.
- d. It contains nuclear bag and nuclear chain fibers which are responsible for dynamic and static responses, respectively.
- e. Increased A gamma motor efferent discharge to muscle spindle will lead to increased muscle spindle sensitivity to stretch.

Answer:A

### **2- The gamma motor neurons:**

- a. Can control spinal motor neuron's discharge during voluntary movements.
- b. Supplies the extrafusal muscle fibers.
- c. Are not important for normal function of walking movement.
- d. When stimulated cause less discharge from the muscle spindle.
- e. Cause relaxation of intrafusal fibers when stimulated.

Answer:A

### **3- When gamma motor neuron discharge increases at the same time as alpha motor neuron discharge to the muscle**

- a. The number of impulses in spindle Ia afferents is smaller than when alpha discharge alone is increased
- b. The number of impulses in spindle Ia afferents is greater than when alpha discharge alone is increased
- c. The contraction of the muscle is maintained
- d. There prompt inhibition of discharge in spindle Ia afferents
- e. The muscle will not contract

Answer;C

### **4- Tendon and stretch reflexes are clinically examined to asses :**

- a. Central delay time of the jerk
- b. Integrity of reflex pathway in the spinal cord
- c. The total reflex time of the jerk
- d. Lesions in the hypothalamus that affect anxiety and behavior
- e. Integrity of muscle spindles

Answer:B

**5-right about muscle spindle :**

Answer: innervated by both efferent and afferent fibers

**6-If a sharp pointed object touches the foot of a person, the foot is immediately withdrawn from the object involuntarily. This action involves the receptors :**

- a. Free nerve endings .
- b. Ruffini's end organs .
- c. Hair follicle receptors .
- d. Meissners's corpuscles .
- e. Pacinian corpuscles .

Answer:A

**7-Stretch of an innervated muscle evokes:**

- a. Stimulation of afferent neurons attached to nuclear bag fibers
- b. Contraction of antagonistic muscles
- c. Contraction its intrafusal muscles of the spindle
- d. Contraction of its extrafusal fibers
- e. Relaxation of synergistic (agonist) muscles

Answer:D

**8-Which of the following is an example of monosynaptic reflex:**

- a. Crossed extensor reflex
- b. Abdominal reflex
- c. Tendon reflex
- d. Withdrawal reflex
- e. Stretch reflex

Answer:e

**9-During a voluntary movement, the Golgi tendon organ provides the central nervous system with information about:**

- a.The length of the muscle being moved.
- b.The change in joint angle produced by the movement.
- c. The tension developed by the muscle being moved.
- d.The blood flow of the muscle being moved.
- e.The velocity of movement.

Answer:c

**10-right about reflexes:**

knee jerk = stretch reflex

**11-Which of the followings in NOT a suitable combination ?**

- a. Stretch reflex is highly localized excitatory monosynaptic reflex .
- b. Stretch of an innervated muscle evokes contraction of its extrafusal fibers .
- c. The nuclear-bag fibers of muscle spindles are innervated by A gamma nerve fiber .
- d. The central ends of afferents from muscle spindles diverge to give the dorsal spinocerebellar ascending tract .
- e. Muscle spindles density is more in flexors rather than in antigravity extensors .

Answer: e

**12-Which of the following is associated with paradoxical (REM) sleep ?**

- a. It constitutes around 75% of the sleeping time
- b. EEG with delta waves .
- c. Night tremors .
- d. Sleep walking .
- e. Active dreaming that are vivid and memorable .

Answer:e

**13-The discharge from Golgi tendon organs initiated by excessive stretch of a skeletal muscle produces**

- a. Stimulation of a-motor neurons of the same muscle
- b. inhibition of a-motor neurons of antagonistic muscles
- c. Stimulation of y-motor neurons of the same muscle
- d. Inhibition of y-motor neurons of antagonistic muscles
- e. Inhibition of a-motor neurons of the same muscle

Answer: e

**14-right about sleep**

Answer:REM & beta waves

## **Physio lab**

**1-During a neurological examination on a 30-year-old patient, you performed Rinne and Weber tests. Rinne test showed that air conduction was better than bone conduction in the LEFT ear, and air conduction was better than bone conduction in the RIGHT ear. The Weber test revealed localization to the RIGHT ear. What does this patient have ?**

- a. Conductive hearing loss in the right ear
- b. Sensorineural hearing loss in the left ear
- c. Normal hearing
- d. Sensorineural hearing loss in the right ear
- e. Conductive hearing loss in the left ear

Ans: B

**2- Inability to walk in tip toes:**

Answer: ankle jerk absent or decreased

**3-If the patient cannot see the largest font letter**

Answer: reduce the test distance to 3 meters

**4-not lower motor neuron injury**

Answer: Positive Babinski reflex

**5-A test used to asses lower limb coordination :**

- a. Finger-to-nose test
- b. Rapid-alternating movement test
- c. knee-jerk reflex
- d. Heel-to-shin test

