

<p>1. Lesion of the left corticospinal tract at the level of internal capsule leads to:</p> <ul style="list-style-type: none"> a) Left hemiplegia b) Right hemiplegia c) paraplegia d) Paralysis of right lower limb e) Paralysis of left lower limb 	B
<p>2. The hypnotic of choice for elderly:</p> <ul style="list-style-type: none"> a) Alprazolam b) Lorazepam c) Oxazolam d) Zolpidem 	D
<p>3. Depolarization of a receptor:</p> <ul style="list-style-type: none"> a) Is called action potential b) Obeys all or none law c) Is graded d) Is caused by Ca^{++} inflow e) Leads usually to single action potential along the afferent neuron 	C
<p>4. Pain receptors in the skin are typically classified as which of the following?</p> <ul style="list-style-type: none"> a) Encapsulated nerve endings b) Single class of morphologically specialized receptors c) Same types of receptors that detect position sense d) Free nerve endings e) Multi branched nerve endings 	D
<p>5. Which of the following receptors is not present in the viscera?</p> <ul style="list-style-type: none"> a) Cold receptors b) Worm receptors c) Touch receptors d) Proprioceptors e) Nociceptors 	D

<p>6. Pain sensation can be inhibited by stimulation of:</p> <ul style="list-style-type: none"> a) A-beta touch fibers b) A-delta temperature fibers c) Gracile nucleus. d) Raphe nucleus e) A and D 	E
<p>7. Synaptic transmission may involve:</p> <ul style="list-style-type: none"> a) Na⁺ entry to postsynaptic b) Release of neurotransmitter from post synaptic neuron c) Entry of Ca⁺⁺ to postsynaptic neuron d) Occurrence of EPSP in presynaptic neuron e) Outflow of K⁺ from presynaptic neuron 	A
<p>8. Muscle spindle:</p> <ul style="list-style-type: none"> a) Has afferent A-delta fibers b) Has afferent C fibers c) Is facilitated by motor area 4 d) Is present in muscle tendon e) Is tension receptors supplied by Ib fibers 	C
<p>9. Which of the following is the characteristic of lower motor neurons?</p> <ul style="list-style-type: none"> a) Carry information about skeletal muscles length. b) Carry information about skeletal muscles tension c) Their axons form the descending motor tracts. d) Their axons form the motor fibers to skeletal muscle e) Their cell bodies in the motor cortex 	D

<p>10. Which structure enables the brain to detect head tilt forward within the environment?</p> <ul style="list-style-type: none"> a) The cochlea. b) The crista of SSCs c) The cupulla d) The stereocilia of the saccule e) The stereocilia of the utricle 	E
<p>11. Discrimination of locality of sensation depends on the:</p> <ul style="list-style-type: none"> a) Rate of discharge along the afferent nerve. b) Projection from the cortex. c) Presence of specific pathway for each sensation. d) Weber-fescher's law. e) Number of receptors 	B
<p>12. Deep pain is:</p> <ul style="list-style-type: none"> a) Carried by A-delta afferent. b) Well localized. c) Carried by C fibers. d) Associated with increased heart rate. e) Associated with increased blood pressure 	C
<p>13. Synaptic transmission may involve:</p> <ul style="list-style-type: none"> a) Release of neurotransmitter from post synaptic neuron b) Occurrence of EPSP in presynaptic neuron c) Outflow of K^+ from presynaptic neuron . d) Na^+ entry to postsynaptic e) Entry of Ca^{++} to postsynaptic neuron 	D

<p>14. As regard Semicircular canals:</p> <ul style="list-style-type: none"> a) They are 4 on each side b) Its ampulla contain the macula c) The anterior vertical on one side is co-planed with the anterior vertical on the opposite side d) Open to the utricle by 5 separate openings e) In Horizontal S.C.Cs; the Kinocilium are directed away from the utricle 	D
<p>15. The crossed extensor reflex:</p> <ul style="list-style-type: none"> a) Is a monosynaptic spinal reflex b) Does have interneurons c) Has a central delay of 5 m.second d) Is a brain stem reflex e) Shows a phenomenon of reciprocal innervations 	E
<p>16. Primary ending from muscle spindle:</p> <ul style="list-style-type: none"> a) Discharge when muscle stretch is maintained b) Explain alpha-gamma co activation c) Is the afferent for dynamic stretch reflex d) Is the afferent for muscle tone e) Is the afferent for static stretch reflex 	C
<p>17. Increased neural activity before a skilled voluntary movement is first seen in the:</p> <ul style="list-style-type: none"> a) Spinal motor neuron b) Pre-central motor cortex c) Midbrain d) Cerebellum e) Cortical association area 	E