Answer:D

**6- All of the following are tested at inspection except :**

- a. Tremors
- b. Rigidity
- c. Fasciculations
- d. Muscle wasting

Answer: b

**7-A patient with left ear sensorineural deafness, which of the following is true ?**

Answer :Positive Rinne test in left ear



**8-Power level when the patient is able to move his arm against gravity only**

- a. 1
- b. 2
- c. 3
- d. 4

Answer :c

**9-All true about color blindness except :**

- a. The mostly affected gene is of blue color
- b. Mother is mostly a carrier of the affected gene
- c. The person can't distinguish between certain shades of colors
- d. Affect males more than females

Answer :a

**10- When the person's visual acuity is 8/12 on right eye and 6/12 on left eye, which of the following is true :**

Answer: The person is able with his left eye at 6 meters what a normal person can see at 12 meters

**11- During a neurological examination on a 30-year-old patient, you performed Rinne and Weber tests. Rinne test showed that bone conduction was better than air conduction in the RIGHT ear, and air conduction was better than bone conduction in the LEFT ear. The Weber test revealed localization to the RIGHT ear. What does this patient have ?**

- a. Conductive hearing loss in the right ear
- b. Sensorineural hearing loss in the left ear
- c. Normal hearing
- d. Sensorineural hearing loss in the right ear
- e. Conductive hearing loss in the left ear

Answer:a

**12- During neurological examination of a patient, which of the following signs in NOT characteristic of upper motor neuron lesion ?**

- a. Hyperreflexia .
- b. Weakness of power of the muscle .
- c. Absence of fasciculations .
- d. Increased muscle tone .
- e. Atrophy of muscle .

Answer:e

# Pathology

**1) Which of the following statements is correct regarding the pathogenesis of Alzheimer's disease ?**

- A. A key step in its pathogenesis is intracellular accumulation of AB amyloid within cortical neurons.
- B. AB protein accumulates earlier in patients with Dawn syndrome because these patients have an increased level of beta secretase.
- C. Intracellular accumulation of Tau protein occurs early in the disease process.
- D. Amyloid plaques and Tau accumulation can be seen due to advanced age, even in people not suffering from Alzheimer's disease.
- E. Polymorphisms of Apolipoprotein E (Apo E) increase the risk of Alzheimer disease.

Ans: D

**2) Intracytoplasmic eosinophilic round to elongated inclusions that have a dense core surrounded by a pale halo which are positive with immunohistochemical stain to alpha synuclein are characteristic of:**

- A. Parkinson disease
- B. Huntington chorea
- C. Alzheimer
- D. Spinocerebellar ataxia
- E. Amyotrophic lateral sclerosis

Ans: A

**3) A 6-year-old boy suffered from ataxia and frequent falls. MRI scan showed a well circumscribed lesion in the cerebellum which was partly cystic. Histologic examination showed a tumor containing microcysts and Rosenthal fibers. what is your diagnosis?**

- A. Low grade oligodendroglioma
- B. Pilocytic astrocytoma
- C. Cerebellar ependymoma
- D. Medulloblastoma
- E. Glioblastoma

Ans: B

**4) Which of the following is correct regarding astrocytoma:**

- A. IDH ( isocitrate dehydrogenase) mutation is a late event in the pathogenesis of gliomas
- B. Pseudo- rosettes are seen in low grade astrocytomas
- C. The presence of necrosis within a glioma indicates a high grade and a bad prognosis
- D. Contrast enhancing lesions are usually low grade lesions
- E. Gliomas are negative with GFAP (glial fibrillary acidic protein)

Ans: C

**5) Which of the following is caused by a trinucleotide repeat mutation:**

- A. Fredrick ataxia
- B. Huntington disease
- C. Alzheimer
- D. Pick
- E. A and B

Ans: E

**6) Intranuclear inclusions are seen in which of the following:**

- A. Pick
- B. Alzheimer
- C. Huntington
- D. ALS
- E. Fredrick ataxia

Ans: C

**7) A 67-year-old male presents with tremors, rigidity, and slow movement. You notice that he had stooped posture and diminished facial expressions. He seems to have good cognitive function and no memory loss. All the following play a role in his disease except:**

- A. Accumulation of alpha synuclein
- B. Accumulation of protein that acts as a prion protein
- C. lewy bodies.