<p>18. Unilateral lesion of pyramidal tract at pons leads to:</p> <ul style="list-style-type: none"> a) Crossed hemiplegia b) Paraplegia c) Hemiplegia d) Monoplegia e) Quadriplegia 	A
<p>19. Which of the following structures is maximally sensitive to linear head movements in the vertical plane?</p> <ul style="list-style-type: none"> a) Crista ampullaris of the anterior semicircular duct b) Crista ampullaris of the horizontal semicircular duct c) Crista ampullaris of the posterior semicircular duct d) Macula of the saccule e) Macula of the utricle 	D
<p>20. Which one of the following is the best hypnotic for a patient with hepatic insomnia?</p> <ul style="list-style-type: none"> a) Lorazepam b) Buspiron c) Alprazolam d) Zaleplon e) Midazolam 	A
<p>21. Signs of lower motor neuron lesion include one of the following:</p> <ul style="list-style-type: none"> a) Babinski's sign. b) Flaccidity. c) Hyperreflexia. d) Hypertonia. e) Spasticity. 	B

<p>22. Which of the following represents the basis for transduction of a sensory stimulus into nerve impulses?</p> <p>a) Change in the ion permeability of the receptor membrane.</p> <p>b) Generation of an action potential.</p> <p>c) Inactivation of a G-protein-mediated response.</p> <p>d) Protein synthesis.</p> <p>e) Activation of cell membrane enzymes with increased intracellular Ca^{+2} ions.</p>	A
<p>23. Slow pain is:</p> <p>a) Carried by $A\delta$ fibers.</p> <p>b) Carried by C fibers.</p> <p>c) Well-localized than fast pain.</p> <p>d) Carried by $A\beta$ fibers.</p> <p>e) Reaches sensory cortex</p>	B
<p>24. Divergence in the neural pool explains:</p> <p>a) Feedback inhibition.</p> <p>b) Lateral inhibition.</p> <p>c) Spatial summation.</p> <p>d) Spread of stimulus.</p> <p>e) Temporal summation.</p>	D
<p>25. Static stretch reflex is:</p> <p>a) A polysynaptic reflex.</p> <p>b) Inhibited by vestibular nucleus.</p> <p>c) The base of tendon jerk.</p> <p>d) Stimulated by red nucleus.</p> <p>e) The base of muscle tone.</p>	E

<p>26. Pyramidal tract:</p> <ul style="list-style-type: none"> a) Controls gross postural movement. b) Terminates on AHC mainly on the same side. c) Inhibits muscle tone. d) Is one way pathway. e) Inhibits tendon jerk. 	D
<p>27. A 79-year-old man is experiencing peripheral nerve damage of his lower right limb. Which of the following is characteristic of lower motor neuron damage?</p> <ul style="list-style-type: none"> a) Hyperreflexia. b) Increased tone. c) Hyporeflexia. d) Spastic paralysis. e) Increased muscle mass. 	C
<p>28. Vertigo:</p> <ul style="list-style-type: none"> a) Results from stimulation of otolith organ. b) Means oscillatory eye movement. c) Results from stimulation of crista ampullaris. d) Results from basal ganglia lesion. e) Is a manifestation of LMNL. 	C
<p>29. Crista ampullaris of horizontal semicircular canal is stimulated:</p> <ul style="list-style-type: none"> a) When the cupula is moved toward the utricle. b) At the start of rotation due to momentum of endolymph. c) During rotation with constant speed. d) By high weight otoconia. e) After stoppage of rotation due to inertia of endolymph. 	A