- D. Loss of pigmented neurons in substantia nigra
- E. Accumulation of a protein important for long term memory storage

Ans: E

**8) Which of the following is incorrect about amyloid accumulation in the brain:**

- A. Forms extracellular plaques
- B. Causes hyper phosphorylation of Tau protein
- C. Accumulation in the elderly is not necessarily associated with dementia
- D. Increased risk of accumulation in people with Down syndrome
- E. Is the main protein responsible for Pick disease

Ans: E

**9) Which of the following mutations is associated with oligodendrogliomas:**

- A. P53 tumor suppressor gene inactivation
- B. IDH1 gene mutation
- C. RB gene mutation
- D. PI3k gene mutation
- E. 1p and 19q codeletions

Ans: E

**10) All of the following are features of pilocytic astrocytomas EXCEPT:**

- A. Relatively benign
- B. Can affect the optic pathways and tracts
- C. Is often associated with cyst formation
- D. Occur in children and young adults
- E. Most common location is the spinal cord.

Ans: E

**11) All of the following tumor locations are correct EXCEPT:**

- A. Myxopapillary ependymoma - Filum terminale
- B. Medulloblastoma - Cerebellum
- C. Dysembryoplastic neuroepithelial tumor - Superficial temporal lobe
- D. Central Neurocytoma - Foramen of Monro
- E. Ependymoma - Spinal cord in children

Ans: E

**12) All of the following are true regarding grade II meningiomas EXCEPT:**

- A. Clear variant
- B. Brain invasion
- C. Choroid variant
- D. Small cells, prominent nuclei, and necrosis
- E. More than 19 mitotic figures/10 HPF.

Ans: E

**13) All of the following is correct regarding neurodegenerative disorders EXCEPT:**

- A. Neuritic plaques consist of amyloids surrounded by dystrophic neurites
- B. Neurofibrillary tangles contain tau protein
- C. Deposition of AB amyloids in the cerebral cortex in the case of Alzheimer's disease
- D. Intranuclear aggregates containing an expanded polyglutamine tract in Huntington's Disease
- E. A+ B

Ans: C

**14) Pick's disease is due to:**

- A. Deposition of synuclein protein
- B. FTLD-tau protein inclusion bodies
- C. Huntingtin protein deposition
- D. FTLD-TDP43 protein inclusion bodies
- E. Mutations in SOD-1 gene.

Ans: B

**15) A 67-year-old male presents with tremors, rigidity, and slow movement. You notice that he had stooped posture and diminished facial expressions. He seems to have good cognitive function and no memory loss. Which of the following plays a role in his disease?**

- A. Intranuclear protein accumulation
- B. A trinucleotide repeat mutation
- C. Accumulation of a protein important for long term memory

- D. Loss of pigmented neurons in mammillary bodies
- E. Accumulation of protein that acts as a prion protein

Ans: E

**16) Choose the INCORRECT combination:**

- A. Oligodendroglioma - lp 19q codeletion
- B. Pilocytic astrocytoma - cerebellar location
- C. Ependymoma - pseudorosettes
- D. Medulloblastoma - low cellularity
- E. Glioblastoma - palisaded necrosis.

Ans: D

**17) Which of the following is incorrect about amyloid accumulation in the brain:**

- A. Can be part of the normal aging process
- B. Forms extracellular plaques
- C. Causes secondary hyper phosphorylation of Tau protein
- D. Increased risk of accumulation in people with Down syndrome is due to deranged beta secretase levels
- E. If associated with neurofibrillary tangles it points towards a diagnosis of Alzheimer disease.

Ans: D

**18) Which of the following is correct regarding Friedrich ataxia?**

- A. Characterized by gene activation of a protein involved in mitochondrial phosphorylation
- B. Inherited in an autosomal dominant fashion
- C. Caused by decreased level of a protein involved in iron regulation
- D. Patients have increased incidence of cardiac cancer
- E. Caused by a single nucleotide repeat mutation.

Ans: C

**19) You received a histopathology report describing a brain tumor which is highly cellular, positive with GFAP (glial fibrillary acidic protein) and shows vascular proliferation and necrosis. This lesion is:**

- A. Usually has 1p/ 9q codeletion
- B. contains Homer Wright rosette
- C. WHO grade 3 lesion
- D. Has a better prognosis if it is IDH mutated

E. Non-enhancing on imaging scans

Ans: D (Not sure whether included or not)

**20) Fredrick ataxia is an autosomal recessive ataxia caused by:**

- A. Trinucleotide repeat mutation
- B. Frataxin accumulation
- C. Increased ATP synthesis in the mitochondria
- D. Decreased anaerobic glycolysis
- E. Aggregation of a protein involved in regulating mitochondrial iron level.