<p>30. Stimulation of crista ampullar is:</p> <ul style="list-style-type: none"> a) Results in kinetic tremors. b) Is caused by weight of otoconia. c) Occurs when kinocilium bends toward stereocilia. d) Leads to nystagmus. e) Results in decreased muscle tone in the side of stimulated canal 	D
<p>31. Nuclear bag fibers of the muscle spindle:</p> <ul style="list-style-type: none"> a) Are numerous in number. b) Are thin and short. c) Have expanded central part. d) Contain a chain of nuclei. e) Have both primary and secondary afferent nerve endings. 	C
<p>32. Flumazenil is a specific analeptic for:</p> <ul style="list-style-type: none"> a) Zaleplon. B) Barbiturates. c) Chloral hydrate. D) Paraldehyde. e) Diazepam. 	E
<p>33. Stimulation of crista ampullaris leads to:</p> <ul style="list-style-type: none"> a) Vertigo. b) Static tremors. c) Dysdiadochokinesia. d) Shuffling gait. e) Hypertonia. 	A
<p>34. Isolated lesions of the primary motor cortex (area 4) will result in?</p> <ul style="list-style-type: none"> A) contralateral hemiparesis B) flaccid weakness of the contralateral face, hand, or leg C) ipsilateral paresis D) quadriparesis E) spasticity of the contralateral face associated with sensory deficit 	B

<p>35. UMNL will results in Ipsilateral paresis if the site of lesion is?</p> <p>A) Area 4 B) area 6 C) bilateral cortical lesion D) internal capsule E) the lower medulla below the pyramidal decussation</p>	E
<p>36. Which one of the followings is a function of tectospinal tract is:</p> <p>A) facilitation of the extensor muscle tone. B) facilitation of the flexor muscle tone. C) initiation of the movements. D) modulate sensory input to the spinal cord. E) reflexes associated with vision & hearing.</p>	E
<p>37. Rapid adaptation is observed in:</p> <p>A) chemoreceptors . B) cold receptor. C) meissner's corpuscles. D) pain receptor. E) vestibular macula</p>	C
<p>38. A 32-year-old woman experienced the sudden onset of sever cramping pain in the abdominal region. She also became nauseated. Which one of the followings characterize visceral pain?</p> <p>A) Causes relaxation of nearby skeletal muscles. B) Is mediated by B fibers in the dorsal roots of the spinal nerves. C) Is poorly localized D) Resembles "fast pain" produced by noxious stimulation of the skin. E) Shows relatively rapid adaptation</p>	C

<p>39. Which of the following describe the process of Transduction?</p> <p>A) The conversion of the sensory stimulus into a nerve impulse.</p> <p>B) The generation of conscious mental states from nerve impulses.</p> <p>C) The perception of the sensory stimulus.</p> <p>D) The transmission of nerve impulses across synapses by neurotransmitters.</p> <p>E) The transmission of nerve impulses from receptors to cortex.</p>	A
<p>40. Hypoventilation has which of the following effects on neuronal activity</p> <p>A) depresses neuronal activity</p> <p>B) increases neuronal activity</p> <p>C) Increases neurotransmitter release.</p> <p>D) Increases number of post-synaptic receptors.</p> <p>E) Increases synaptic delay</p>	A
<p>41. When a muscle is suddenly stretched, a signal is transmitted over la sensory fiber muscles spindles, Which of the following statements best describes the response these afferent signals?</p> <p>a) Contraction of muscle antagonistic to those in which active spindle locate</p> <p>b) Contraction of the muscle in which the active spindles are located</p> <p>c) Direct synaptic activation of gamma neurons.</p> <p>d) Relaxation of intrafusul fibers in the active spindles.</p> <p>e) Relaxation of the muscle in which the active spindles are located.</p>	B
<p>42. Dynamic stretch reflex?</p> <p>A) is maintained as long as the stretching of the muscle is maintained</p> <p>B) is mediated through of the secondary nerve endings.</p> <p>C) is the basis of muscle tone</p> <p>D) its receptor is nuclear chain.</p> <p>E) shows rapid contraction of the muscle followed by rapid relaxation.</p>	E