Ans: A

**21) A 6-year-old boy suffered from ataxia and frequent falls. MRI scan showed a well circumscribed lesion in the cerebellum which was partly cystic.**

**Histologic examination showed a tumor containing microcysts and Rosenthal fibers. what is your diagnosis?**

- A. Low grade oligodendroglioma
- B. Pilocytic astrocytoma
- C. Cerebellar ependymoma
- D. Medulloblastoma
- E. Glioblastoma

Ans: B

**22) Which of the following is correct regarding astrocytoma:**

- A. IDH ( isocitrate dehydrogenase) mutation is a late event in the pathogenesis of Gliomas
- B. Pseudo- rosettes are seen in low grade astrocytomas
- C. The presence of necrosis within a glioma indicates a high grade and a bad prognosis
- D. Contrast enhancing lesions are usually lowlow-gradesions
- E. Gliomas are negative with GFAP (glial fibrillary acidic protein)



Ans: C

23) **Which of the following is caused by a trinucleotide repeat mutation ?**

- A. Fredrick ataxia
- B. Huntington disease
- C. Alzheimer
- D. Pick
- E. A and B

Ans: E

24) **Intranuclear inclusions are seen in which of the following:**

- A. Pick
- B. Alzheimer
- C. Huntington
- D. ALS
- E. Fredrick ataxia

25) **Which of the following is incorrect about amyloid accumulation in the brain**

- A. forms extracellular plaques
- B. causes hyper phosphorylation of Tau protein
- C. accumulation in the elderly is not necessarily associated with dementia
- D. increased risk of accumulation in people with Down syndrome
- E. is the main protein responsible for Pick disease

Ans: E

26) **Wrong about neurofibrillary tangles:**

- specific to Alzheimer's disease

27) **Lewy bodies are found in:**

- Parkinson's disease

28) **Wrong about Huntington's disease:**

- most cases are sporadic

29) **True about primary CNS lymphomas:**

- rarely spread outside CNS

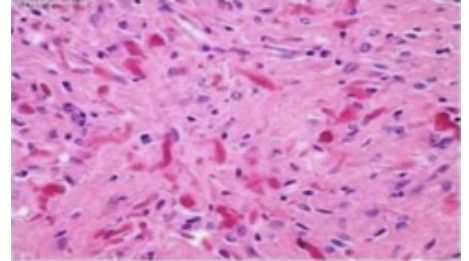
30) All present in grade III astrocytoma except:

- necrosis & microvascular proliferation

31) This picture below shows a picture of pilocytic astrocytoma which is:

- A. Rosenthal fibers
- B. Microcysts
- C. High cellularity
- D. Palisaded necrosis
- E. GFAP positivity

Ans: A



# **Bahavioral science**

## Behavioral Sciences

**1- Regarding patient-doctor relationship which of the following is true?**

- a. Doctors at large are interested in patients' emotional clues.
- b. Doctors overestimate the amount of information they give to patients.
- c. Patient doctor relationship does not affect response to drugs.
- d. Patients are only interested in the doctor technical skill.
- e. Patients do not mind being referred to as a cases

Answer: B

**2- Which of the following statements regarding obesity is correct ?**

- a. Exercise does not play a significant role in weight control .
- b. Obese people have a common type of personality .
- c. Obese people react differently to food cues compared to non-obese people .
- d. Obese people eat less when they are under stress .
- e. Obese people are less responsive to the sight of food compared to non- obese people.

Answer: C

**3- Which of the following statements regarding the psychophysiology of food intake is correct:**

- a. Environmental temperature does not affect food intake
- b. An insulin injection will decrease food intake immediately
- c. Blood sugar level affects appetite and food intake
- d. Food intake is regulated by one system in the human body
- e. The lateral hypothalamus is the satiation center in the brain.

Answer: C

**4- Which of the following can be act as a hunger signal?**

- a. High blood glucose level
- b. Full stomach
- c. High environment temperature
- d. Heating the brain.
- e. Emotional factors

Answer: E

**5- The following are true about obesity except?**

- a. Obese people eat more when they are anxious
- b. Obese people are least responsive to the taste of food
- c. Obese people do not share specific personality type
- d. Obese people belong to the unrestrained eater's group
- e. Obese people have lower metabolic rate than normal.

Answer: B

**6- The following factor play the least important role in food intake?**

- a. Blood-sugar level
- b. Body temperature
- c. Stomach fullness
- d. Time of the day
- e. Sight of food

Answer: D

**7- All of the following statements about eating are true except?**

- a. Overweight individuals often report overeating when anxious
- b. Vento-medial hypothalamus is the feeding center
- c. Metabolic rate is decreased during food deprivation
- d. Overweight individuals has no specific personality type
- e. Exercise is critical in weight loss.

Answer: B (Ventrolateral = eating/feeding center while ventromedial is the satiety center)

**8- Which of the following statements is not true about the psychophysiology of eating?**

- a. The dreams of starved individuals are not affected by their state
- b. The lateral hypothalamus is the eating center
- c. Insulin injections increase food intake
- d. If food is injected directly to hungry stomach appetite is suppressed
- e. Distention of the stomach stimulate the ventromedial hypothalamus

Answer: A

**9- Wrong about eating:**

Answer: empty stomach activates VM hypothalamus

**10- True about eating:**

Answer: cold weather activates Lateral Hypothalamus

**11- The followings are true about Society, EXCEPT?**

- a. People in a society have one cultural expectation in all members
- b. A society enables members to do things that they cannot be done alone
- c. Members of a society can be of different ethnic groups
- d. People share geographical territory and are subject to same political authority
- e. A society may consist of different subculture groups.

Answer: A

**12- Which of the following statement is true about gender?**

- a. Gender role is the same as sexual orientation.
- b. Gender identity in humans is established at the age of 3.
- c. Gender stereotypes are mainly hormonal in origin.
- d. Gender is sexual attraction to male or female.
- e. Gender is not affected by society attitudes.

Answer: B

**13- Regarding patient-doctor relationship which of the following is true?**

- a. doctors at large are interested in patients' emotional clues
- b. doctors overestimate the amount of information they give to patients.
- c. patient doctor relationship does not affect response to drugs.
- d. Patients are only interested in the doctor technical skill
- e. Patients do not mind to be referred to as a cases

Answer: B

**14- All the following improve patient compliance to treatment except?**

- a- Mutual trust between patient and doctor
- b- The belief of the doctor in his/her treatment
- c- Anxiety in the patient during the consultation
- d- Giving the least possible number of medications
- e- Choosing medications with long half life

Answer: C

**15- Which of the following is true of stress?**

- a. Stress is a term originally used in psychology
- b. Glutamate is the neurotransmitter involved in stress physiology
- c. The use of the term stress is restricted to the social factors that disrupt homeostasis
- d. Stress contributes to the onset of both physical and psychological disorders
- e. Neuro-hormones prevents Fight or flight stress response.

Answer: D (not sure whether its included or not)

**16- All of the following statements regarding psychosocial relations are correct, EXCEPT?**

- a. Individuals with low social relation are more likely to die in younger age
- b. Benefits of social relationships are equally distributed in the society
- c. Social relationships are important in the prevention and treatment of diseases
- d. Social relationships shape health throughout the individual's life
- e. Social relationships affect health through physiological pathways.

Answer: B (not sure whether its included or not)

**17- All the following are part of big five traits of personality except:**

- a- emotional stability
- b- extroversion
- c- openness
- d- agreeableness
- e- reaction formation

Answer: E

**18- The most important factor when assessing personality is:**

- a- family life
- b- relationships
- c- professional affiliations
- d- employment record

Answer: d

**19- The following are true about psychological defense mechanisms EXCEPT:**

- a- They are unconscious behaviors
- b- They are protective to personality
- c- They occur in stressful situation
- d- They do not distort reality
- e- may lead to anxiety in excessive use

Answer: d

**20- The following are known as the big five personality traits except one:**

- a- Emotional stability
- b- Vulnerability
- c- Extraversion
- d- Openness
- e- Agreeableness

Answer: b

**21- The following are psychological defense mechanisms except**

- a- Repression
- b- Egression
- c- Derealization
- d- Reaction formation
- e- Rationalization

Answer: c



**22- Which of the following statements is true about personality:**

- a- Body built is highly correlated with personality type
- b- Projective personality tests tap the unconscious
- c- Thematic apperception test is an objective test
- d- MMPI is a projective personality test
- e- People with external locus of control don't believe in luck

Answer: b (Slide 17 file 1 (I'm sorry))

**23- All the following are true about defense mechanisms except:**

- a- reaction formation is a defense mechanism
- b- they usually occur when anxiety is intolerable
- c- rationalization is a rare defense mechanism
- d- denial occurs a lot in cancer patients
- e- projection can be a defense mechanism

Answer: c

**24- The big five personality dimensions include the following, except:**

- a. Extraversion
- b. Agreeableness
- c. Recklessness
- d. Emotional stability
- e. Openness

Answer: c

**25- Which of the following statements regarding personality is correct:**

- a. Objective personality tests assess conscious personality aspects
- b. Roger considered that it is composed of two parts the ego and superego
- c. Trait theory emphasizes the role of neurodevelopment
- d. Freud studied personality through self-actualization
- e. Personality of humans changes over time.

Answer: A

**26- Sick role involves the following, except:**

- a. Exemption from usual social and other responsibilities
- b. Other people are obliged to be kind to him
- c. A person in the sick role is not obliged to seek medical help
- d. Other people are obliged to take over duties of person in the sick role
- e. A person in the sick role is not expected to get well without being cared of

Answer: c

**27- Which of the following is part of illness behavior:**

- a. Depression
- b. Consulting a doctor
- c. Headache
- d. Fever
- e. Loss of appetite

Answer: B

**28- Regarding patient-doctor relationship which of the following is true:**

- a. Doctors at large are interested in patient's emotional clues.
- b. Doctors overestimate the amount of information they give to patients.
- c. Patient doctor relationship does not affect response to drugs.
- d. Patients are only interested in the doctor technical skill.
- e. Patients do not mind to be referred to as a cases

Answer: b

**29- True about sick role and illness behavior:**

Answer: Some can be generated from fear of sickness

**30- Which of the following statements regarding the psychophysiology of food intake is correct?**

- a. Environmental temperature does not affect food intake
- b. An insulin injection will decrease food intake immediately
- c. Blood sugar level affects appetite and food intake

- d. Food intake is regulated by one system in the human body
- e. The lateral hypothalamus is the satiation center in the brain.