<p>43. Which One of the followings relevant to muscle tone?</p> <p>A) decreases venous return.</p> <p>B) It is based on the dynamic stretch reflex.</p> <p>C) It is based on the static stretch reflex</p> <p>D) It is characterized by fatigue.</p> <p>E) It is less in anti gravity muscles</p>	<p>C</p>
<p>44. Isolated lesion in the right cortical motor area 4 result in which of the following effect?</p> <p>A) Hypertonia and exaggerated tendon jerks on the left side of the body.</p> <p>B) Hypotonia and weak tendon jerks on the same side of the lesion.</p> <p>C) Paralysis or weakness in one limb (monoplegia) on the opposite side.</p> <p>D) Planter flexion of the big toe on the opposite side of the lesion.</p> <p>E) Planter flexion of the big toe on the right side of the body.</p>	<p>C</p>
<p>45. What will happen to the nerve ending when the hair cells are bent toward the kinocilia?</p> <p>A) Depolarize.</p> <p>B) Hyperpolarize.</p> <p>C) Reach tonic level of discharge.</p> <p>D) Reduce the number of action potentials.</p> <p>E) Repolarize.</p>	<p>A</p>
<p>46. Which of the followings maintain body equilibrium in relation to gravity (Linear movement & gravity):</p> <p>a) Macula sacculi and utriculi</p> <p>b) Crista ampullaris</p> <p>c) Organ of corti</p> <p>d) Scala tympani</p> <p>e) Cochlear duct</p>	<p>A</p>

<p>47. The hypnotic of choice for hepatic patient insomnia is:</p> <ul style="list-style-type: none"> a) Lorazepam b) Alprazolam c) Midazolam d) Buspiron, e) Zaleplon 	A
<p>48. Which one of the following statements is relevant to receptor potential?</p> <ul style="list-style-type: none"> A. It caused by increased permeability to K⁺ B. It is a state of partial depolarization. C. It is not graded. D. It is not summated E. Its duration 1.5 m.sec. 	B
<p>49. Which of the following best describes the concept of specificity in sensory nerve fibers that transmit only one modality of sensation?</p> <ul style="list-style-type: none"> A. Frequency coding principle. B. Concept of specific nerve energy C. Singularity principle. D. Labeled line principle. E. Weber fishner law. 	D
<p>50. Deep pain is:</p> <ul style="list-style-type: none"> a) Associated with increased blood pressure. b) Carried by C fibers. c) Associated with increased heart rate. d) Well localized. e) Carried by A-delta afferent. 	B

<p>51. Synaptic transmission may involve:</p> <ul style="list-style-type: none"> a) <i>Na⁺ entry to postsynaptic</i> b) <i>Release of neurotransmitter from post synaptic neuron</i> c) <i>Entry of Ca⁺⁺ to postsynaptic neuron</i> d) <i>Occurrence of EPSP in presynaptic neuron</i> e) <i>Outflow of K⁺ from presynaptic neuron</i> 	A
<p>52. Which one of the following is considered as autonomic spinal reflex?</p> <ul style="list-style-type: none"> A. <i>flexion withdrawal</i> B. <i>Stretch</i> C. <i>Planter</i> D. <i>Defecation</i> E. <i>Scratch</i> 	D
<p>53. Muscle spindle:</p> <ul style="list-style-type: none"> a) <i>Has afferent A-delta fibers</i> b) <i>Has afferent C fibers</i> c) <i>Is facilitated by motor area 4</i> d) <i>Is present in muscle tendon</i> e) <i>Is tension receptors supplied by 1b fibers</i> 	C
<p>54. Parallel circuits is a mechanism for:</p> <ul style="list-style-type: none"> A. <i>Pain stimulation</i> B. <i>Hyperalgesia</i> C. <i>Referred pain</i> D. <i>After discharge</i> E. <i>Summation</i> 	D

<p>55. Which of the following is the characteristic of lower motor neuron lesion?</p> <p>A. Planer flexion of toes in planter reflex.</p> <p>B. Dorsiflexion of big toe and fanning of other toes in planter reflex</p> <p>C. Appearance of muscle fasciculations and fibrillations</p> <p>D. Hyperitona and exaggerated tendon jerks</p> <p>E. Late slight muscles wasting (disuse strophy).</p>	C
<p>56. Which of the following would occur after irritation of vestibular system?</p> <p>A. Increased auditory acuity.</p> <p>B. Vertigo and tinnitus</p> <p>C. Hypertension</p> <p>D. Loss of facial sensation.</p> <p>E. Tachycardia</p>	B
<p>57. Adequate stimuli to the receptors of utricle and saccule are:</p> <p>a. Chemical substances.</p> <p>b. Only linear acceleration.</p> <p>c. Sound waves.</p> <p>d. Linear and angular acceleration.</p> <p>e. Only angular acceleration.</p>	B
<p>58. Synaptic transmission may involve:</p> <p>a. Release of neurotransmitter from post synaptic neuron.</p> <p>b. Outflow of K^+ from presynaptic neuron</p> <p>c. Occurrence of EPSP in presynaptic neuron</p> <p>d. Entry of Ca^{++} to postsynaptic neuron</p> <p>e. Na^+ entry to postsynaptic.</p>	E