Answer: C

**31- Which of the following statements regarding circadian rhythm is correct?**

- a. Optic tract lesions abolish circadian rhythm.
- b. It is related to hibernation.
- c. Rapid shift of light dark cycle affect circadian rhythm.
- d. Suprachiasmatic nucleus lesions do not affect circadian rhythm.
- e. Circadian rhythm does not contribute to homeostasis.

Answer: C

**32- How you view yourself as male or female regardless of your external sexual characteristics is which of the followings?**

- a. Gender identity
- b. Sexual orientation
- c. Sex-role perception
- d. Gender role
- e. Sexual scripting

Answer: A

**33- All of the following physiological changes occur during REM sleep, EXCEPT?**

- a. Increased cerebral blood flow
- b. Increased body temperature
- c. Desynchronized cortical activity
- d. Vivid dreams
- e. Increased spinal reflexes

Answer: E

**34- Which of the following statements regarding Non-REM sleep is correct?**

- a. Increased spinal reflexes.

- b. Increased heart rate.
- c. Increased growth hormone secretion
- d. It has three phases of equal depth.
- e. Increased cerebral blood flow.

Answer: C

**35- Which of the following statements regarding weight control is correct?**

- a. Exercise is more important for weight loss in overweight individuals.
- b. Behavior therapy is not used in weight control treatments.
- c. Metabolic rate is increased in food deprivation states.
- d. Basal metabolism normally constitute one third of energy expenditure.
- e. psychological factors do not play significant role in weight control.

Answer: A

**36- Antidepressants exert their effect by which of the following mechanisms?**

- a. Depleting acetylcholine and GABA
- b. Decreasing glutamate in the raphe nuclei
- c. Increasing biogenic amines in the brain
- d. Decreasing dopamine in the brain
- e. Depleting 5-HT in prefrontal cortex.

Answer: C

**37- 31-Which of the following is the main excitatory neurotransmitter in the brain?**

- a. GABA
- b. Dopamine
- c. Norepinephrine
- d. Glutamate
- e. Serotonin

Answer: D

**38- Which of the following statements regarding neurotransmitters is correct?**

- a. GABA is an excitatory neurotransmitter
- b. Dopamine is involved in the etiology of Schizophrenia
- c. Tryptophan is the precursor of Acetylcholine
- d. Acetylcholine effect is limited to muscarinic receptors
- e. Histamine receptor H1 is involved in vascular tone.

Answer: B

**39- Executive functioning, planning, and working memories are functions of which of the following brain structures?**

- a. Amygdala
- b. Hypothalamus
- c. Hippocampus
- d. Precentral gyrus
- e. Prefrontal cortex

Answer: E (Not sure whether included or not)

**40- Sleep is:**

Answer: reversible unconsciousness

**41- Psychoanalytic psychology focuses mainly on which of the following?**

- a. Biology and genetics
- b. Internal conflict and unconscious desires
- c. Self-esteem and self-actualization
- d. Rewards and punishment
- e. Sensation and perception through life.

Answer: B

**42- The psychoanalytic school of psychology explains human behavior by which of the following?**

- a. Social attitudes
- b. Learning
- c. Evolution

- d. Neurochemistry
- e. Unconscious motives

Answer: E

**43- All of the following are recognized psychological defense mechanisms, EXCEPT?**

- a. Regression
- b. Reaction formation
- c. Repression
- d. Realization
- e. Rationalization

Answer: d

**44- Which of the following is not a biogenic amine?**

- a. Serotonin
- b. Adrenaline
- c. Norepinephrine
- d. Dopamine
- e. somatostatin

Answer: E

**45- All of the following statements are true about neurotransmitters except:**

- a. Tyrosine is precursor of catecholamines
- b. The indolamines include serotonin and acetylcholine
- c. Dopamine deficiency is thought to cause psychosis
- d. MAO enzyme is involved in noradrenaline metabolism
- e. A peptide is a short protein made of < 100 aminoacids

Answer: c

**46- All of the following statements about acetylcholine are correct, EXCEPT:**

- a. It's synthesized in the cholinergic axon terminal.
- b. The cholinergic tract originates in the nucleus basalis of Meynert.
- c. It can bind to both muscarinic and nicotinic receptors.
- d. Its nicotinic receptors are antagonized by atropine.
- e. Inhibition of its degradation is used in Alzheimer's treatment.

Answer: d

# Biochemistry



# Lecture 1

**1-Which of the following is TRUE about arrestin:**

- a. Works by phosphorylation of target protein
- b. In Dark it is existed at high levels at the outer segments of photoreceptors
- c. It causes the release of all cis retinal rhodopsin

Answer: A

**2-All of the following are mechanisms to amplify visual signal except:**

- a. Each photon excites many rhodopsin
- b. Each rhodopsin excites many transducin
- c. Each transducin excites many PDE
- d. Each PDE converts many CGMP
- e. All in the same compartment

Answer: C

**3-When light strikes the eye there is an increase in:**

- a. The activity of the transducin
- b. The amount of transmitter released from the photoreceptors
- c. The concentration of all-trans retinal within the photoreceptors
- d. The concentration of calcium within the photoreceptors
- e. The activity of guanylyl cyclase

Answer: A

**4-Activation of transducin by light activates an enzyme which:**

- a. Hydrolyzes cGMP
- b. Increases the dark current
- c. Activatesadenylylcyclase
- d. Releases calcium from intracellular stores
- e. Depolarizes the membrane

Answer: A

**5-Visual transduction involves the following molecular feature:**

- a.  $Ca^{2+}$  ions bind to rhodopsin kinase and inhibit it
- b. Retinal plasma membrane is very fluidic easing molecular interactions
- c. Amplification involves activation of CGMP phosphodiesterase by G proteins
- d. Arrestin binding to rhodopsin activate its phosphorylation
- e. During adaptation to the dark, recoverin is mainly localized to the inner segment

Answer: B

**6-Which statement is WRONG about signal termination in photoreceptor cells:**

Answer: Inactivation of G cyclase due to decrease intracellular [Ca]

**7-Which one of the following is TRUE about vision:**

Answer :cGMP decreases when transducin activated

**8-The function of Cones:**

Answer: For color vision

## Lecture 2+3

**1- You have recently heard that stem cells may have a potential in regenerating damaged lung tissue caused by SARS-CoV-2 in COVID-19. Before they can be used in clinic, the following has/have to be checked :**

- a. Carcinogenicity specifically if pluripotent stem cells are used
- b. The mechanism by which stem cells repair the lost pulmonary function
- c. All experimental stages starting with ex vivo experiments, animal stage, clinical trials  
of 3 stages
- d. Food and drug administration approval in the country of practice .
- e. All points have to be verified before stem cell can be used as a treatment for COVID19

Answer: E

**2- Which stem cell is the most potent, genetically engineered and causes no immune reaction :**

- a. iPSCs
- b. embryonic
- c. adult neura

Answer: A

**3- Which is the best source for adult stem cells :**

- a. periventricular area
- b. dentate of hippocampus
- c. spinal cord

Answer: A

**4- The statement that describes stem cells is :**

- a. Changes in the niche have no effect on the behaviour of stem cells
- b. They can be used for cell- based therapy and modelling human diseases
- c. Their niche drive their differentiation and does not keep their stemness
- d. They have a limited ability to asymmetrically divide
- e. We can use them as a cell- based therapy directly after we test them in tissue culture disease models and they show an improvement of the disease

Answer: B

**5- If you find out that a iPSC is working to produce dopamenirgic neurons that can be used in Parkinson's disease, you don't do this:**

Answer: start clinical trials to use the technique in patients with Parkinson's disease

**6- True about stem cells**

Answer: embryonal stem cells have more potency that adult

# Microbiology

## Lecture 1 :

**1- A 30-year-old male presented to his local primary health care clinic following an assault during which he sustained a right frontal scalp laceration and trauma to the head. Two days later, he developed signs of a left hemiplegia with associated seizures, but examination of all other systems was normal. A computed tomography (CT) scan of the brain revealed a right frontal hypodense lesion with midline shift suggestive of an early brain abscess. Which of the following is part of this patient management ?**

- a. The patient should undergo emergency craniectomy with drainage of the abscess .
- b. The patient should wait until the abscess is fully formed then undergo craniectomy .
- c. The patient is given acyclovir and monitored in the ICU .
- d. The patient is provided with oral antibiotics and sent home .
- e. The patient should undergo lumbar puncture immediately to confirm the diagnosis .