<p>59. Lesion of the left corticospinal tract at the level of internal capsule leads to:</p> <ul style="list-style-type: none"> a. Left hemiplegia b. Paralysis of left lower limb. c. paraplegia d. Paralysis of right lower limb. e. Right hemiplegia. 	E
<p>60. Muscle tone:</p> <ul style="list-style-type: none"> a. Decreases venous return. b. Is less in antigravity muscles c. Is based on the dynamic stretch reflex. d. Is based on the static stretch reflex. e. Is characterized by fatigue. 	D
<p>61. Which of the following are common site for the electrical synapses in C.N.S?</p> <ul style="list-style-type: none"> A. Inner ear "cochlea." B. Cerebral cortex. C. Reticular activating system. D. Hippocampus. E. Raphi magnus nuclei. 	D
<p>62. Synaptic transmission may involve:</p> <ul style="list-style-type: none"> A. entry of Ca^{++} to postsynaptic neuron B. occurrence of EPSP in presynaptic neuron C. Na^{+} entry to postsynaptic. D. outflow of K^{+} from presynaptic neuron E. release of neurotransmitter from post synaptic neuron 	C

<p>63. When a muscle is suddenly stretched, a signal is transmitted over Ia sensory fibers from muscles spindles. Which of the following statements best describes the response elicited by these spindle afferent signals?</p> <p>A. Contraction of the muscle in which the active spindles are located</p> <p>B. Relaxation of the muscle in which the active spindles are located.</p> <p>C. Contraction of the muscle antagonistic to those in which the active spindles are located.</p> <p>D. Relaxation of intrafusal fibers in the active spindles.</p> <p>E. Direct synaptic activation of gamma neurons.</p>	A
<p>64. Which of the following represents the basis for transduction of a sensory stimulus into nerve impulses?</p> <p>A. Change in the ion permeability of the receptor membrane.</p> <p>B. Generation of an action potential.</p> <p>C. Inactivation of a G-protein-mediated response.</p> <p>D. Protein synthesis.</p> <p>E. Activation of cell membrane enzymes with increased Ca^{++} influx.</p>	A
<p>65. Pain receptors in the skin are typically classified as which of the followings?</p> <p>A. Encapsulated nerve endings.</p> <p>B. Single class of morphologically specialized receptors.</p> <p>C. Same types of receptors that detect position sense.</p> <p>D. Free nerve endings.</p> <p>E. Multi branched nerve endings.</p>	D
<p>66. Anterior horn lesion will result in paralysis that will be:</p> <p>A. ipsilateral flaccid paralysis</p> <p>B. ipsilateral spastic paralysis</p> <p>C. contralateral hemiparesis</p> <p>D. quadriparesis</p> <p>E. contralateral flaccid paralysis</p>	A

<p>67. Which structure enables the brain to detect head tilt forward within the environment?</p> <p>A. The crista of SSCs.</p> <p>B. The sterocilia of the utricle.</p> <p>C. The cochlea.</p> <p>D. The cupulla.</p> <p>E. The sterocilia of the saccule.</p>	B
<p>68. Which one of the followings maintains body equilibrium in relation to gravity (linear movement & gravity)?</p> <p>A. Macula sacculi and utriculi</p> <p>B. Crista ampularis</p> <p>C. Organ of Corti</p> <p>D. Scala tympani</p> <p>E. Cochlear duct</p>	A
<p>69. Isolated lesions of the primary motor cortex (area 4) will resulting in:</p> <p>A. spasticity of the contralaterai face associated with sensory deficit</p> <p>B. flaccid weakness of the contralateral face, hand, or leg</p> <p>C. contralateral hemiparesis</p> <p>D. ipsilateral paresis</p> <p>E. quadriparesis</p>	B
<p>70. Which of the followings is/are adequate stimulus/stimuli to the receptors of utricle and saccule?</p> <p>A. Linear and angular acceleration.</p> <p>B. Only linear acceleration.</p> <p>C. Only angular acceleration.</p> <p>D. Sound waves.</p> <p>E. Chemical substances.</p>	B