Answer: A

**2- False about aseptic meningitis:**

Answer: Only caused by viruses

**3- altered level of consciousness without focal deficits**

Ans: MRI to check if there is brain abscess

**4-rapidly progressive**

Answer: subdural empyema of staph

## Lecture 2

**1- Choose the true sentence about encephalitis:**

- a. Rabies is treated by supportive care and antibiotics
- b. Arboviruses are the most common cause of epidemic cases
- c. Herpes cause encephalitis in 70% of cases

Answer: B

**2- True about familial Creutzfeldt–Jakob:**

- a. Acyclovir is important as empirical treatment
- b. Brain biopsy has no importance in diagnose
- c. There is no treatment for this disease

Answer: C

**3-Wrong statement about encephalitis:**

Answer: It cannot be prevented or treated

#### **4-Which of the following is true regarding encephalitis ?**

- a. Streptococci are the most identified pathogens in sporadic cases of encephalitis .
- b. Encephalitis patients are usually treated at home with anti-pyretics and painkillers .
- c. Persons infected with Herpes simplex type-1 commonly develop encephalitis .
- d. CSF culture is necessary to confirm the diagnosis of encephalitis .
- e. Arboviruses are associated with epidemics of encephalitis .

Answer: E

#### **5- right about TSEs**

Answer: sporadic more common , mostly in adult > 60 years old

#### **6-False statement about meningitis (or encephalitis):**

Answer: Brain biopsy is usually acquired for diagnostic purposes

#### **7-Wrong about a patient with CJD:**

Answer: His survival median is very long

#### **8-The most common cause of sporadic encephalitis:**

Answer: HSV

### **Book Questions “From Jawtez”**

#### **1-Which of the following statements about enteroviral meningitis is true?**

- (A) Vaccines are generally available to protect against the disease.
- (B) The main symptom is muscle paralysis.
- (C) Transmission is usually by the fecal–oral route.
- (D) The causative agents do not survive well in the environment.
- (E) Recovery is rarely complete.

Ans: C

**2- A 3-month-old child develops fever, restlessness, and unusual crying. These are followed by apparent lethargy. Physical examination shows a normal-appearing infant who is minimally responsive to stimuli. A lumbar puncture yields cerebrospinal fluid with 200 white blood cells per microliter, predominantly lymphocytes. Acute aseptic meningitis is diagnosed, probably caused by an enterovirus. Enteroviruses are characterized by :**

- (A) Latency in sensory ganglia and reactivation primarily in immunocompromised patients
- (B) Transmission primarily by the fecal–oral route
- (C) The presence of a DNA polymerase enzyme
- (D) The entry of cells following binding to the intercellular adhesion molecule-1 (ICAM-1) receptor
- (E) Undergoing antigenic shift and drift

Ans: b

**3-A 53-year-old woman develops fever and focal neurologic signs. Magnetic resonance imaging shows a left temporal lobe lesion. Which of the following tests would be most appropriate to confirm a diagnosis of herpes simplex encephalitis in this patient?**

- (A) Brain biopsy
- (B) Tzanck smear
- (C) Polymerase chain reaction assay for viral DNA in cerebrospinal fluid
- (D) Serologic test for viral IgM antibody

Ans: C

**4-The presence in neurons of eosinophilic cytoplasmic inclusion bodies, called Negri bodies, is characteristic of which of the following central nervous system infections?**

- (A) Borna disease
- (B) Rabies
- (C) Subacute sclerosing panencephalitis
- (D) New variant Creutzfeldt-Jakob disease
- (E) Postvaccinal encephalitis

Ans : b

**5-Infectious scrapie agent can be detected in amyloid plaques in infected brains of sheep and hamsters. The genome of the infectious agent is characterized by which of the following nucleic acid types?**

- (A) Negative-sense, single-stranded RNA
- (B) Small interfering RNA, smallest known infectious RNA
- (C) DNA copy of RNA genome, integrated in mitochondrial DNA
- (D) Single-stranded, circular DNA
- (E) No detectable nucleic acid

Ans: e

**6-A 20-year-old man, who for many years had received daily injections of growth hormone prepared from human pituitary glands, develops ataxia, slurred speech, and dementia. At autopsy the brain shows widespread neuronal degeneration, a spongy appearance due to many vacuoles between the cells, no inflammation, and no evidence of virus particles. The most likely diagnosis is**

- (A) Herpes encephalitis
- (B) Creutzfeldt-Jakob disease
- (C) Subacute sclerosing panencephalitis
- (D) Progressive multifocal leukoencephalopathy
- (E) Rabies

Ans: b

**7-Which one of the following is a recommended therapy for herpes simplex virus brain infection?**

- (A) Acyclovir
- (B) Attenuated live virus vaccine
- (C) Herpes immune globulin
- (D) Interferon- $\alpha$
- (E) Ribavirin

Ans: A

**8-A 65-year-old man develops dementia, progressive over several months, along with ataxia and somnolence. An electroencephalographic pattern shows paroxysms with high voltages and slow waves, suggestive of Creutzfeldt-Jakob disease (CJD). By which of the following agents is this disease caused?**

- (A) Bacterium
- (B) Virus
- (C) Viroid
- (D) Prion
- (E) Plasmid

Ans: D



**Good Luck!**